LCD SERIES MANUAL

INDEX PAGE

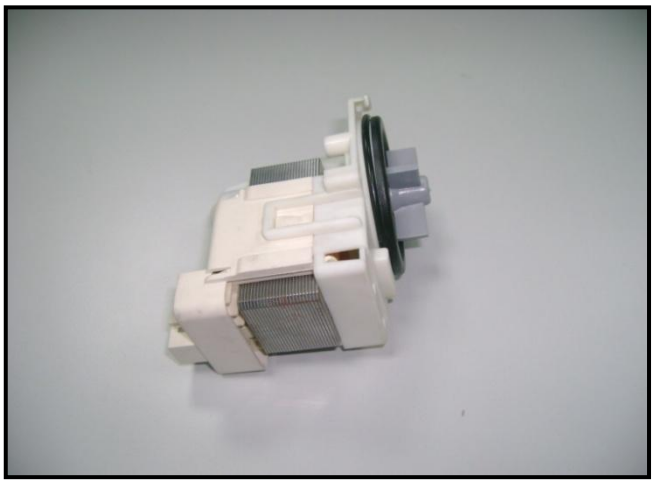
1. ELECTRICAL COMPONENTS

1.1 Circulation Pump

- Fırçasız Doğru akım motor
- 0 – 3400 RPM aralığı
- Sargı değerleri ölçülemez.
- Termal koruması yazılım kontrollüdür.
- Pompa çıkışı 0 – 80 lt/dk 0 – 400 mbar
- Güç 0 -60 watt arasıdır.

Elektronik kart kontrollü değişken devirli motordur.
Saat yönünün aksi yönde dönmektedir.
Kauçuk askılar ile alt tabana monte edilmiştir.

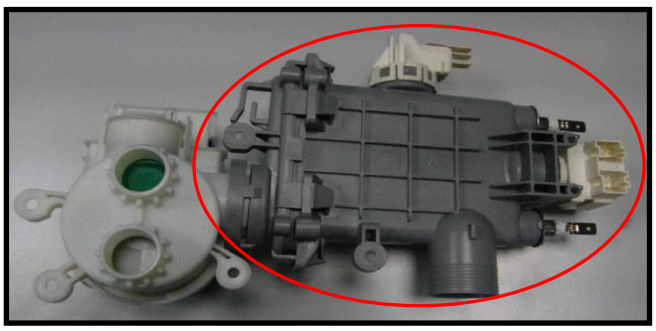
1.2 Drain Pump



Voltage	: 220/240 Volt
Frequency	: 50 Hz
Total Power	: 30 W
Flowrate	: 17 – 21 lt/dk
Coil Resistance	: 143 Ω %± 7
Coil Isolation Class	: F
Thermal Protection	: 120 ° C

1.3 Heater Casing Group

1.3.1 Heater



Voltage	: 220/240 V
Total Power	: 2000 W
Resistance	: 23.95±15 Ω

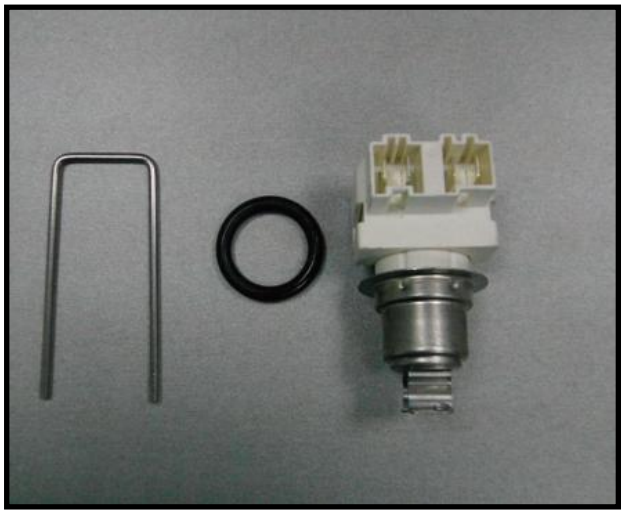
Yıkama suyunun ısıtılması için kullanılmaktadır. Isıtıcı kurutma sürecinde aktif değildir. Havuza monte edilmiş ve yıkama pompasının besleme kenarına yerleştirilmiştir.

1.3.2 NTC

Thermal Protection 83±3 ° C

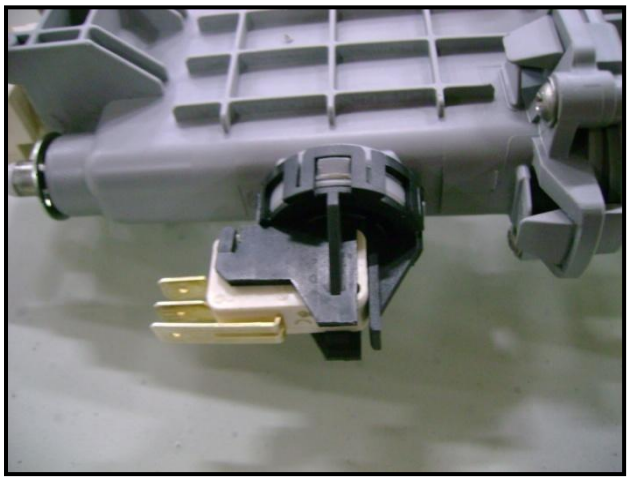
Temperatures;

25°- 5000Ω %±5.0
35°- 3300Ω %±5.5
55°- 1520Ω %±6.5
63°- 1174Ω %±7.5
80°- 670Ω %±8.0
90°- 488Ω %±8.5



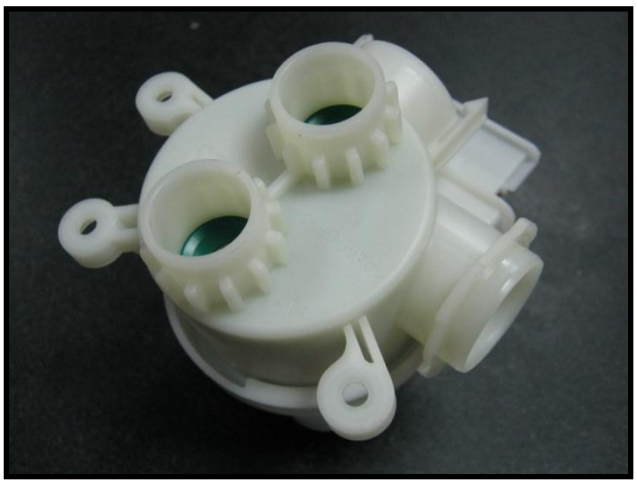
1.3.3 Pressure Switch

Voltage : 220/240 V
Frequency : 50 Hz (16 A – 3 Pins)



1.3.4 Diverter

Voltage : 220/240 V
Frequency : 50 Hz
Power : 8 W
Resistance : 6840±5 Ω



1.4 Detergent DispenserKabı

Detergent Compartment:

Main wash compartment : 40 cm³ (25/15)
Prewash compartment : 5 cm³

Aid Rinse Departmant:

Aid rinse cap : 150 cm³
Factory outlet setting position : 3. seviye

Detergent Dispenser Bobbin:

Voltage : 220/240 V
Frequency : 50 Hz
Resistance : 4450 ±10 Ω

Detergent Dispanser Rinse Aid Sensor:
Voltage : 250 V
Switched Current : 16 (4) A
Current Through Closed Contact: 2,5 max.

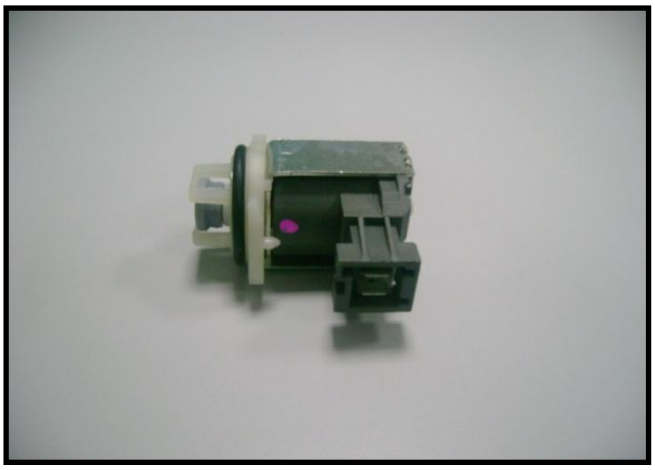
1.5 Water Inlet Valve

Voltage : 220/240 Volt
Frequency : 50-60 Hz
Total Power : 6 W
Flowrate : 2,5 lt/dk
Resistance : 3750 ±%10 Ω (20 Cº)

Single inlet and single outlet standard single coil selenoid valve. It is assembled to the basement and connect to the airbreak by hose..

1.6 Water Softener

1.6.1 Regeneration Valve;



Voltage : 220/240 V
Frequency : 50/60 Hz
Total Power : 6 W
Resistance : 4130±⁒10 Ω (25 Cº)

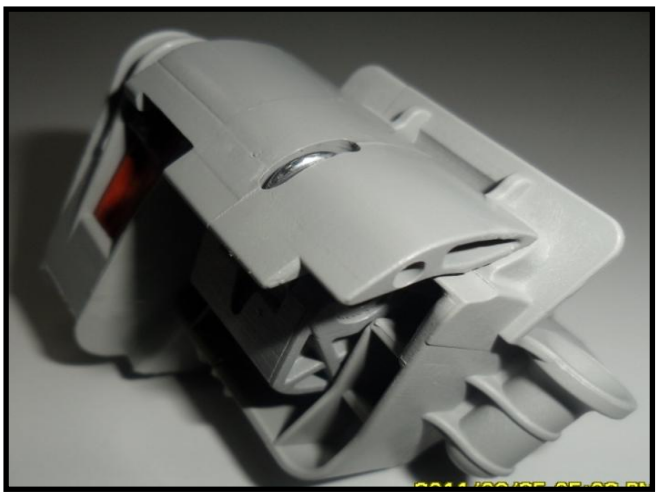
Regeneration valve is assembled on the water softener.

1.6.2 Salt Sensör;

Voltage : 250 V
Currency : 16 (4) A

It is assembled to the water softener. It warns if the salt is less than requested quantity

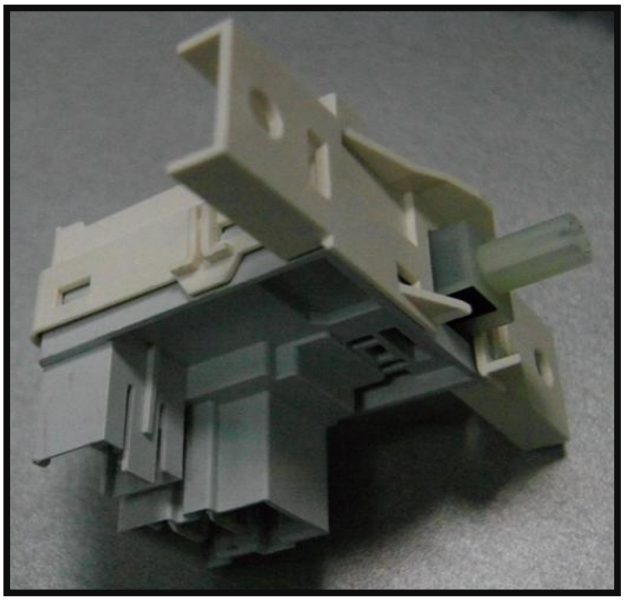
1.7 Door Lock ;



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.

Akım : 16 (4) A

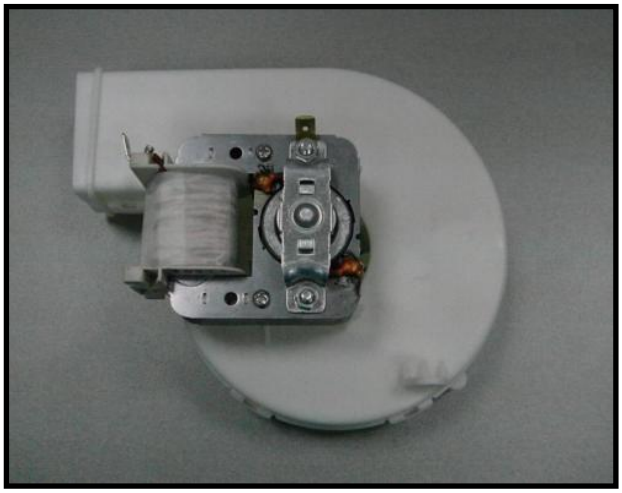
1.8 ON/OFF Button;



Button is assembled in the control panel unit.
On / Off (two pole).

Voltage : 250 V
Currency : 50mA

1.9 Turbo Fan Motor;



Total Power : 15 W
Voltage : 220/240 V
Frequency : 50 Hz.
Resistance : 238.6± ٪ 5 Ω
Coil solation Class : H

There is a thermal protector. Shaded pole motor,
two pole temperature is between -40 – 150 Cº .

1.10 Parasite Filter;

Voltage : 220/240 V
Frequency : 50/60 Hz
0,1 uF (X1) + 2x0,027uF(Y2) + 1M Ω

It is used to prevent parasites from the main supply.
It has been assemblied to basement.

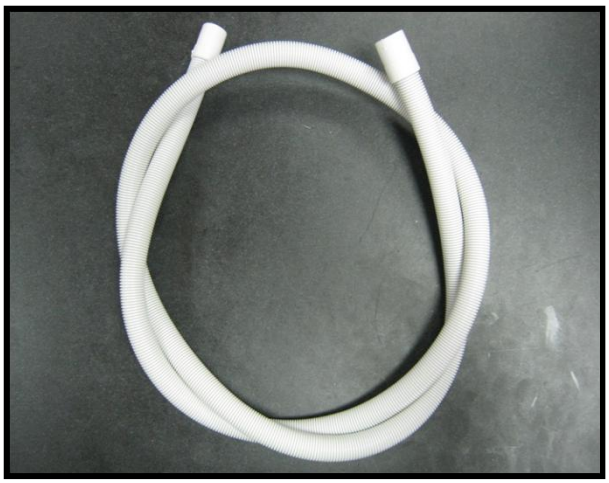
1.11 Flowmeter ;

The amount of water intake is in precise control

1.12 Power Cord;

Type : Euro 3'lü 1 mm2 kesitli, bakır iletkenli
solation : TS 9760 H05VV-F
Plug : TS-IEC 60884–1 topraklı PVC enjeksiyon
Length : 1800 mm

2. PLASTIC COMPONENTS



2.1 Drain Hose;

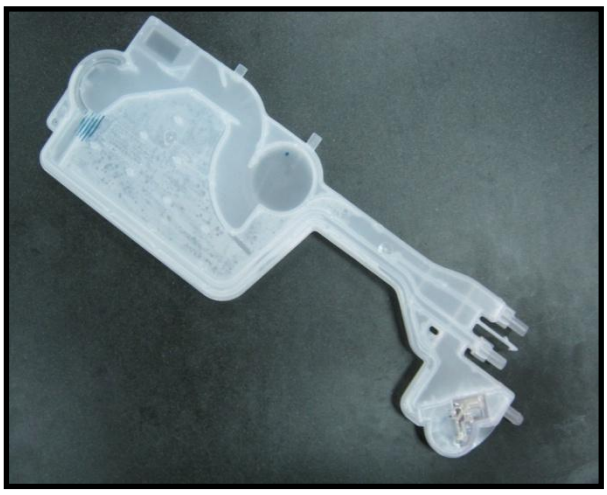
Drain hose maximum height : 110cm
Drain hose minimum height : 50cm
Drain hose maximum length : 400cm

2.2 Water Inlet Hose ;

Hose that is flat edge is assemblied to plug.

Another edge that is turned edge is assemblied to water inlet valve. It must be adjusted for assembly direction.

2.3 Air Break ;



It measure water that comes to inlet dishwasher. And It gives datas to electronic card.

2.4 SALT CONTAINER;

It decreases hardness of water that comes from main supply.

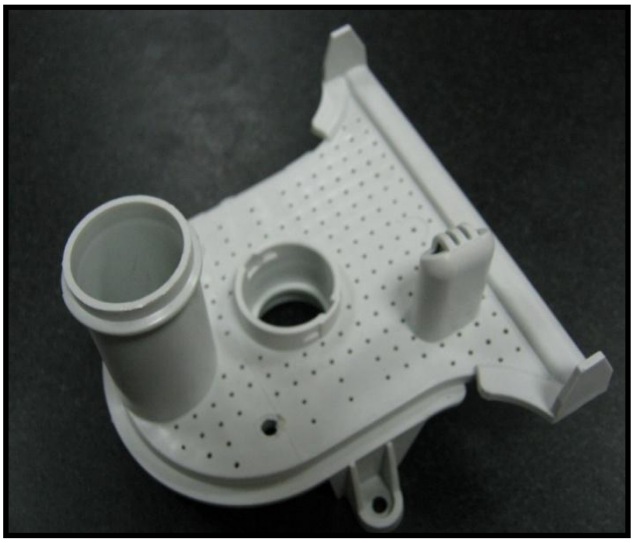
It includes 2 departments that “salt department” and “recine department” with 2 types that is sensor or without sensor.

2.5 Sump ;

Sump that is reservoir connects water in tube with

circulation pump and drain pump and heater casing..

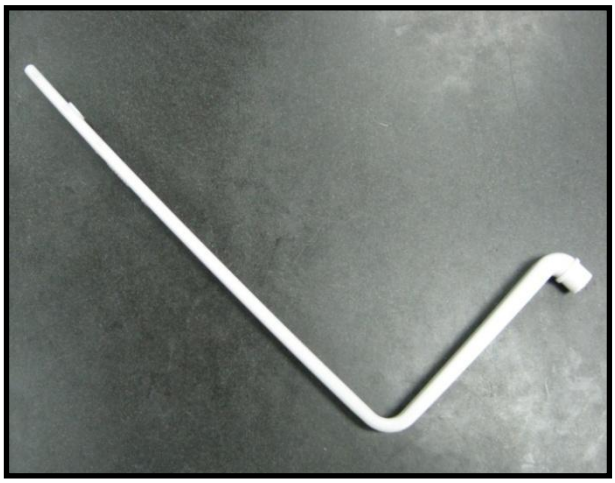
2.6 Spray Arm Support;



It distributes water from divisor to upper and below spray

3.7 L Spray Arm;

It transfers water from spray arm support to upper spray arm



2.8 Upper Spray Arm;

It tranfers water from L spray arm to upper spray arm

There are two hole back of the upper spray arm.

The holes provides to work upper basket for

upper and lower position.

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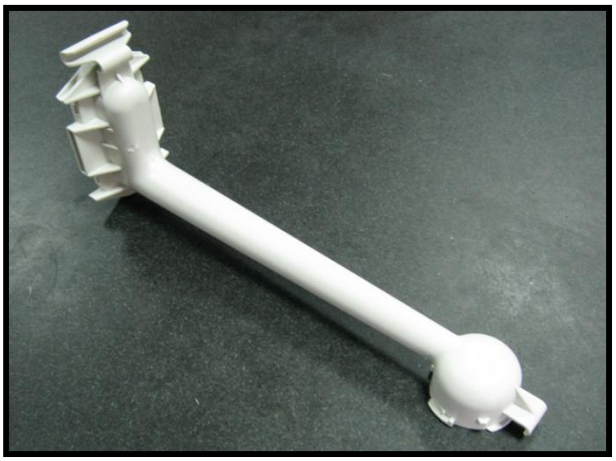
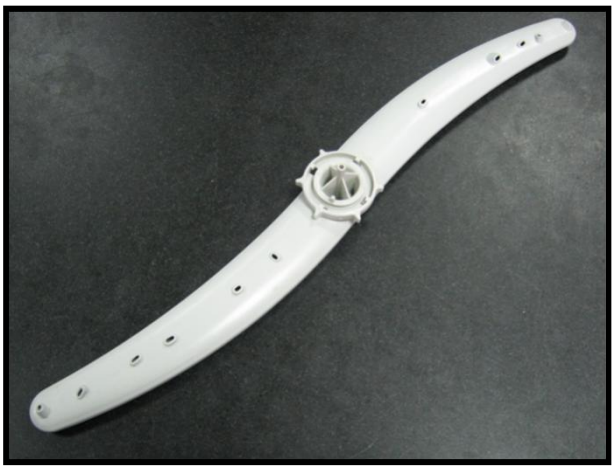


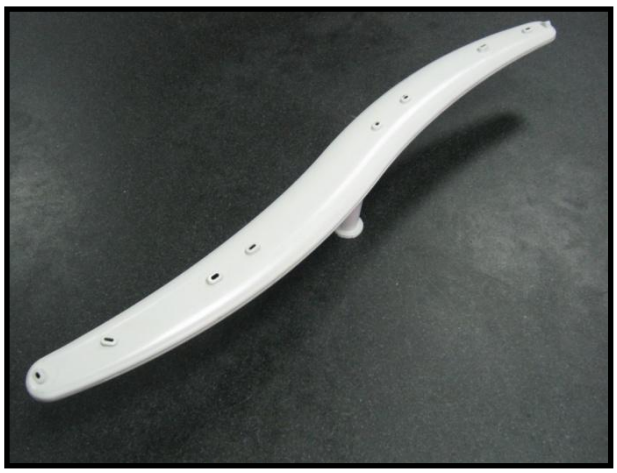
2.9 Upper Spray;

It distributes water from upper spray arm to dirty dishes in the upper basket.



2.10 LOWER SPRAY ARM;

It distributes water from spray arm support to dirty dishes in the lower basket



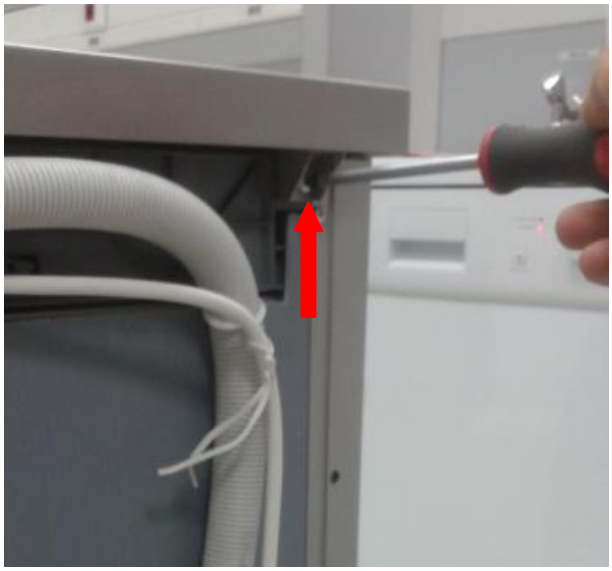
DISASSEMBLY

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

1) ACCESSIBILITY

1.1) Top Plate

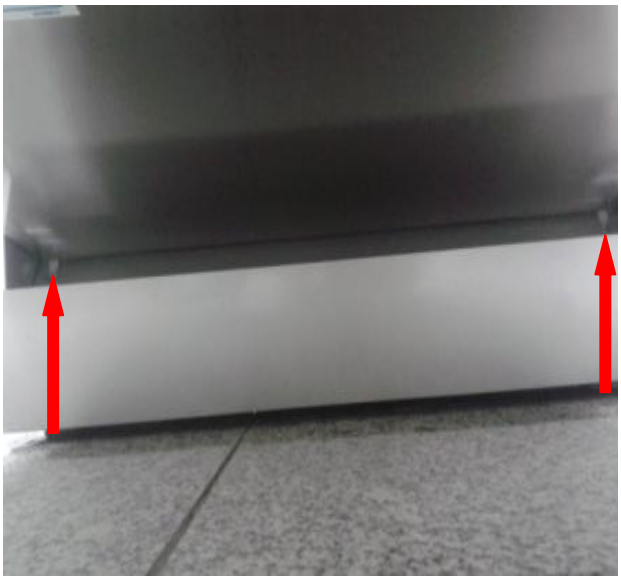
Remove two screws that fix the top plate at the back



b) Push the top-plate back and pull it up.

1.2) Plastic Kick plate

a) Remove two screws fixing plastic kick plate



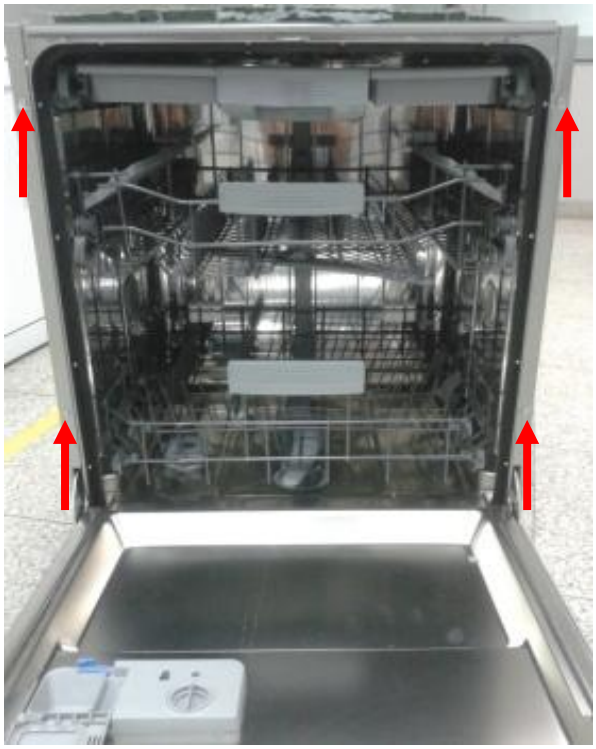
b) Remove the plastic kick plate as it is shown in the picture.

1.3) Side panels

Before removing side panels ;

a) Firstly remove the top plate.

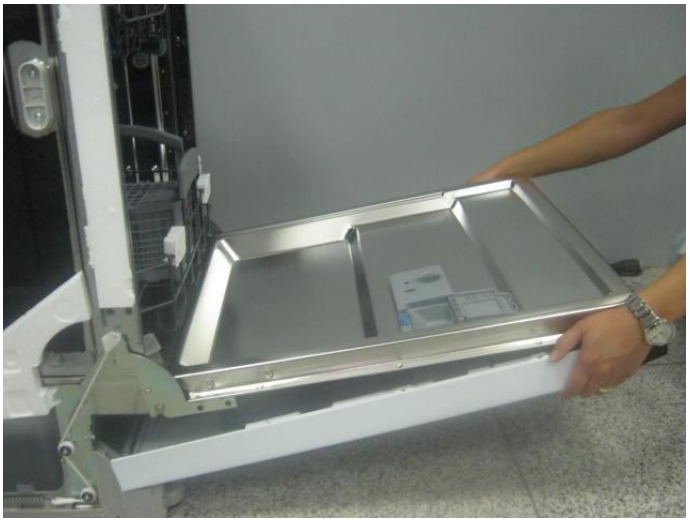
b) Than remove plastic kick plate.



1.4) Front Panel

a) Remove six screws that fix the front panel.

b) Pull down the front panel as it shown in the Picture.

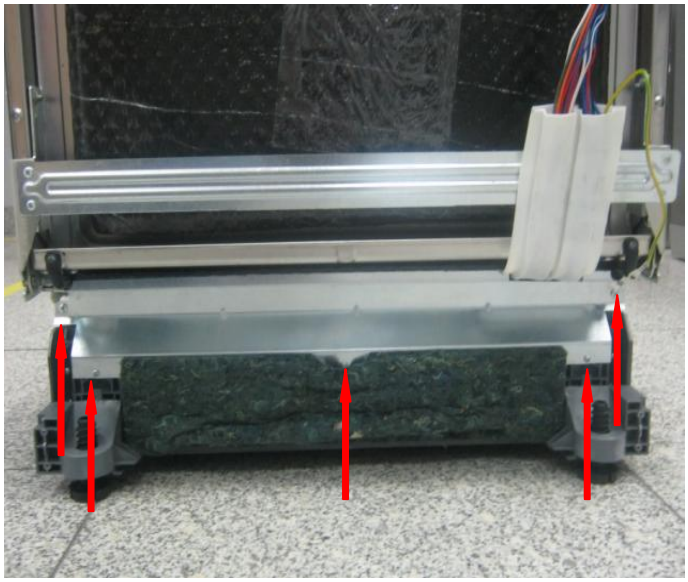


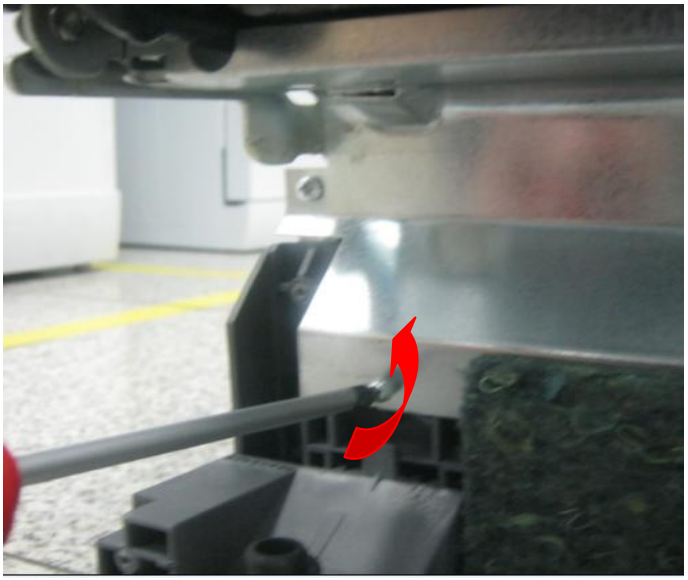
1.5) Kick Plate Sheet Iron

a) Remove top plate, plastic kick plate and side panels.

b) Remove two screws tat fix the kick plate sheet iron.

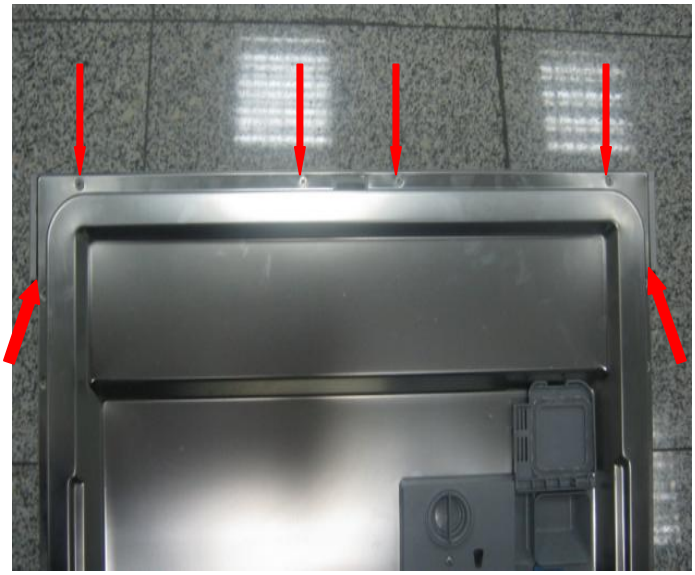
c) Pull it down as shown in the picture.

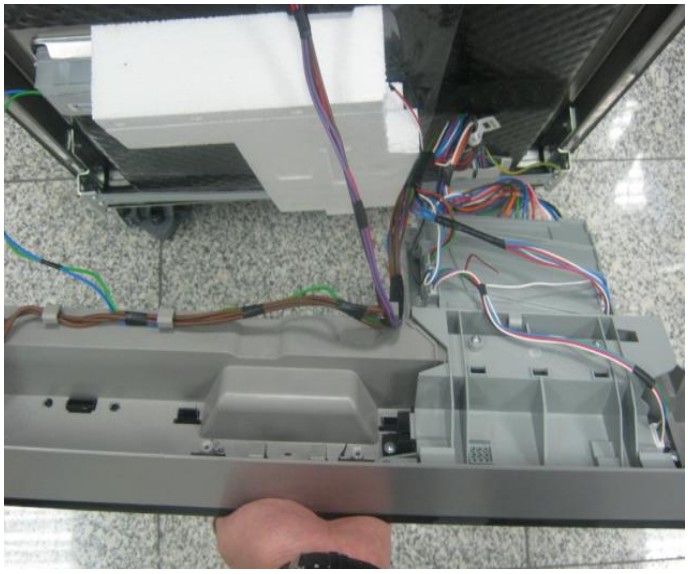




1.6 Control Panel

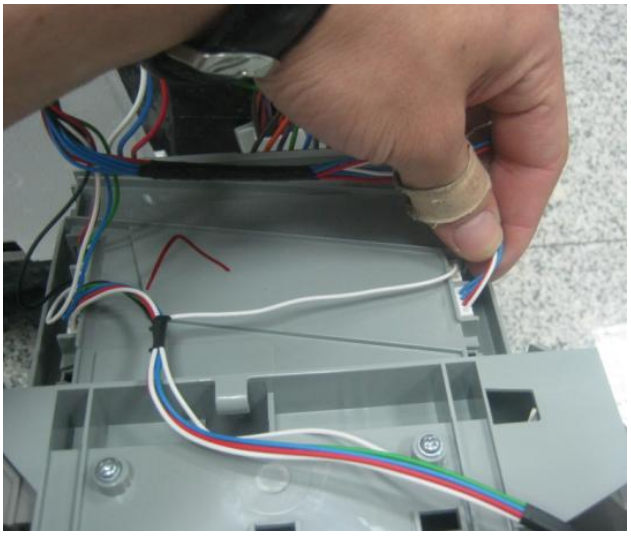
a) Remove six screws that fix control panlel to the door inside sheet iron.

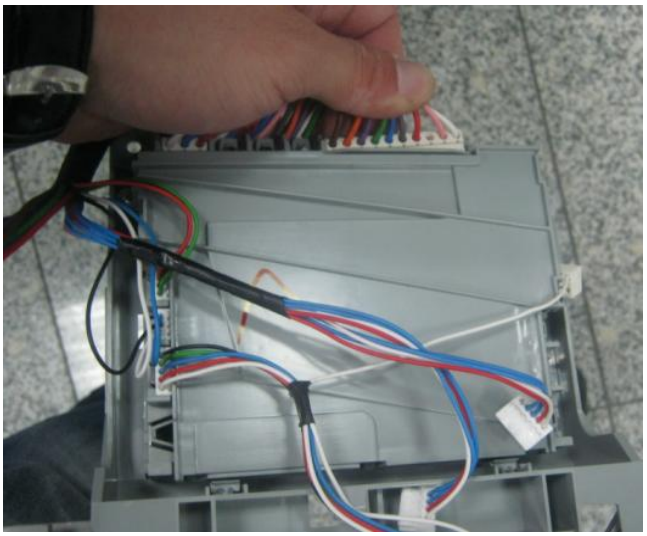




1.7) Electronic Card

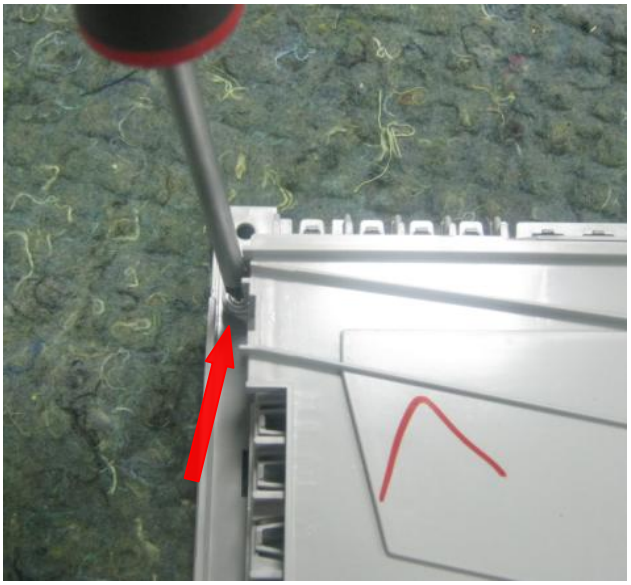
a) Remove the wires that are shown in the picture.

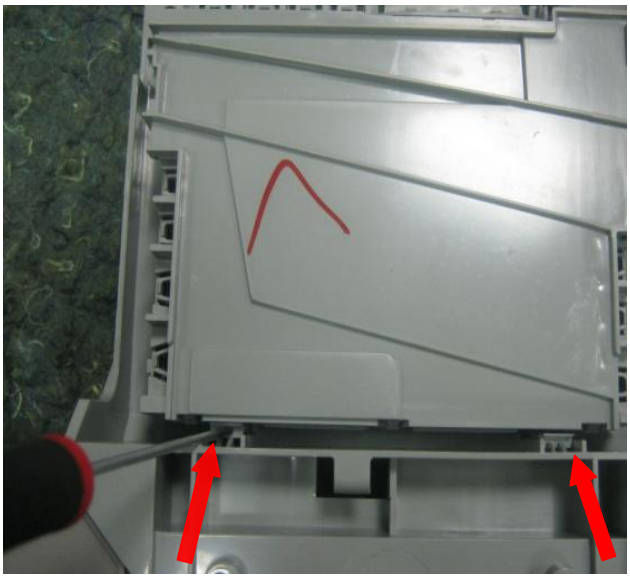




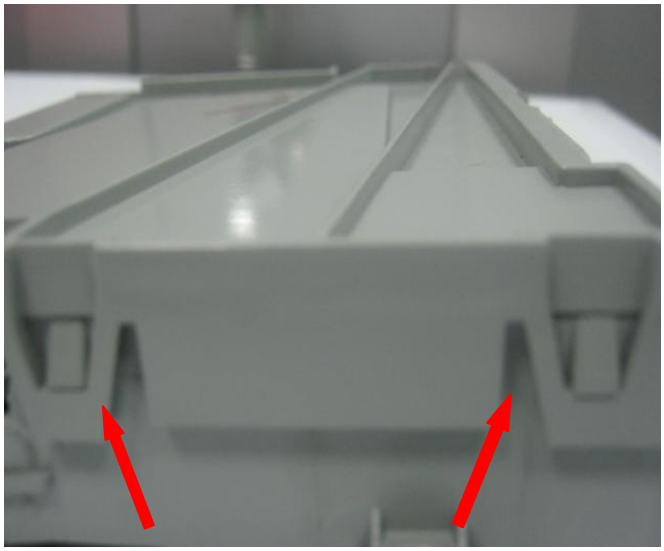
WARNING: WHILE REMOVING WIRES, DO NOT PULL THEM FROM WIRES, PULL FROM THE CONNECTOR.

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



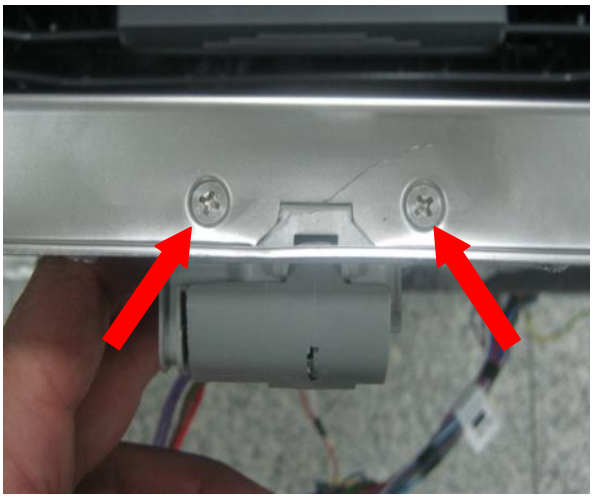


c) Remove the wire which is between rotary switch and electronic card.



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

1.8) Door Lock Group

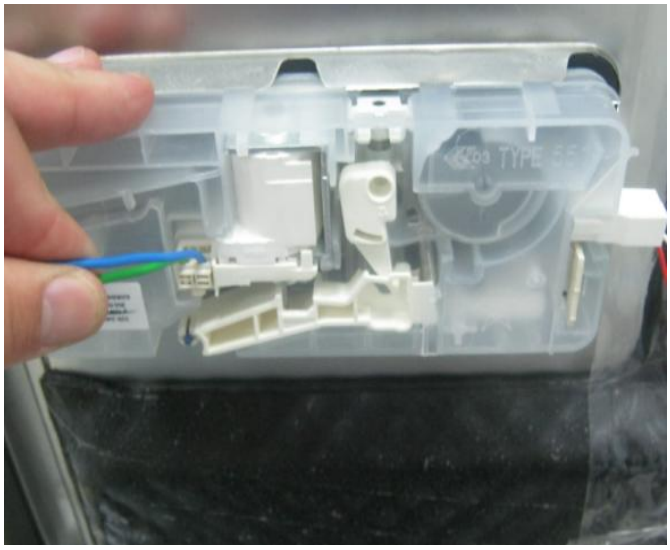


a) Remove control panel group.

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

1.9) Dispenser

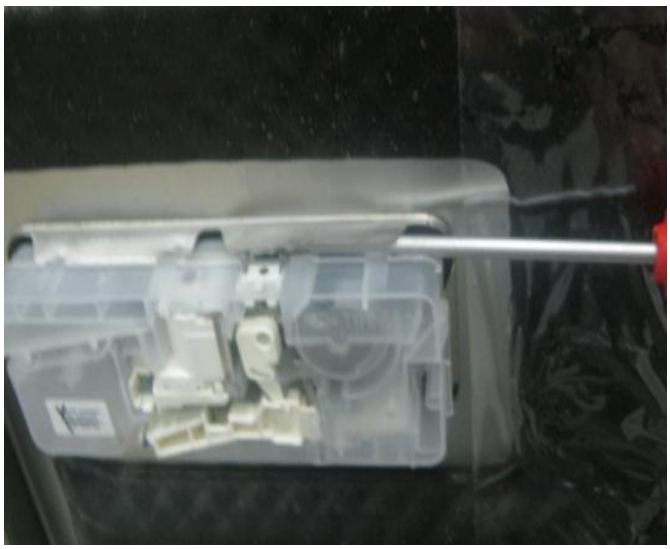
a) Remove the front panel



b) Remove the wire.

c) Remove dispenser from inside door‘s hinges by using slotted screwdriwer.

d) Push and remove the dispenser .



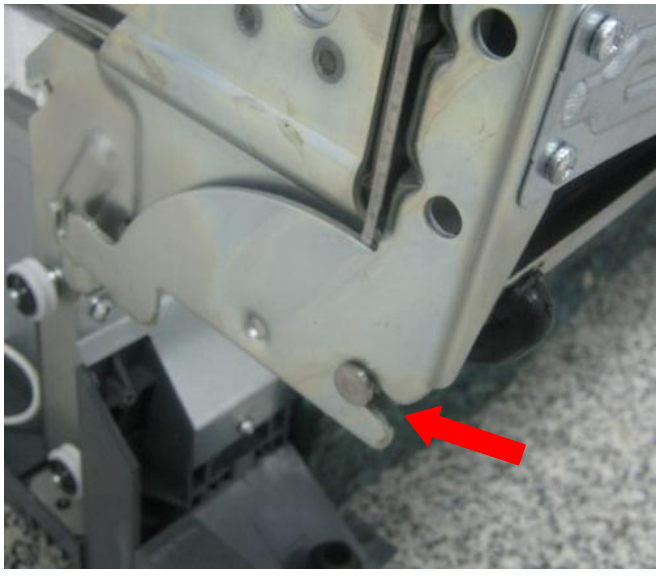
WARNING: USE WORK GOVERS OTHERWISE INSIDE DOOR SHEET IRON CAN CUT YOUR HANDS

1.10) 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

2.) To Access The Components From Sides

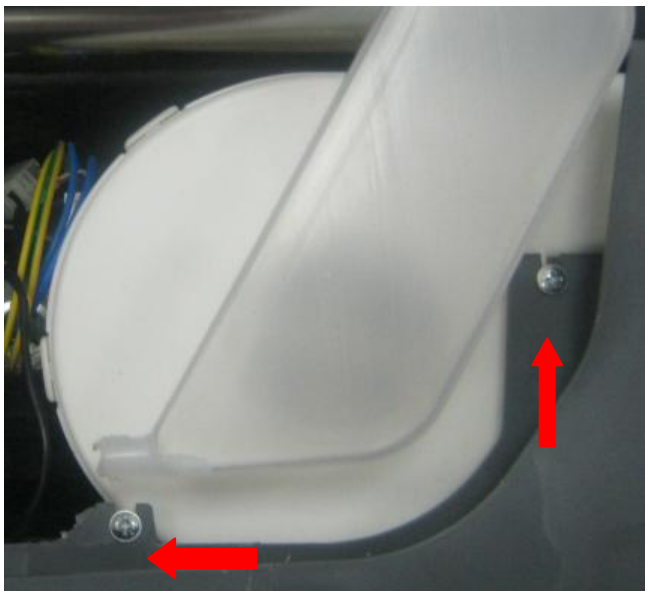
Remove the side panel to reach component which you need

a) Right Sight

b) Left Sight

2.1) TURBO FAN MOTOR GR

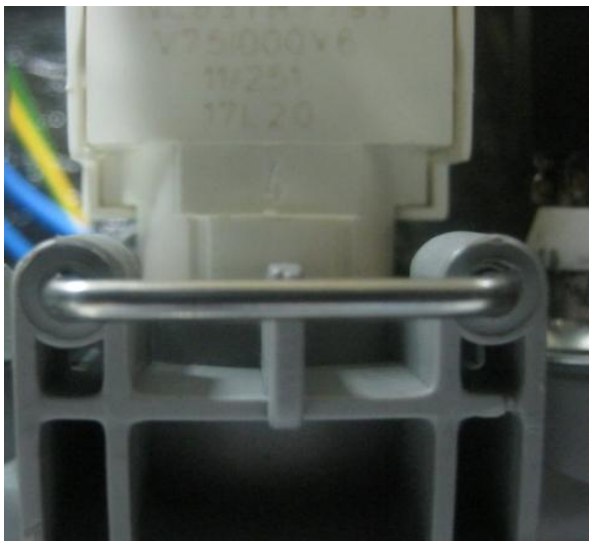
a) Last right sıde panel



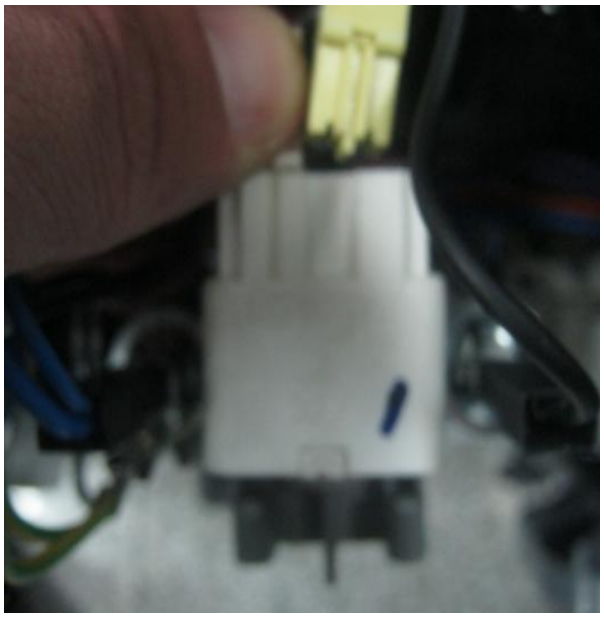
b) Remove the two screws on the bottom of the fan is connected to the base turbo

c) Remove the turbo fan on the condensing unit

2.1) NTC with Thermal Protector



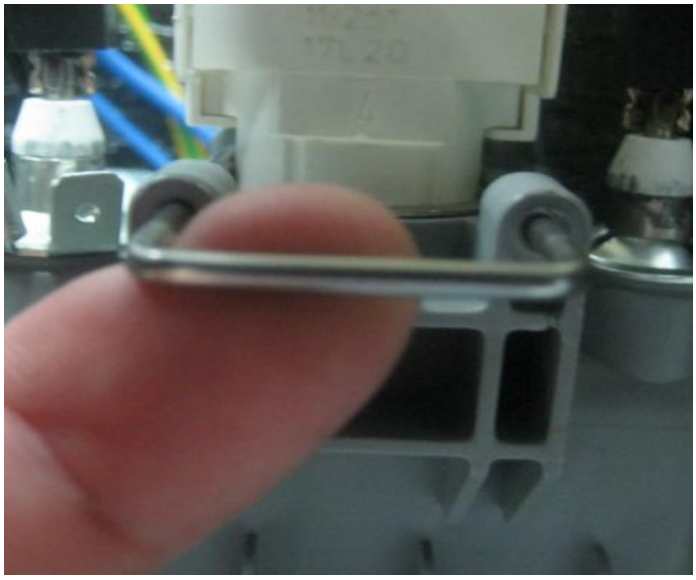
a) Remove turbofan new.NTC will see at the top of the heater group



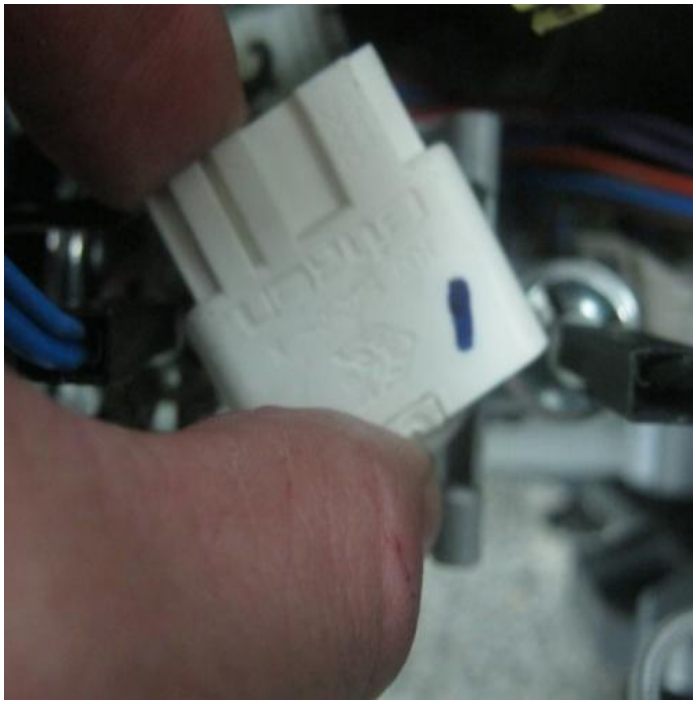
b) Remove the power cord is connected.

(NTC on the left, on the right is the thermal protection cable)

c) Pull yourself under the NTC pin.



d) NTC 't pull it toward you out of the anchorage.



2.2) Air-Break

) Remove the left side panel of the machine.

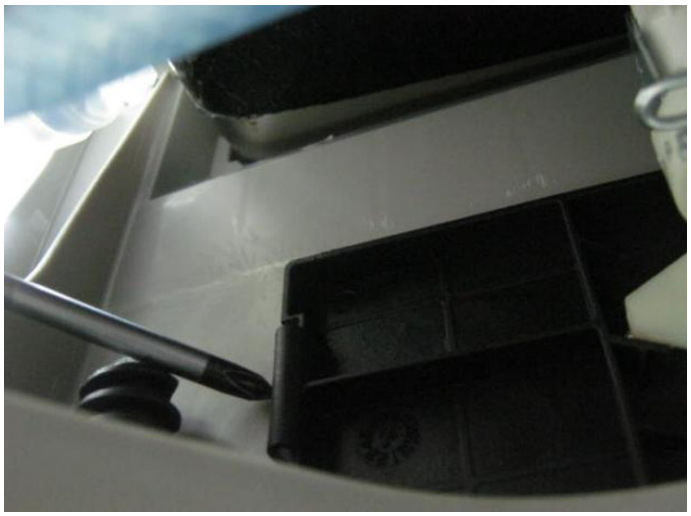
b) Open machine's door..

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)

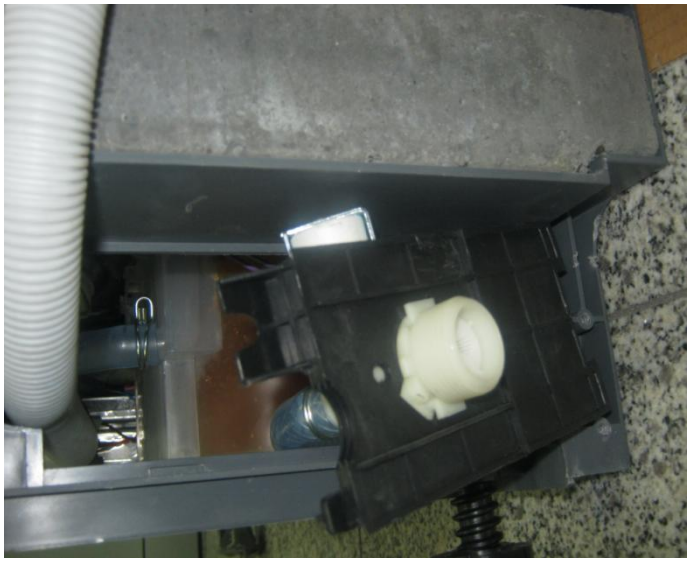
2.3) Hose Connection Plastic

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.

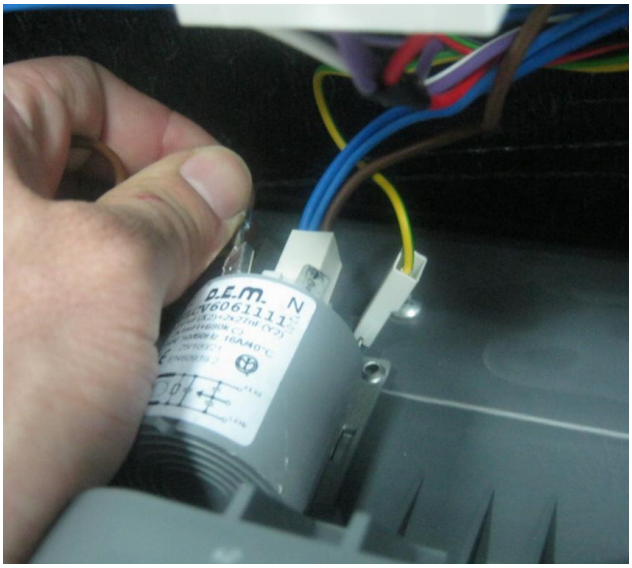
c) Push the hose connection plastic.



WARNING: IF YOU DO NOT OBEY INSTRUCTIONS WHILE DISASSEMBLY OF THE HOSE CONNECTION PLASTIC IT CAN BE BROKEN

2.4) Supply Cable

a)Remove the plastic hose connecting the lower base.



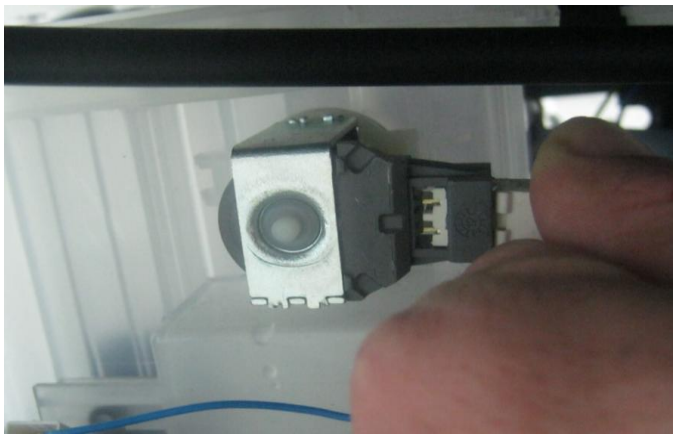
a) Remove the bottom cover.

b) Supply cord with noise filter of electrically disconnect.

e) Besleme kablosunu bulunduğu yerden sökün.

3. To Access The Components From in Front Of The Machine

a) Remove Plastic kick plate and .kick plate iron.



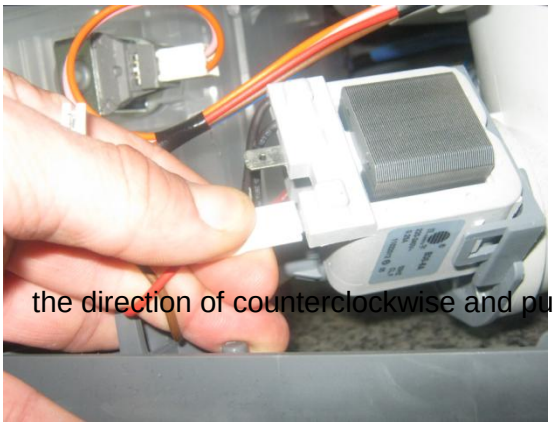
3.1) Regeneration Valve

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.

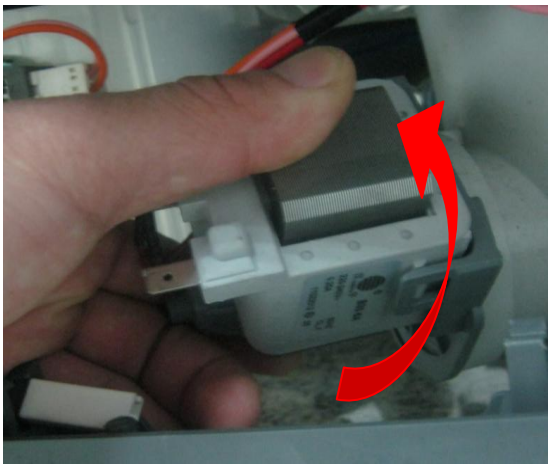
3.2) Drain Pump

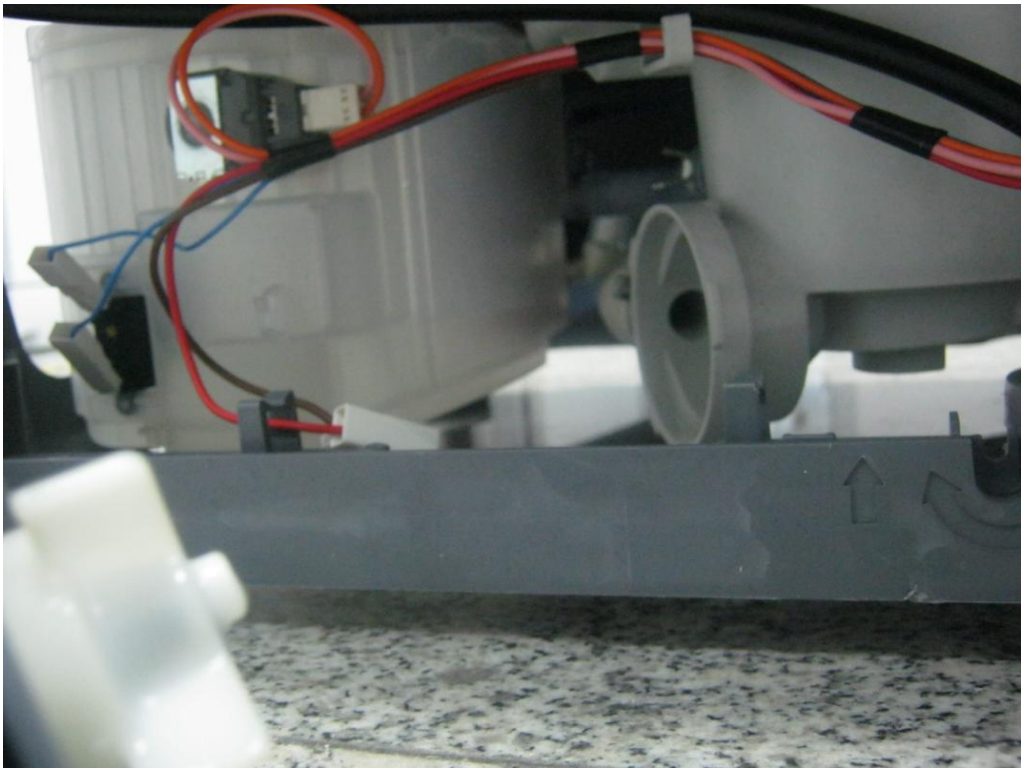


a) Remove Plastic kick plate and .kick plate iron sheet.

b) Remove the wires...

c) To remove the drain pump that fixes to the sump, rotate it in the direction of counterclockwise and pull .





4. To Access The Components from the Lover Cover

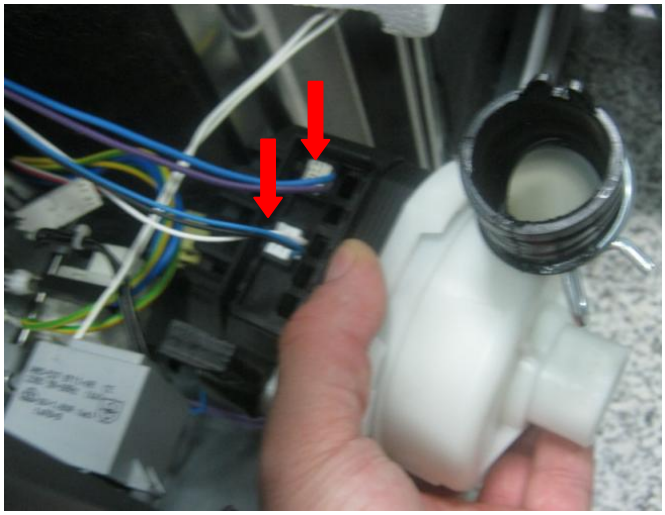
a) a) Lay the appliance on the rear panel..

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

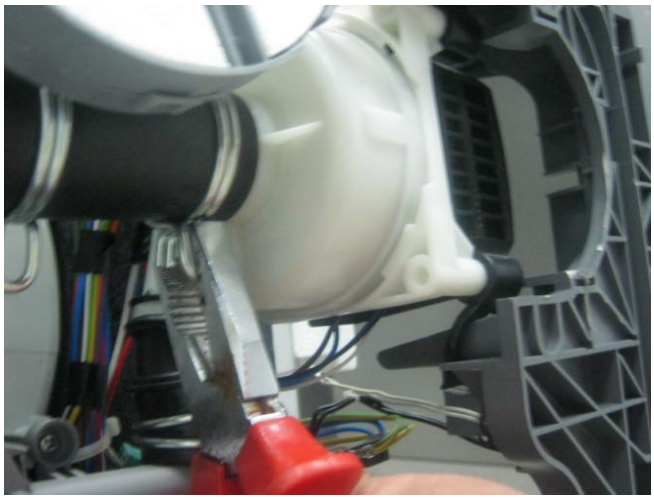
4.1) Circulation Pump

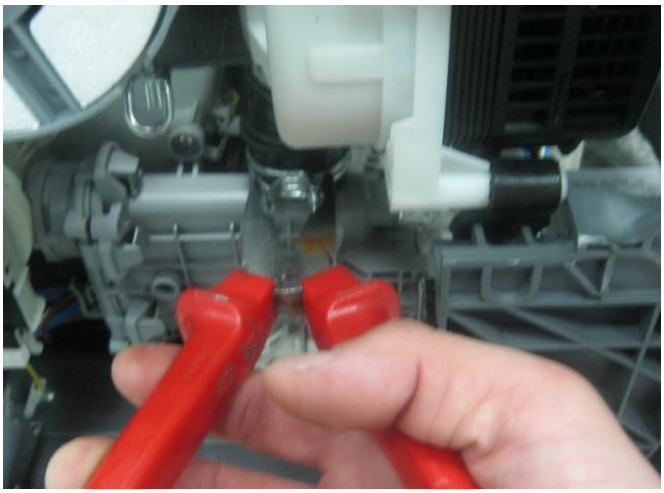
a) Lay the appliance on the rear panel.

b) Remove the electrical connection on the circulation pump.

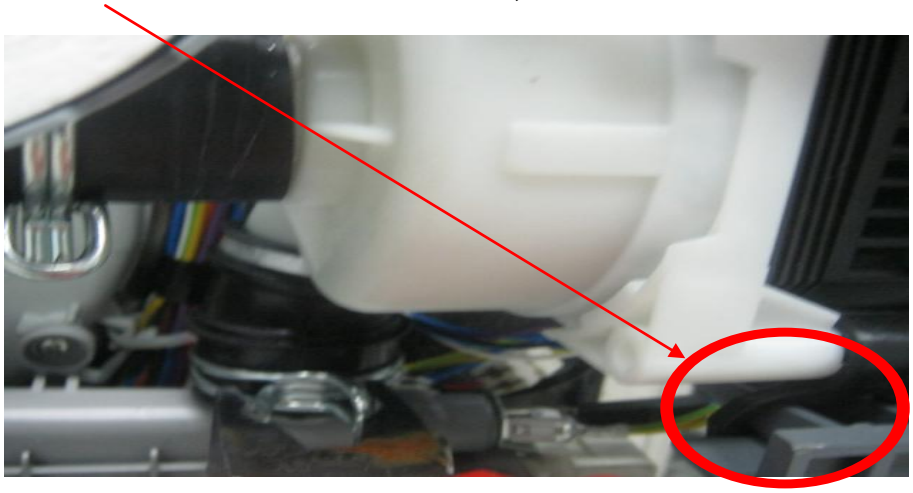


c) Remove 2 clamps that are shown in the picture (Heater casing- circulation pump, sump-Circulation pump)



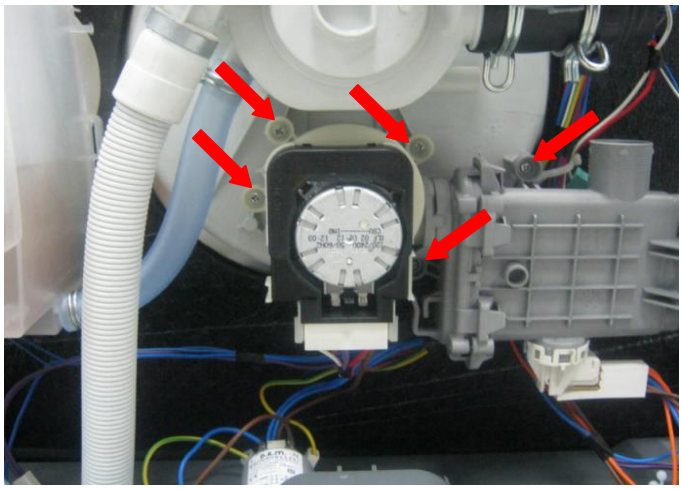


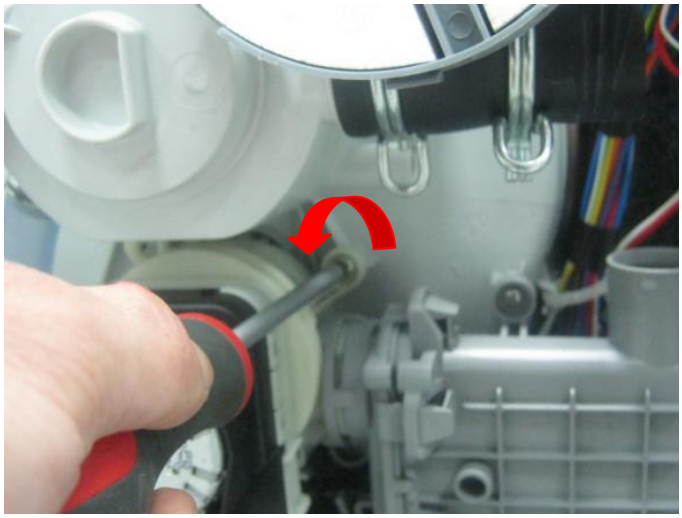
d)Yıkama pompasını alt tabana monte eden askılardan, kurtararak sökün.



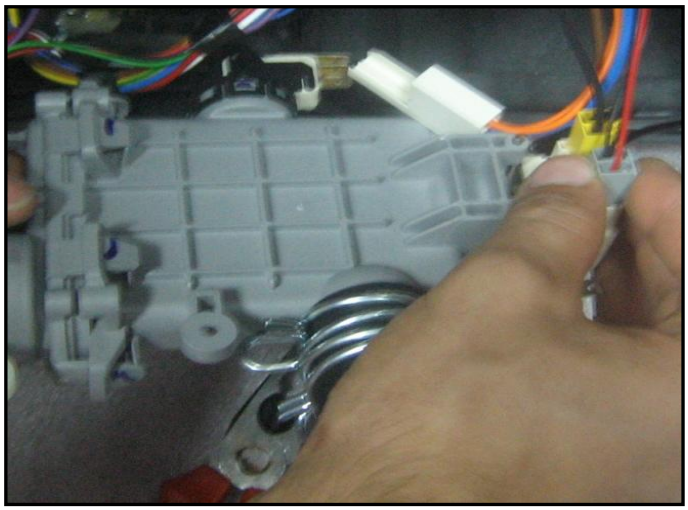
4.2) Isıtıcı (Heater-Casing Grubu)

a) Remove the machine's lower cover.





b) Remove five screws that fix heater to sump



c) Remove the electrical connection.

4.3) 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.

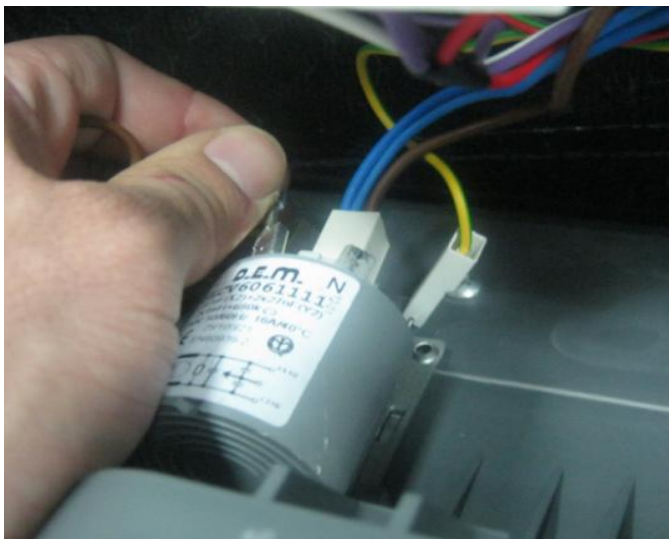
f) Remove the hose that is between sump and salt camp..

4.4) Parazit Filtresi

a) Remove lower cover.

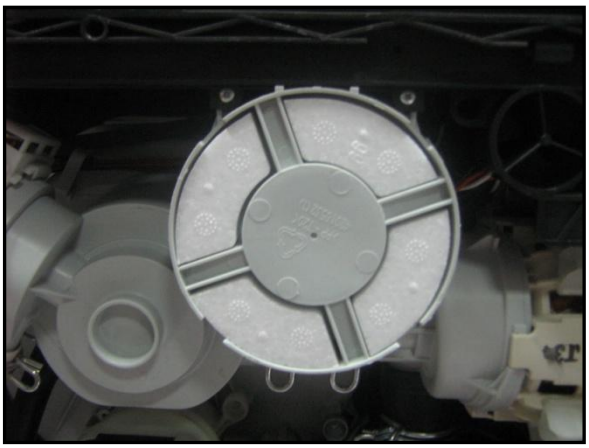
b) Remove one screw fixing parasite filter.

c)Remove the electrical connection of noise filter.

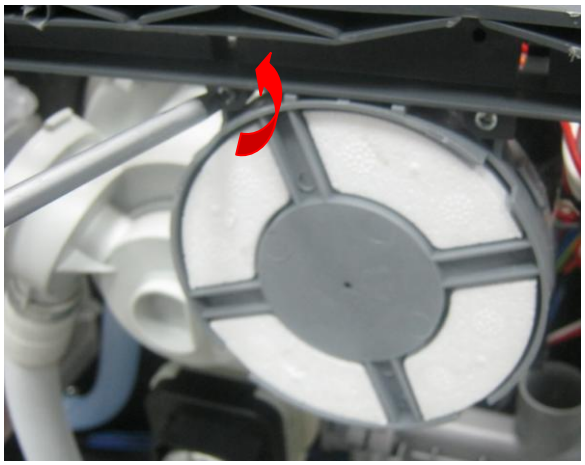


d)Remove the electrical connection of noise filter.

4.5) Floater

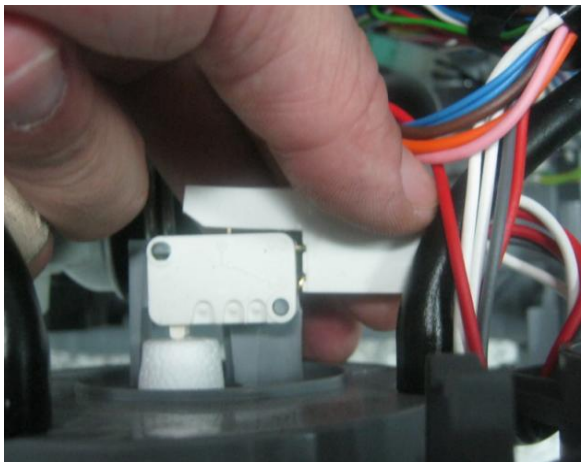


a) Lay the bottom of the machine and remove the cover.



b) Floater sub-base screws (2 pcs) Unscrew the anticlockwise.

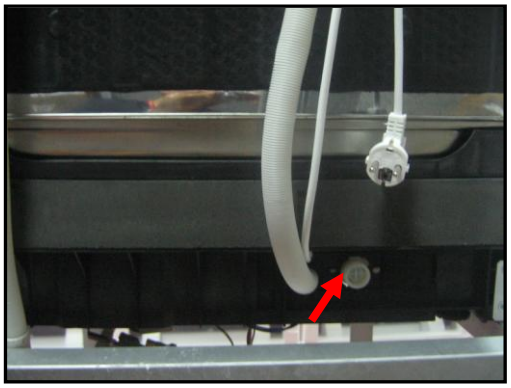
c) Disconnect the overflow hose float.



d) Disconnect the electrical connection.

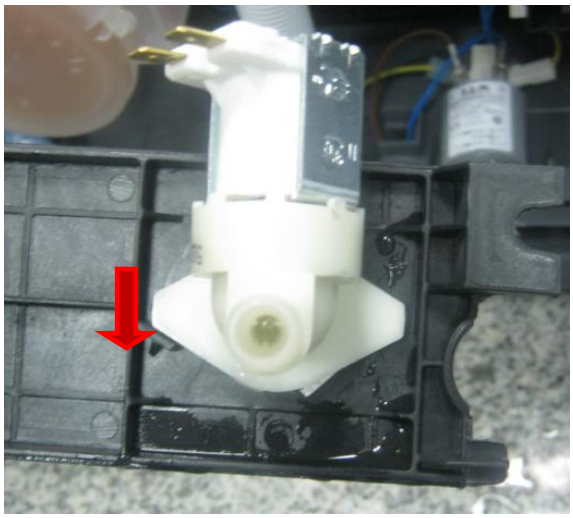
4.6) Water Inlet valve

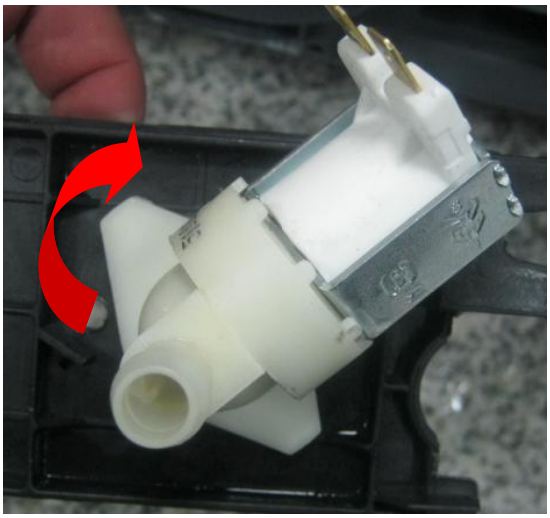
a) Remove lower cover.



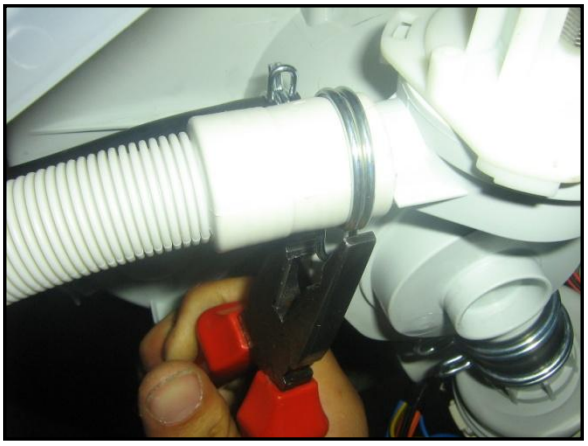
b) Electricity connection and water inlet valve connects the air-break disconnect hose.

c) The water inlet valve is connected by pulling back after recovering from the pins clockwise to remove.





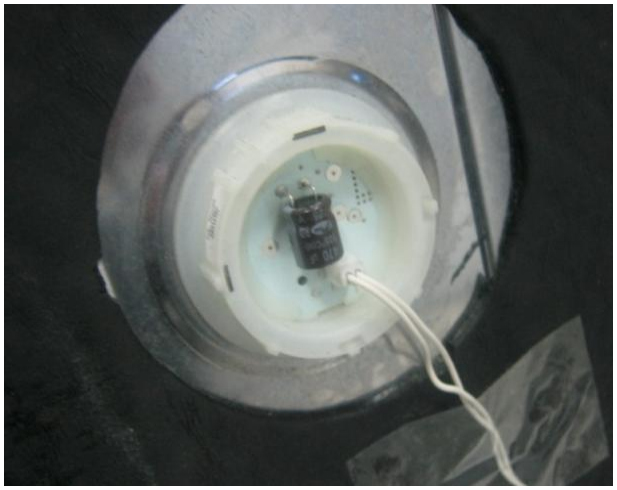
4.7) Draining Hose



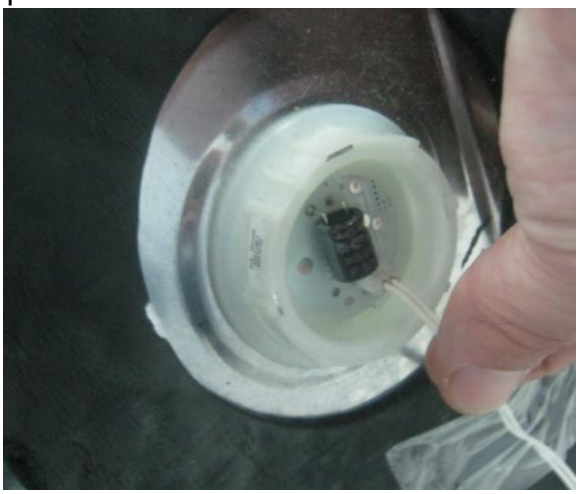
a)Remove the hose connection plastic
b)Remove lower cover.
c)Remove the clamp that fixes draining hose to the sump.
d)Remove draining hose..

4.8) Led Modül

a) Remove the right side panel.



b) Remove the electrical connections as in the picture.



c) LED modules behind the nut by turning it counter-clockwise direction to remove.

5) Basket Group

5.1) Lower Basket

a) Open machine’s door.

b) Pull the basket to yourself.

5.2) Upper Basket

a) Open machine’s door.

b) Pull the basket to yourself.

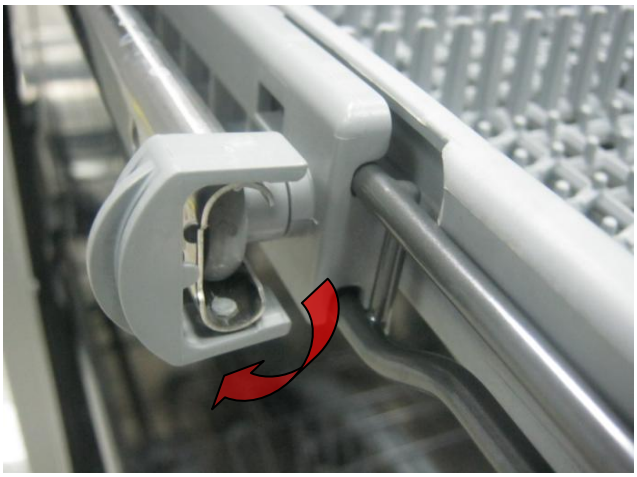
c) The plastic cover on top rail (top rail lock Cart-front) right by turning it to the left to the right and the left.

d) Cart pulling it toward you recover from the rails.

5.3 Third cart

a) Open the cover of the machine.

b) Cart sliding on the sled pull it toward you.



c) The plastic cover on top rail (top rail lock Cart-front) right by turning it to the left to the right and the left.

d) Cart pulling it toward you recover from the rails.

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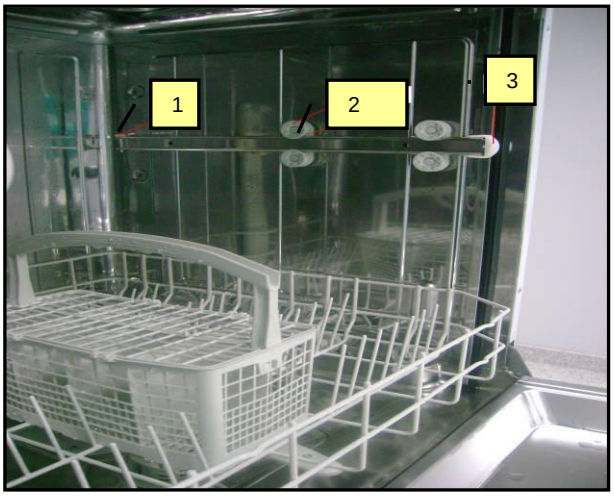
5.3 Basket Rails



1- Upper basket rail stoper rear
2- Upper basket whells
3- Upper basket rail lock front

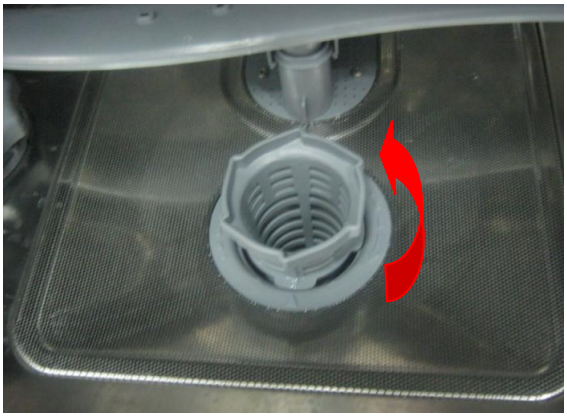
6.) The Components That Are inside the Tub

6.1) 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.

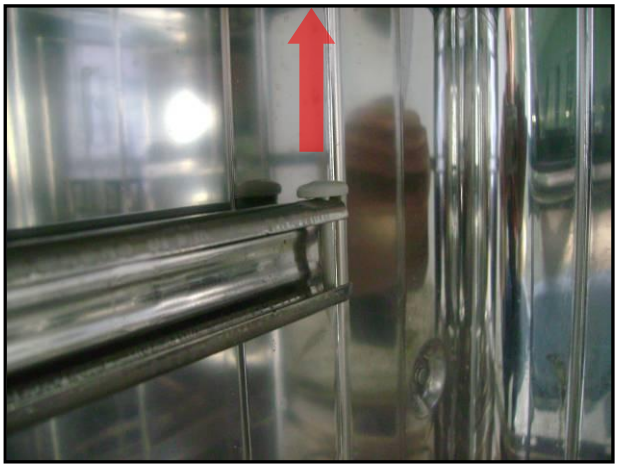


d) To remove microfilter group (course filter and micro filter) pull them as it is shown in the picture.

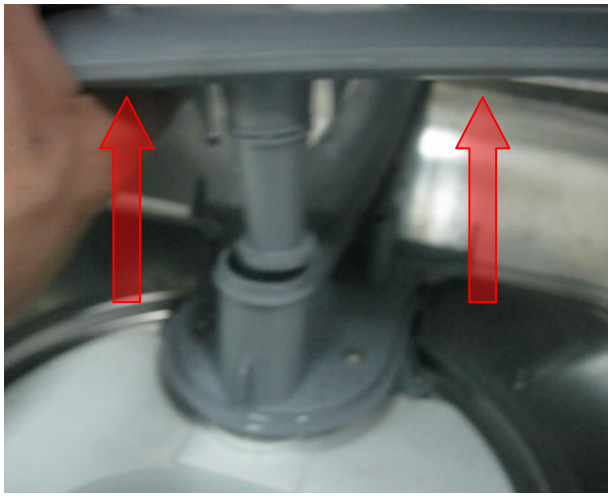
e)To remove the metal filter pull it up as it shown in the picture

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

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



6.2) Sprinkler System



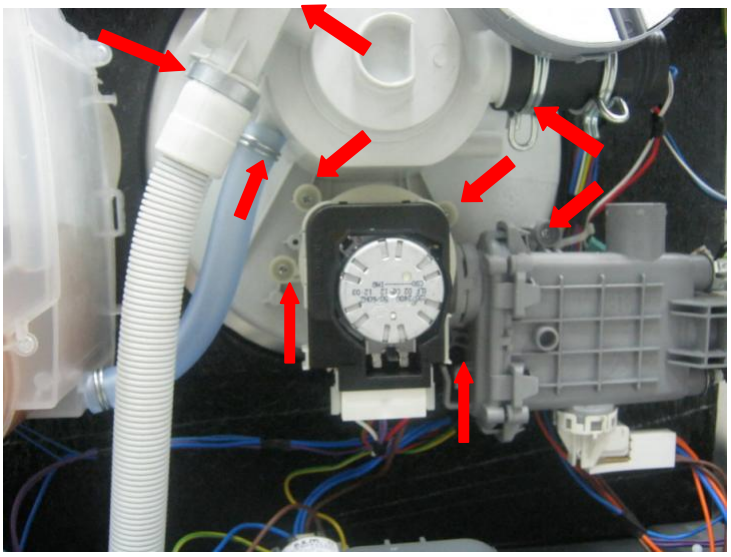
a)After removing the lower basket , pull the spray arm upwards .gripping it by the central hub.

b)To remove upper spray arm adjustment link pull it trought 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.

6.3) 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 lover 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.

ELECTRICAL TERMS AND ABBREVIATIONS the

FM	FLOWMETRE
SET	NTC SENSÖR
IV	SU GİRİŞ VALFİ
FS	FLOATER SENSÖRÜ
DP	BOŞALTMA POMPASI
PS	BASINÇ ANAHTARI
DS	KAPI SWITCH
DE	DETERJAN ÇEKMECESİ
HE	ISITICI
CP	YIKAMA MOTORU
C	KAPASİTÖR
RV	REJENERASYON VALFİ
SF	ISITMA GÜVENLİK

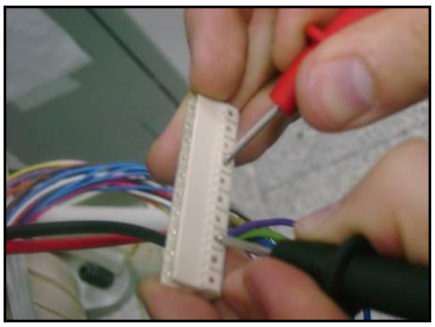
REPAIR TECHNIQUES

COMPONENTS AND RESISTANCE VALUES

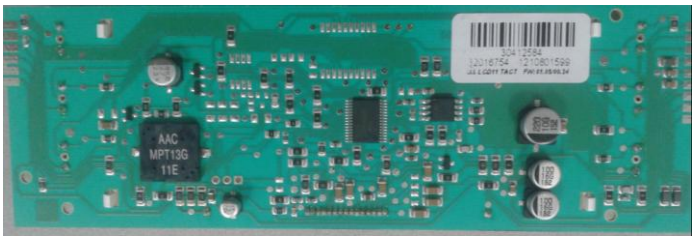
COMPONENTS	REAL VALUES	NOTES
ON / OFF BUTTON	0 Ω on component	ON/OFF button is pressed
DOOR SWITCH (KAPI KİLİDİ)	CN2.9 – CN2.2 0 Ω	Door is close
PRESSURE SWITCH	CN2.10 – CN2.2 0 Ω ∞ Ω	FULL FILL WATER NO WATER
DRAIN PUMP	CN2.2 – CN2.4 143 Ω % ± 7 (PLASET)	/ 210 % ± 7 (HANYU)
WATER INLET VALVE	CN2.6 – CN 2.9 3750 Ω ± %10(20Cº)	
REGENERATION VALVE	CN2.10 – CN2.7 4130 Ω ± %10(25 Cº)	
HEATER	23.95±15 Ω	MEASURE JUST ON THE COMPONENT
DETERGENT DISPENSER	4450 ±10 Ω ± %10 (25 C º)	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 CN2.1 – CN 2.4 ∞ Ω	MICROSWITICH IS INACT VE (NO WATER) MIKROSWITCH IS ACTIVE (THERE IS WATER)

MEASURING THE COMPONENTS FROM THE ELECTRONICAL CARD

You might measure the components either connentors of electronic card or directly on the component. Measuring from the connectors of electronic card gives definite results to define the repair. If you know the specialities and values of tester, you can easily determine the repair.



In order to reach the connections of the electronic card; dismantle the control panel and probes of the tester should be applied on to the related connectors of the electronical card; control the values according to the resistance value table.



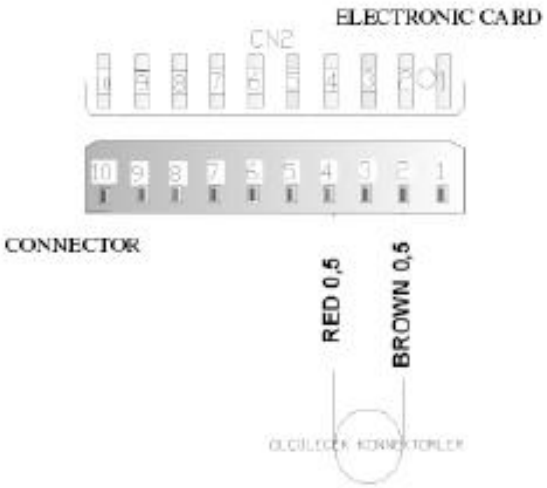
Yıkama Pompası :

UYARI: *Değişken devirli yıkama pompasının ölçümü yapılamaz.*

Drain Pump:

From the Electronical Card:

143 ± 7 on the connectors CN2.2 – CN2.4



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

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From the component :

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

VALUES OF PUMP COILS

HANYU DRAIN PUMP

143 Ω ± 7

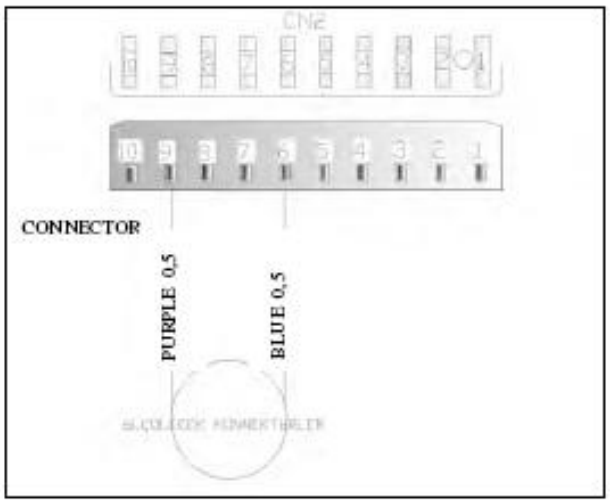
HANNING DRAIN PUMP

210 Ω ± 6

Water inlet valve:

From the Electronical Card:

3750 ± 10 Ω (20 C°) on the connectors CN2.6 – CN 2.9



Above sketch show the connectors of the water inlet valve on the electronical 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.

WATER INLET VALVES (OPTIONAL)

3750 Ω ± 10

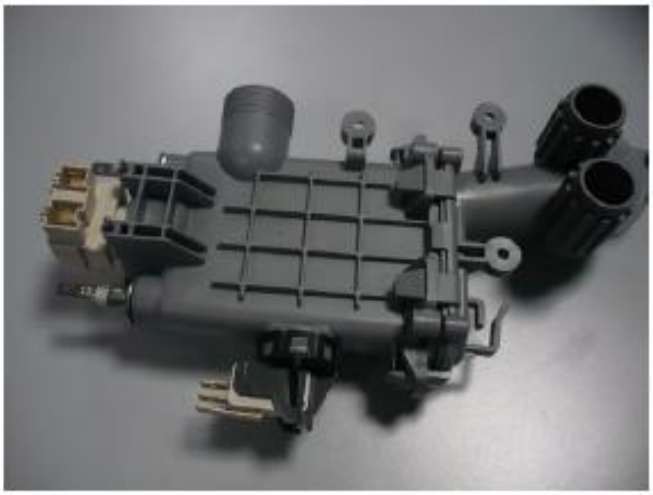
(20 °)

Heater Casing:

It can't be measured from the electronical card.

From the component:

23.95 ±15 Ω



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

Detergent Dispenser:

It can't be measured from the electronical card.

1660 ± 10 (25 C º)

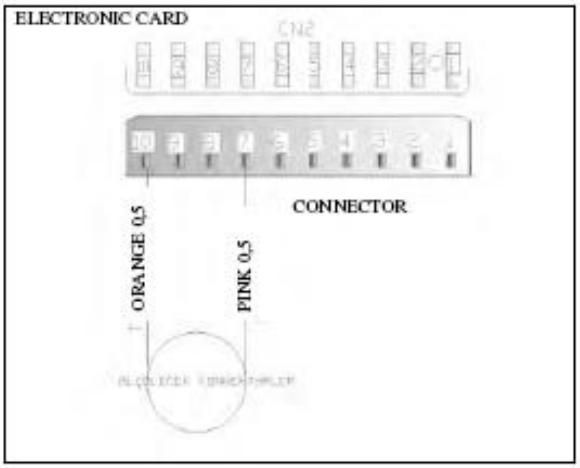
From the component:

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

Regenaration Valve:

From the Electronical Card:

4130 ± 10 (25 C º) on the connectors CN2.10 – CN2.7



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

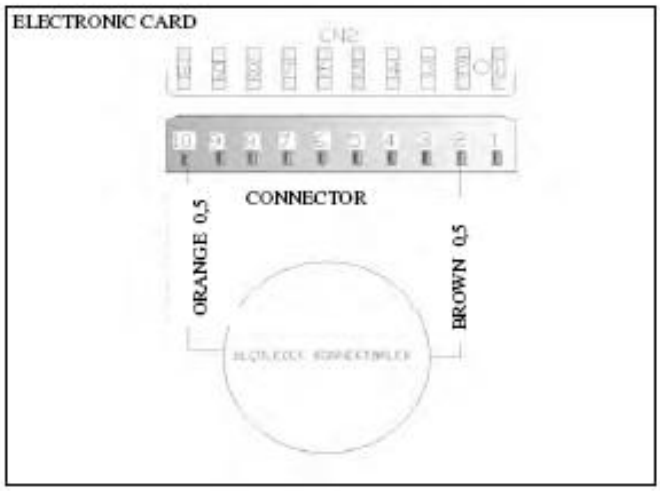
From the component:

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

Pressure Switch:

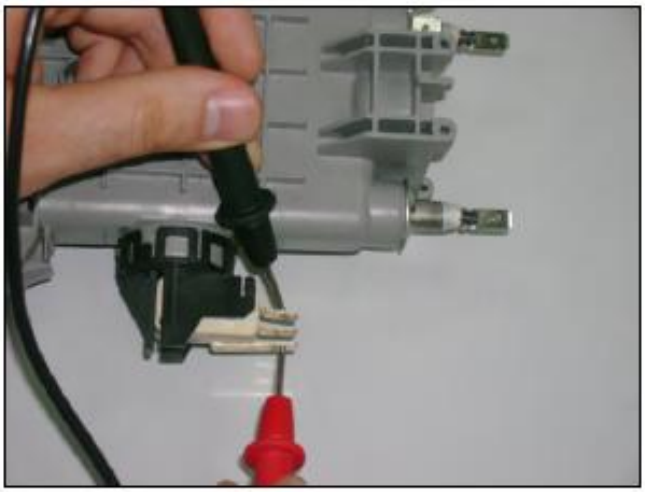
From the Electronical Card:

CN2.10 – CN2.2 0 Ω There is water (Full) **Ω There is not water (Empty)**



Above sketch show the connectors of the pressure switch on the electronical card. Probes of the tester should be applied on to the related connectors.

From the component:

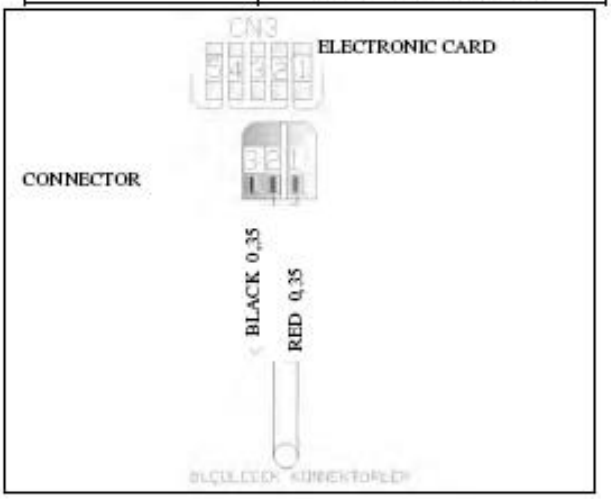


Probes of the tester should be applied on to the related connectors as shown on the pictures.

NTC sensor:

From the Electronical Card:

CN 3.1 - CN 3.2	25°-5000Ω-%±5.0
	35°-3300Ω-%±5.5
	55°-1520Ω-%±6.5
	63°-1174Ω-%±7.5
	80°- 670Ω -%±8.0
	90°- 488Ω -%±8.5



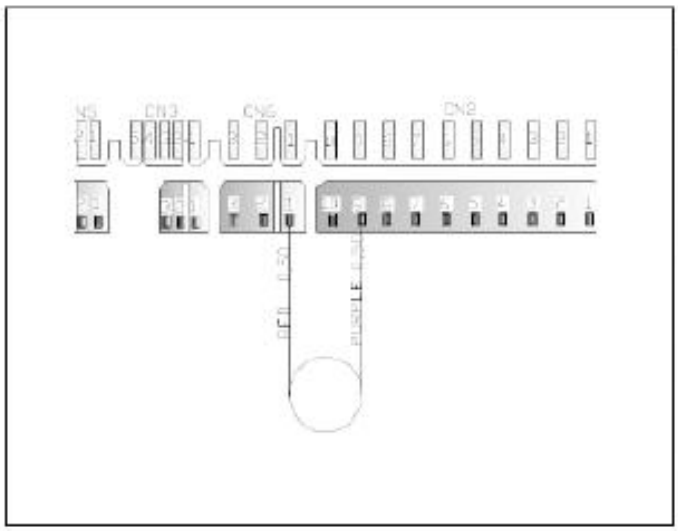
Above sketch show the connectors of NTC sensor on the electronical card. Probes of the tester should be applied on to the related connectors.

From the component:

Diverter:

From the Electronical Card:

6840 Ω-%±5.0 on the connectors CN6.1 – CN 2.9



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

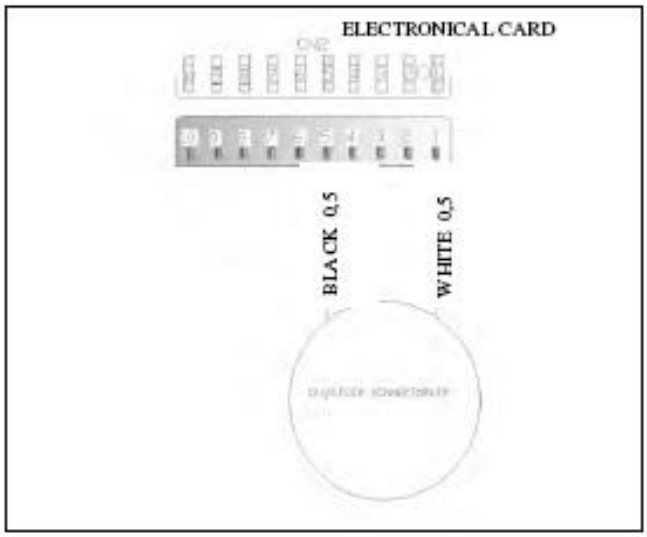
From the component:

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

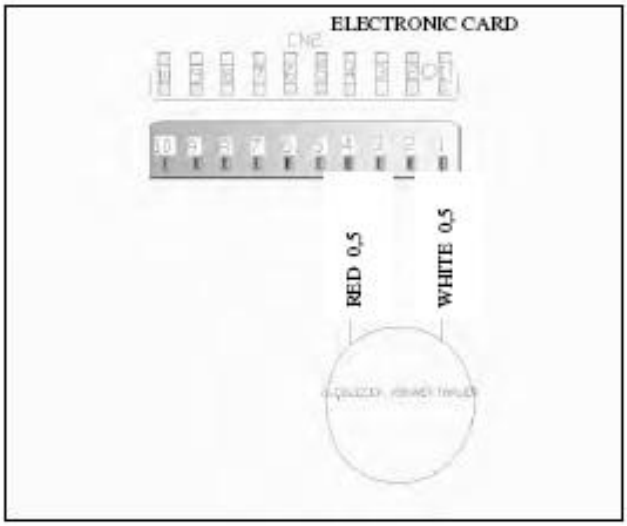
FLOATER:

From the Electronical Card:

CN2.1 – CN 2.5	0 Ω (Position1)	MİCROSWITCH IS INACTIVE (NO WATER)
CN2.1–CN2.4	∞ Ω (Position2)	MİCROSWITCH IS ACTIVE (WATER)



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

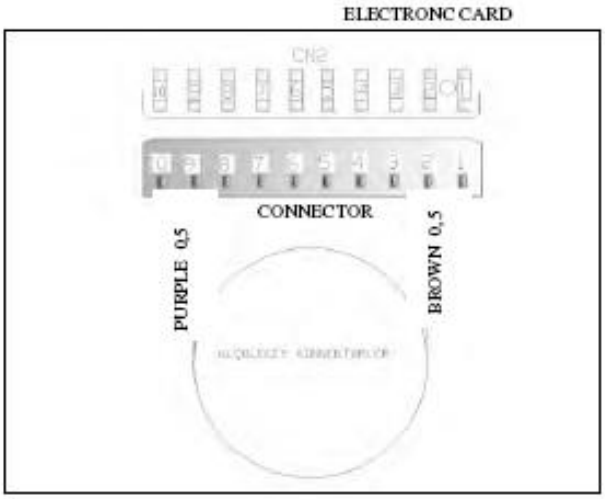


Position 2: If failure code is occured related with the floater within control the above values; you can figure out whether leakage occurs or not.

Door Switch :

From the Electronical Card:

0 Ω on the connectors CN2.9 – CN2.2 (Door is close)



Above sketch show the connectors of the door switch on the electronical card.

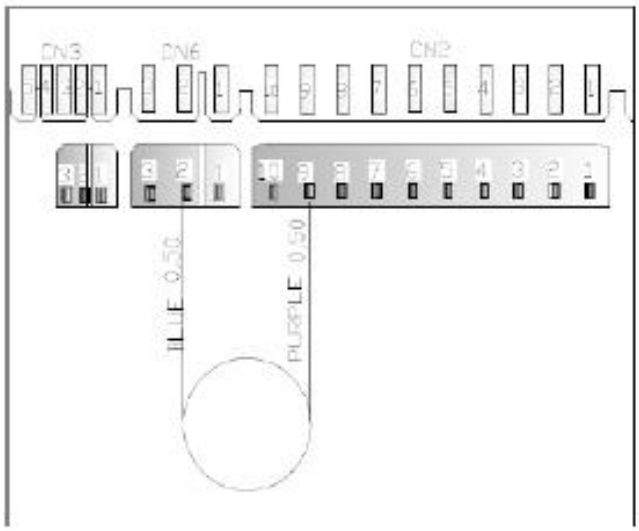
From the component:

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

Fan Motor:

From the Electronical Card:

238.6 Ω ± % 5 on the connectors CN 6.2 – CN 2.9



Above sketch shows the connectors of the fan motor on tke electronical card.

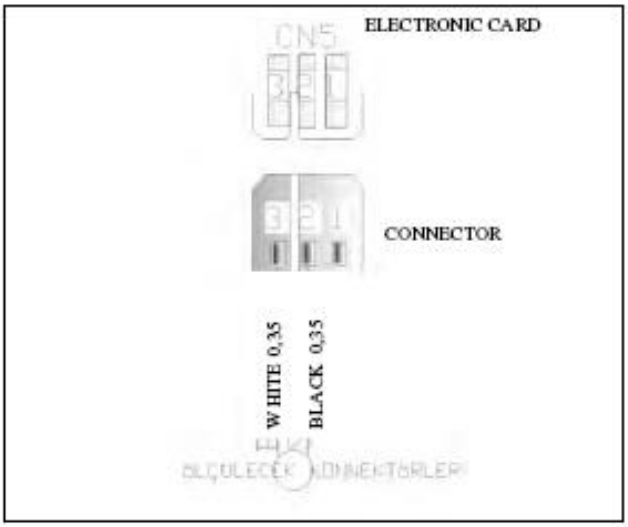
From the component :

Probes of the tester should be applied on to the related

connectors as shown on the pictures.

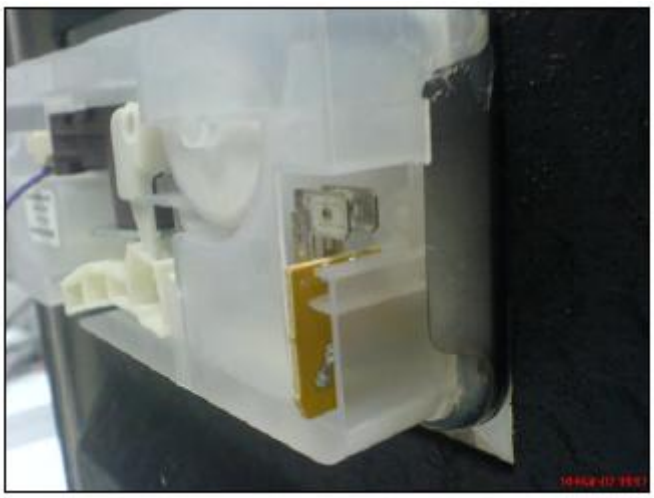
Rinse Aid Sensor:

From the Electronical Card:



Above sketch shows the connectors of the rinse aid sensor on tke electronical card.

From the component :

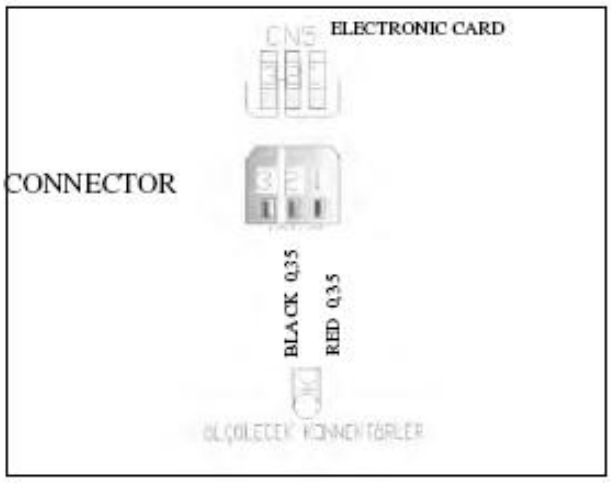


Probes of the tester should be applied on to the related connectors as shown on the pictures.

Salt Sensor:

From the Electronical Card:

CN5.1 – CN5.2 0 Ω NO SALT ∞ Ω THERE IS SALT



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

From the component :

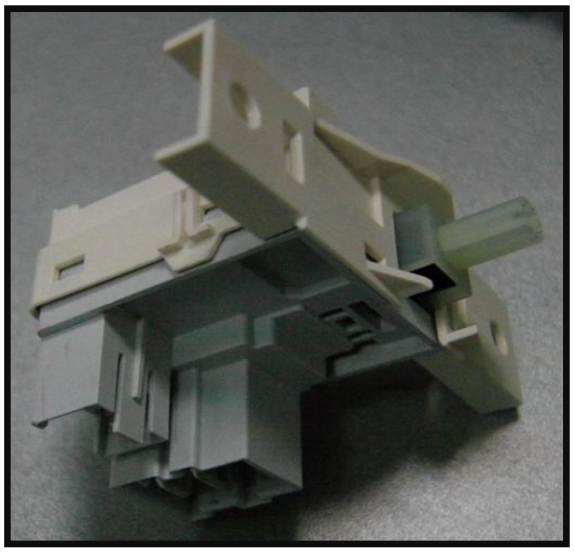
Salt sensor can also be measured from the water softener when the salt sensor assemblied on the water softener.

On/Off Button:

It can't be measured from the electronical card

From the component:

0 Ω	**When the buton is pressed**



Service Failure Codes

Coding Service Failure for T11:

Name	Wash	Dry	End	Notes
Overflow / Leakage	-	Blink	Blink	In the normal work only leakage is visualized.
Drain time out	Blink	-	Blink	
Presence flow meter impulses	-	-	Blink	
Absence flow meter imp.	-	Blink	-	In the normal work is not visualized.
Empty level	Blink	-	-	
Re-Fill time out	Blink	-	-	
NTC ca/cc	Blink	Blink	-	
Overheating	Blink	Blink	-	
Unsuccessful heating	Blink	Blink	-	In the normal work is not visualized at the end of prg
Parameter set salt incorrect	Blink	Blink	Blink	In the normal work this failure is not visualized.
CK Parameter	Blink	Blink	Blink	

Coding service failure for T12,T13,T21:

Name	DİSPLAY	Notes
Oferflow	F0	In the normal work this failure is not visualized.
Leakage	F1	
Draining time out	F2	
Presence of flow meter impulses	F3	
Absence of flow meter	F4	In the normal work this failure is not visualized.
Empty Level	S/P	
Re-Fill time out	S/P	
NTC ca/cc	F6	
Overheating	F7	
Unsuccessful heating	F8	
Diverter opened	F9	
Turbidity Sensor	FA	In the normal work this failure is not visualized.
Parameter set salt incorrect	SE	In the normal work this failure is not visualized.
CK Parameter	FE	