SERVICE HANDBOOK NO:
REV. 01

BX PLATFORM (B7S / BLED)

CONDANSER DRYER

SERVICE HANDBOOK

2. Table of Contents

3. Technical Specification:

3.1. Product Definition:

3.1.1. Manufacturer : Arçelik A.Ş.
Çerkezköy - Tekirdağ / TÜRKİYE
3.1.2. Model : Beko DCY (7/8/9)402
3.1.3. Capacity (kg) : 7/8/9
3.1.4. Programs (Qty) : 14 sensor-controlled programs
1 timed program
1 ventilation program (compressor off)

3.2. Dimensions:

	UNPACKED			PACKED		
	HEIGHT	WIDTH	DEPTH	HEIGHT	WIDTH	DEPTH
54 cm	846	595	530	880	650	585
60 cm	846	595	598	880	650	660

3.3. Package:

3.3.1. Material : PE bag (Shrink-pack)
3.3.2. Supporter : Polystrofoam / Wood

3.4. Weight:

3.4.1. Unpacked (kg) : 50,5 / 51,5 (with plastic door)
52,5 / 53,5 (with glass door)
3.4.2. Packed (kg : 52,5 / 53,5 (with plastic door)
54,5 / 56 (with glass door)

3.5. Working Condition:

3.5.1. Temperature
Min. room temperature : 5° C
Max. room temperature : 35° C
3.5.2. Humidity : %95 RH

3.6. Electrical Specification:

3.6.1.	Voltage (V / Hz)	: 230-240 / 50
3.6.2.	Power (W)	: 800 / 900
3.6.3.	Current (A)	: 4

3.7. Power Cord:

3.7.1.	Type	: 3 x 1.5 mm^2 or 3x1.0mm^2 cord copper wire
3.7.2.	Insulation	: H05V2V2-F 3G1,5mm^2 / H05V2V2-F 3G1 mm^2 H05VV-F 3G1,5mm^2 / H05VV-F 3G1 mm^2
3.7.3.	Plug	: Earthed, PVC moulded
3.7.4.	Length (m)	: 1,5 m

3.8. Motor (Used in Silent Condenser Models):

3.8.1.	Type	: Brushless Direct Current (BLDC) Motor
3.8.2.	Power (W)	: max. 250
3.8.3.	Motor speed (rpm)	: 2800-3000
3.8.4.	Drum speed (rpm)	: 54-57
3.8.5.	Insulation	: F
3.8.6.	Run capacitor	: NA (Not Available)

3.9. Motor (Used in other Condenser Models):

3.9.1.	Type	: 1 phase induction (Asynchronous) Motor
3.9.2.	Power (W)	: max. 250
3.9.3.	Main Winding (ohm)	: 25,5±5%@ 25C
3.9.4.	Auxillary Winding(ohm)	: 28,5±5%@ 25C
3.9.5.	Motor speed (rpm)	: 2850
3.9.6.	Drum speed (rpm)	: 53 ± 2
3.9.7.	Insulation	: F
3.9.8.	Run capacitor	: 8 µF ± %5

3.10. Pump: B13-6B

	Manufacturer / Type	: Hanyu / Synchronous
3.10.1.	Power (W)	: 13
3.10.2.	Voltage / Frequency	: 220 – 240 V / 50 Hz
3.10.3.	Flow Rate (l / min)	: 2,4
3.10.4.	Head (m)	: 0,8
3.10.5.	Revolution Speed (rpm)	: 3000
3.10.6.	Winding Resistance (ohm)	: 704 - 824

3.11. Pump: B13-6C

	Manufacturer / Type	: Hanyu / Synchronous
3.11.1.	Power (W)	: 13
3.11.2.	Voltage / Frequency	: 220 – 240 V / 50 Hz

3.11.3. Flow Rate (l / min) : 2,4
3.11.4. Head (m) : 0,8
3.11.5. Revolution Speed (rpm) : 3000
3.11.6. Winding Resistance (ohm) : 1480 ±10%

3.12. Pump: B13-5AE12110

Manufacturer / Type : Hanyu / Synchronous
3.12.1. Power (W) : 15
3.12.2. Voltage / Frequency : 220 – 240 V / 60 Hz
3.12.3. Flow Rate (l / min) : 2,4
3.12.4. Head (m) : 0,8
3.12.5. Revolution Speed (rpm) : 3600
3.12.6. Winding Resistance (ohm) : 197.1- 240.9

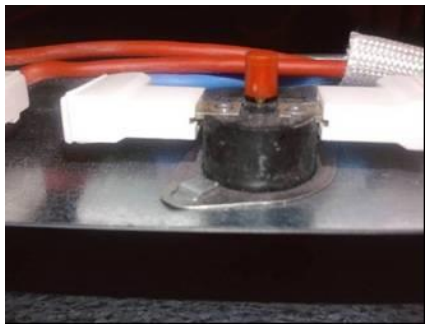
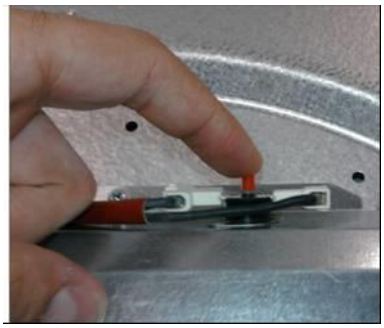
3.13. Heater: (For EU Models)

3.13.1. Manufacturer : IRCA
3.13.2. Type : Open wire spiral heating element
3.13.3. Nominal Power&Voltage(W) : 230Vac, 1600+700 = 2300 ± %5
3.13.4. Resistance(ohm) – 1600W : 32.41 ohm ± %5
3.13.5. Resistance(ohm) – 700W : 73,67 ohm ± %5
3.13.6. Manual resetting thermostat : ELTH 261PB
250Vac – 16A / 160°C ±3°C
3.13.1. NTC (regulating thermistor) **:** Emerson 77J
15.981 ohm @ 25°C
Ekinler MEKN50000005
19.500 ohm @ 25°C

3.14. Heater: (For Australia Models)

3.14.1. Manufacturer : IRCA
3.14.2. Type : Open wire spiral heating element
3.14.3. Nominal Power&Voltage(W) : 230Vac, 1400+400 = 1800 ± %5
3.14.4. Resistance(ohm) – 1400W : 36,83 ohm ± %5
3.14.5. Resistance(ohm) – 400W : 129,65 ohm ± %5
3.14.6. Manual resetting thermostat : ELTH 261PB
250Vac – 16A **/** 135°C ±3°C
3.14.7. NTC (regulating thermistor) : Emerson 77J
15.981 ohm @ 25°C
Ekinler MEKN50000005
19.500 ohm @ 25°C

NOTE: **If the heater does not work because of manuel resetting thermostat is open circuit, do not change heater with the new one. You should do the following operation that described below. With the multimeter manual resetting thermostat is checked from the terminals while heater is on the dryer. If manual resetting thermostat is open circuit, the button is up, and the heater does not work. If the button is up position, push the button down, and measure the thermostat and be sure that it is short circuit.**

3.15. Door NTC:

Door NTC (ohm) : 12.000 ohm @ 25°C

3.16. Body:

3.16.1. Material : Sheet metal
3.16.2. Finish : Acrylic powder paint

3.17. Drum:

3.17.1. Material : Stainless Steel - Aquawave
3.17.2. Volume (lt) : 102 (for 7 kg) / 118 (for 8 kg)
3.17.3. Drum speed (rpm) : 54-57
3.17.4. Front door opening (mm) : 395x320
3.17.5. Process air flow (m3/h) : 315
3.17.6. Maximum loading Capacity:
Cotton(kg) : 7 / 8
Delicate, Synthetic (kg) : 3,5 / 4

3.18. Control System Specifications:

3.18.1. Door Switch : 250 V, 3 (1)A or 16(4)A
3.18.2. Suppression Filter : 0,47µF(X2) + 0,68 Mohm + 2x0,027 µF(Y2) + 2x1 mH
3.18.3. Program Timer : Electronic controller 220-240V,50Hz

4. General Working Principle

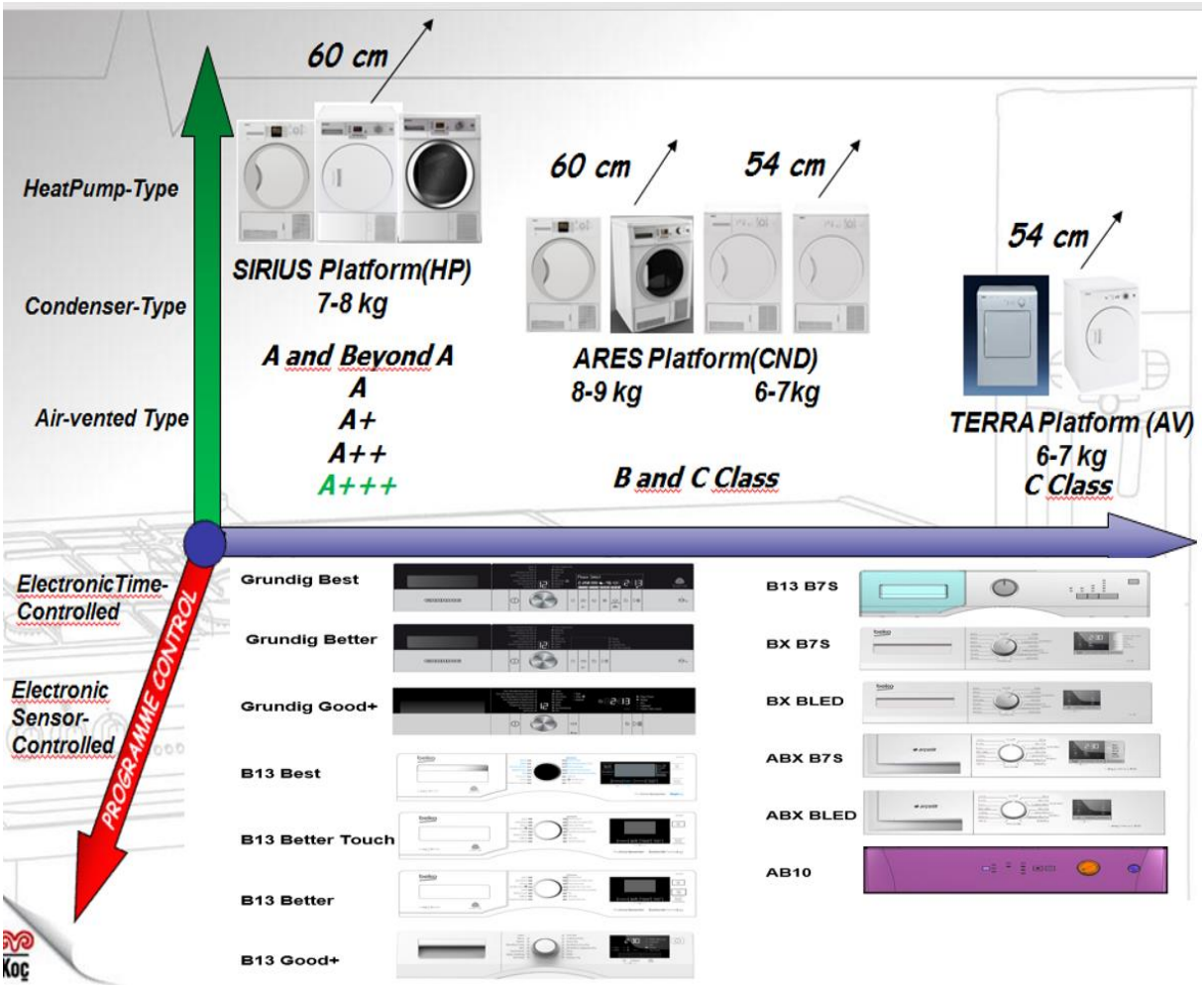
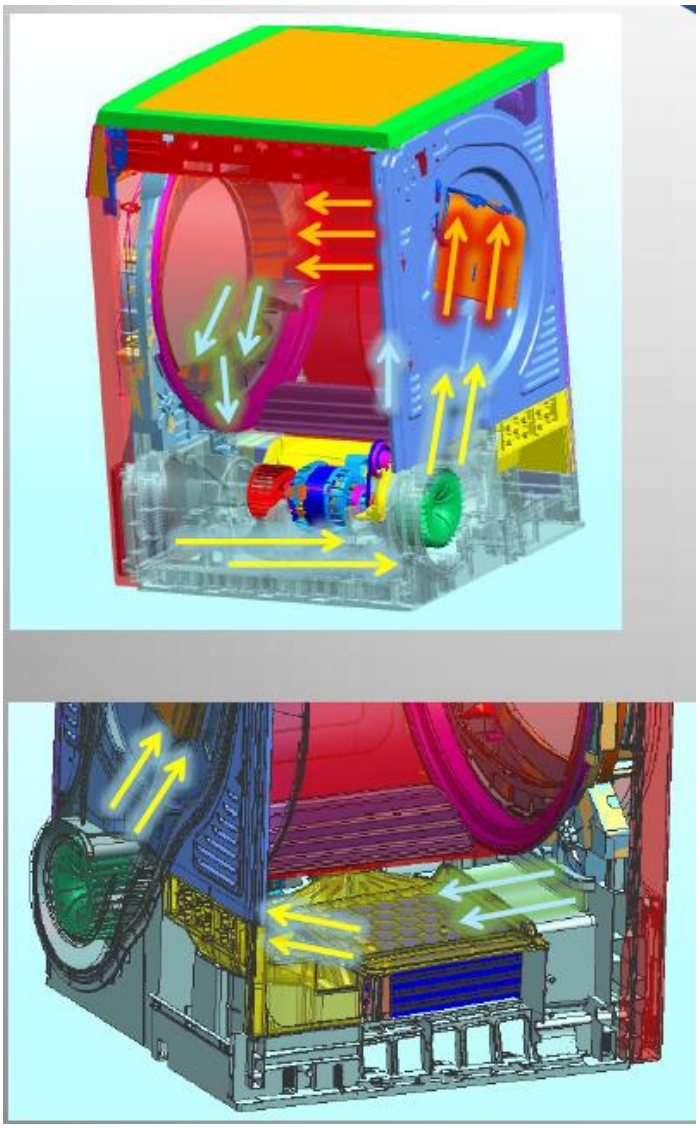


Figure 4.1. Tumble Dryer Product Specifications

4.1. Condanser Dryer Working Principles:

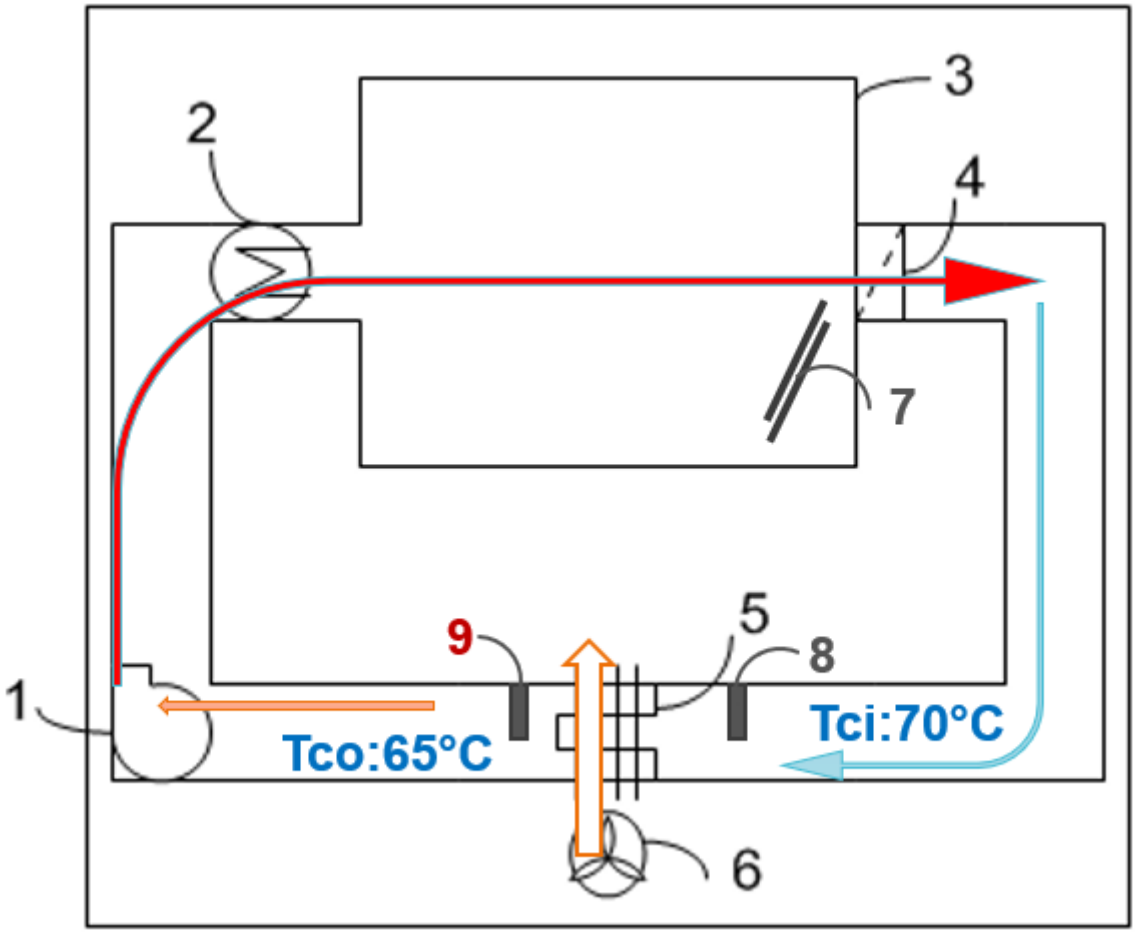


- Firstly, the process air is sucting from ambient it goes to the electrical heater
- The process air is heated in the electrical heater and directed into the drum
- The hot and the dry air goes through the drum, it interacts with laundries and takes out the humidity from them.
- The hot and humid air is exiting from the drum and passing by the lint filter, then it is directed to the condanser
- The cooling air is suctioned from the environment by using the cooling fan in the system.
- By using the cooling fan, the cooling air passes through the condanser.
- The cooling air interacts with the process air in the condanser, the process air cools down and condenses.
- The dry air from the condanser is directed to the heater by the process fan.

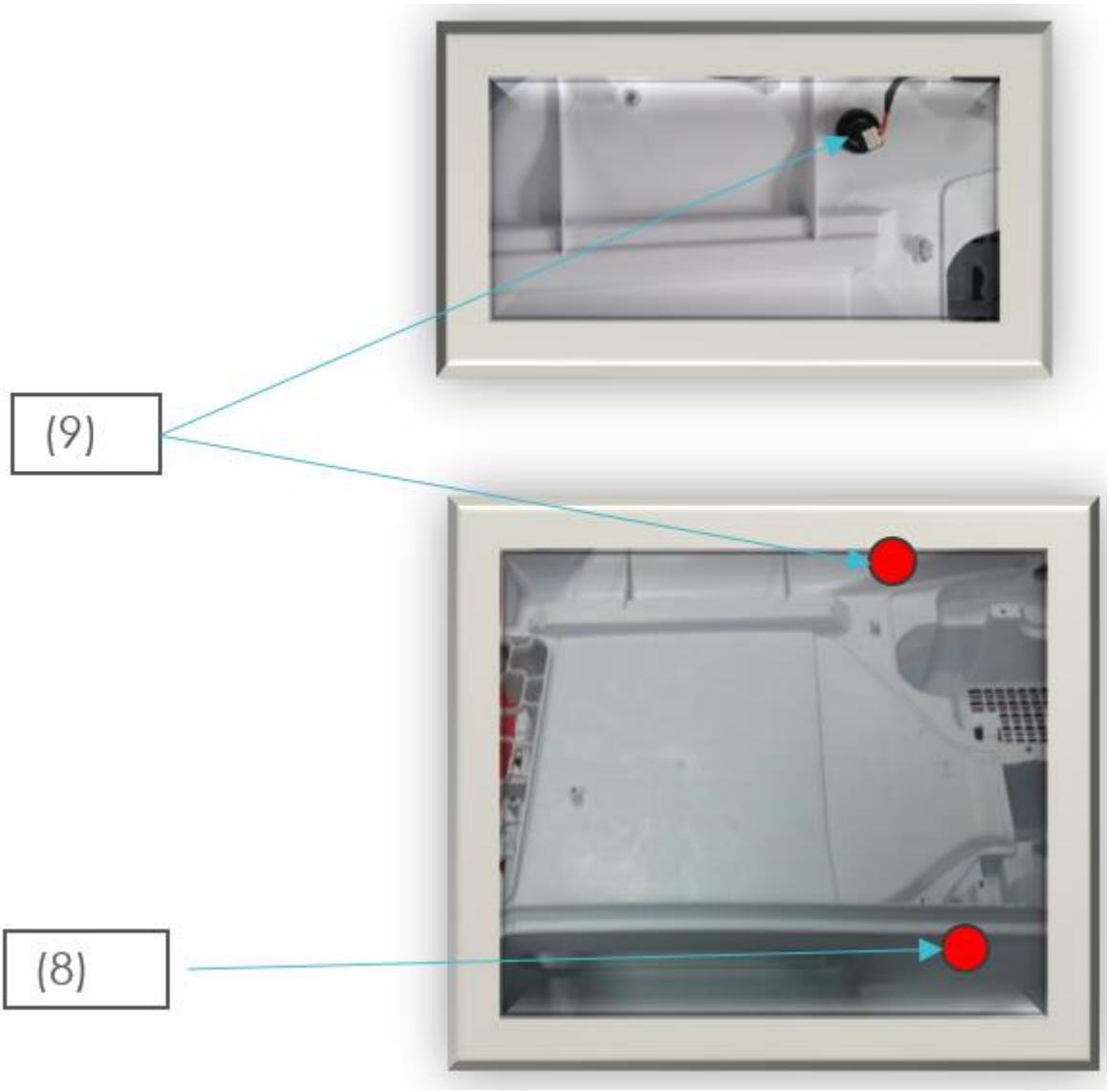
CND Ecosense Working Principles:

In all sensor dryer we use a humidity plate(two metal strip) on front-bearing. When wet or dry clothes touch this plate, we can read a resistance by electronic card. And thus, we can understand the dryness level of clothes. When this level reaches to the limit(already determined) heater are off and cooling period occurs.

In Ecosense dryer, there is no any metal plate on front-bearing. So, we can use more basic and cheaper electronic card(similar timer models). There are two temperature sensors in front and behind of condenser. We read temperature of process air by these NTCs and read temperature difference of these two sensors in all cycle. When the temperature difference reaches to the limit (already determined) heater are off and cooling period occurs.



1-Process air fan
2-Heater
3-Drum
4-Filter
5-Condanser
6-Cooling fan
7-Humudity plate
8-Condanser inlet NTC
9-Condanser outlet NTC



4.2. Components Related to the Drying Cycle:

4.2.1. Heater:

Two circuit open spiral wire type heater is driven by the 2 relays. A manual resettable thermostat is used on these heater, in order to provide IEC safety rules accordingly. This manual resettable thermostat cut the heater power at prescribed temperature and can be resetted by pressing the button on thermostat, so heater can be used after a failure bacause of thermostat is open circuit.

The second temperature regulating element on the heater is NTC. When the desired temperature is reached, electronic control card reads the resistance of NTC and if the prescribed resistance is reached, the heater is switched off.

This mechanical thermostat operates only;

- Locked tumble,
- Locked rotor,
- Broken fan,
- Filter and condenser are full, conditions.

When NTC is broken down, the heater is changed by the new heater. If thermostat is open circuit, the same heater will be used by pressing the button on thermostat.

4.2.2. Temperature Sensor (NTC) :

Two NTC temperature sensor are used on condenser type dryers, one is located after the door filter in air suction channel, other is located on the heater. As the temperature of the surrounding of NTC increases, its resistance decreases. At fixed temperature NTC will always have a specified resistance within the tolerance. With the aid of this principle it operates until the desired temperature is reached.

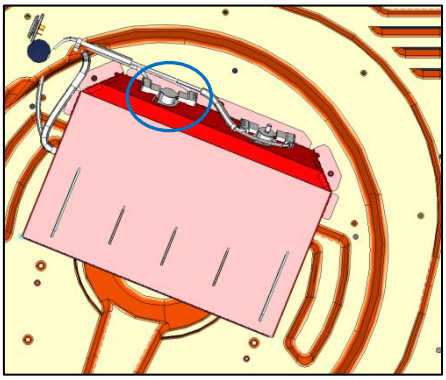


Figure 4.2. NTC located on the heater

Figure 4.3. NTC located after the door filter in air suction channel

4.2.3. Humidity Sensor :

Humidity level will be measured by the resistance of clothes. With this property of the humidity sensor, it is possible to check and control the humidity level precisely. It is driven by microcontroller.

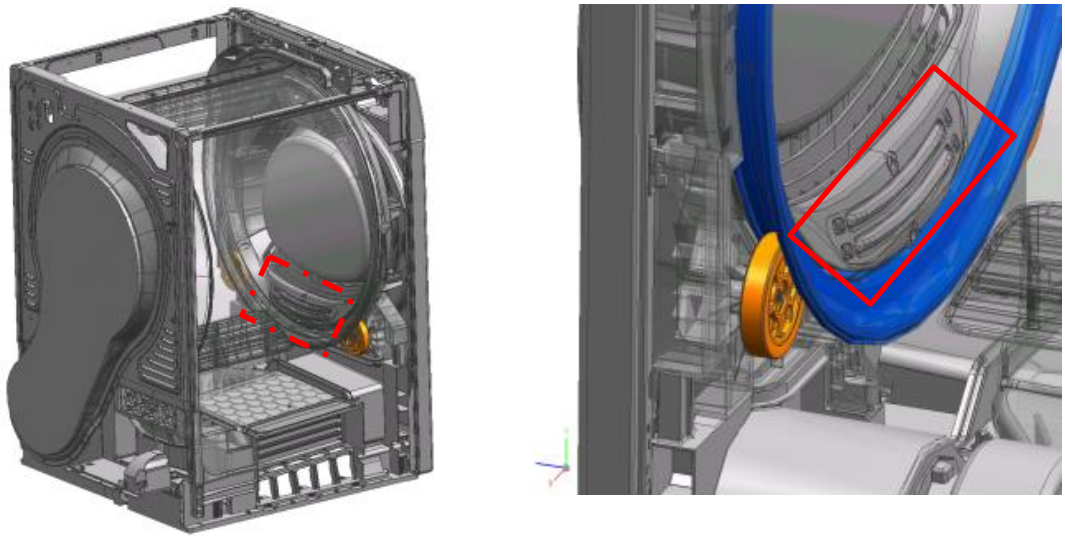


Figure 4.4. Humidity Sensor

4.2.4. Door Lock:

Locking and unlocking mechanism of the door lock used in the dryer is a mechanical type of the door lock. When the door pushed, the door is locked and closed. When the pull from the handle of the door, it will be opened with a suitable force. This mechanism is designed such that if a child is locked inside the dryer, the door can be opened from inner side. Especially, door lock and hinge should be checked if there is a locking problem.

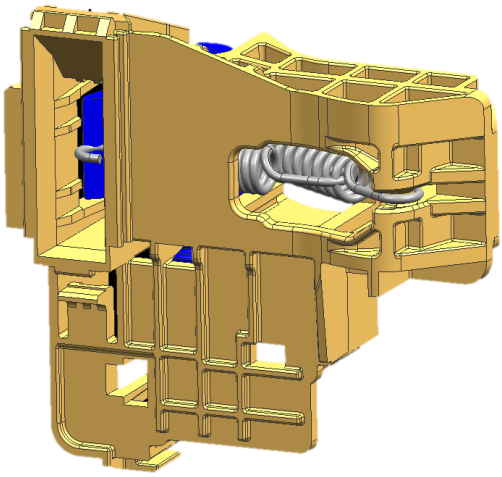


Figure 4.5. Door Lock

4.2.5. Door Microswitch:

The current is sent to electronic card and motor by the door switch. By this way when door is opened due to any reason, motor stops automatically. However, because of EN&IEC safety rules, when the door is closed again, motor does not start. It is necessary to press start/pause button to restart dryer.

4.2.6. Motor:

Tumble and fan are driven by 1 pole induction motor. Motor rotates at 2750 rpm and has a 9µF capacitor. Asynchronous motor is controlled by two relays. One of them is for direction, other one is for energy. Two relays are embedded on the control panel.

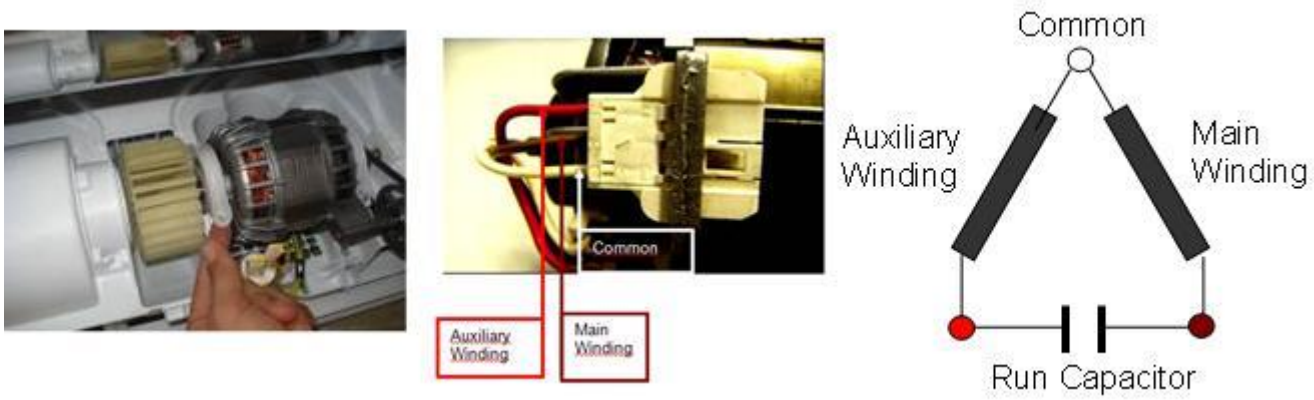


Figure 4.6. Asynchronous Motor

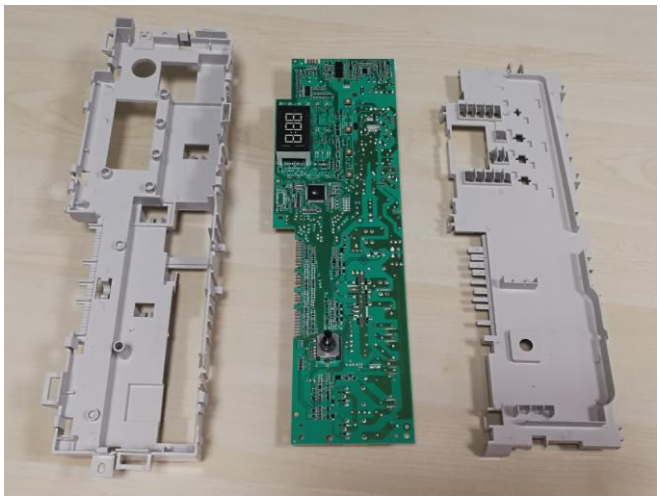
In the condanser models with energy class B and the Silent machines, the drum and fan are driven by brushless direct current (BLDC) motor. This motor communicates with the electronic board by the aid of the motor communication port.

Figure 4.7. BLDC Motor

5. Electronic Components

5.1. Electronic Card Assembly:

Figure 9.1. Electronic Card Assembly

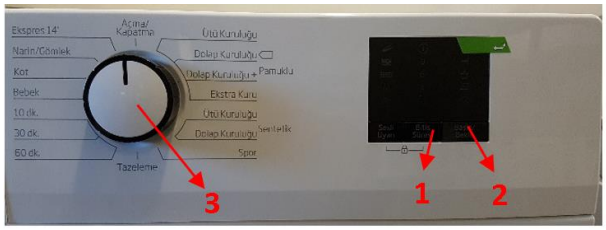


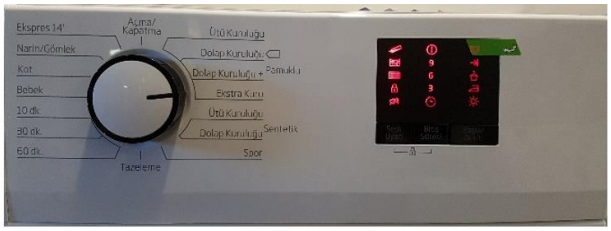
Electronic Card (Mono Models)

BX Tumble dryers have electronic card assembly which shown above Picture. Firstly, Electronic card is mounting the card holder, then card holder cover is attached to the electronic card assembly.

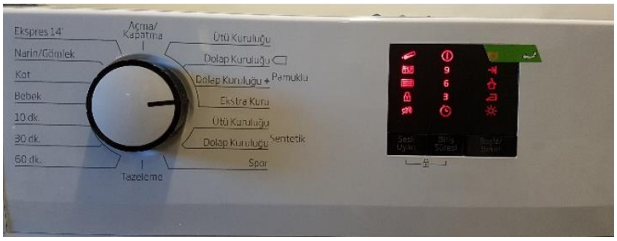
6. Service Test Program BLED

Step 1: Press “Ending In(1)” and “Start/Pause(2)” button, then turn the “On/Off Program Selection Knob(3)” 90 degrees in a clockwise direction within 2 seconds. This combination will start service test program and all LEDs blink. In this program “Start/Pause” button is used to pass other steps. Blinking of “Sound Warning Led” means that the step is OK, and it is allowed to pass to the next step.

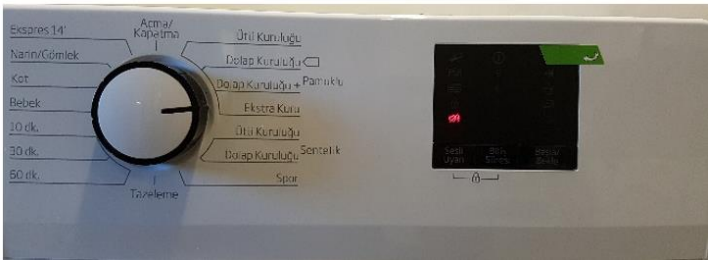




Step 2: “Start/Pause” button is pressed. All LEDs light on and service test program waits for another “Start/Pause” press.



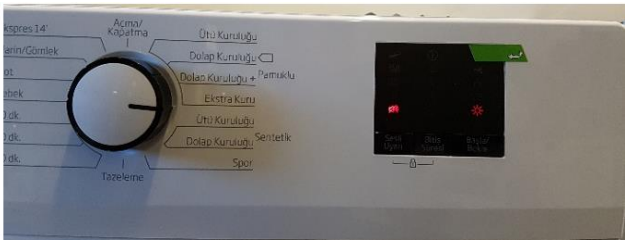
Step 3: “Start/Pause” button is pressed. The door and heater NTC are checked in this step. If there is no short or open circuit sensation error, “Sound Warning Led” blinks and it is allowed to pass to the next step.



If NTC and voltage error occurs, “Sound Warning Led” does not blink, “Clean Condenser Led” blinks and it is not allowed to pass to the next step.

Step 4: “Start/Pause” button is pressed. “Drying Led” lights on. The motor rotates in clockwise direction. After 3 seconds, “Sound Warning Led” starts to blink and it is allowed to pass to the next step.

Step 5: “Start/Pause” button is pressed. The motor continues to rotate in clockwise direction. “Clean Filter Led” starts to blink for humidity sensor short circuit control. Open the door of the tumble dryer and make the sensor short circuit by touching the sensor plate. If short circuit control of the humidity sensor is OK, “Clean Filter Led” stops to blink, “Sound Warning Led” starts to blink and it is allowed to pass to the next step.



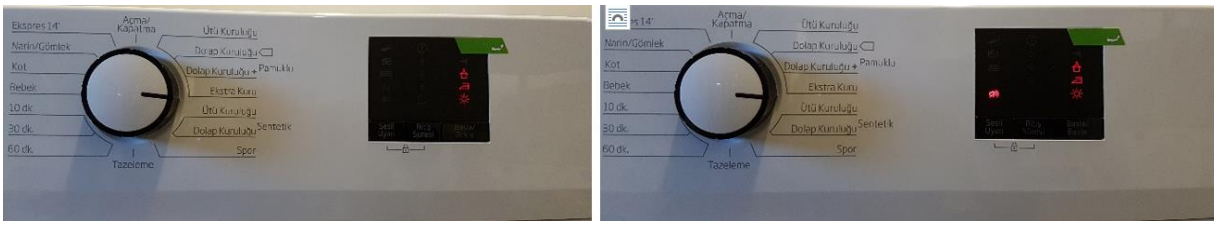
Important Note: At step 5, the sensor plate needs to be short circuit in 10 seconds, otherwise short circuit error occurs. In this situation below steps must be followed:

1. Dryer must be switched off and service test has to be restarted.
2. If the same error is seen in the second trial, a problem may be in humidity sensor cables and sockets. Please check humidity sensor cables and sockets.
3. A problem may be in the humidity sensor.
4. If there is not a problem in the above parts, a problem may be in the main board.

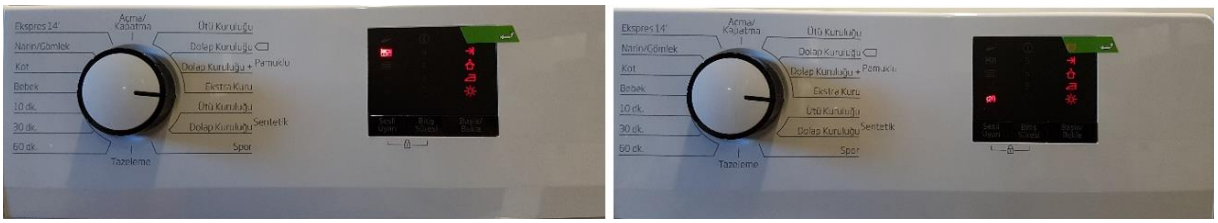
Step 6: “Start/Pause” button is pressed, “Iron Drying Led” lights on. The motor continues to rotate in clockwise direction and the heater of 1600W power starts to work. “Sound Warning Led” starts to blink and it is allowed to pass to the next step.

Step 7: “Start/Pause” button is pressed. “Cupboard Drying Led” lights on. The motor continues to rotate in clockwise direction and the heater of 2300W power starts to work. “Sound Warning Led” starts to blink and it is allowed to pass to the next step.

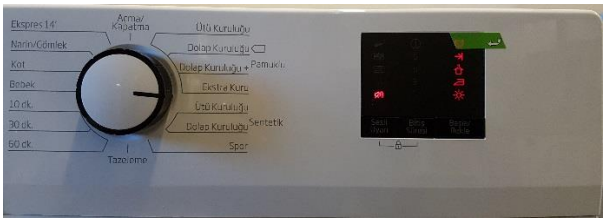
Step 8: *"Start/Pause"* button is pressed. All components stop. After 3 seconds, *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.



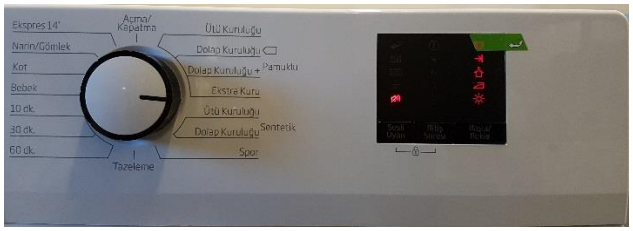
Step 9: "Start/Pause" button is pressed. "End Led" lights on. Motor starts to rotate in a counter-clockwise direction. If the humidity sensor is open circuit, "Sound Warning Led" starts to blink and it is allowed to pass to the next step. If the sensor is not open circuit, "Clean Filter Led" starts to blink and it cannot be passed to the next step till the sensor is open circuit.



Step 10: "Start/Pause" button is pressed. All components stop. After 3 seconds, "Sound Warning Led" starts to blink and it is allowed to pass to the next step.



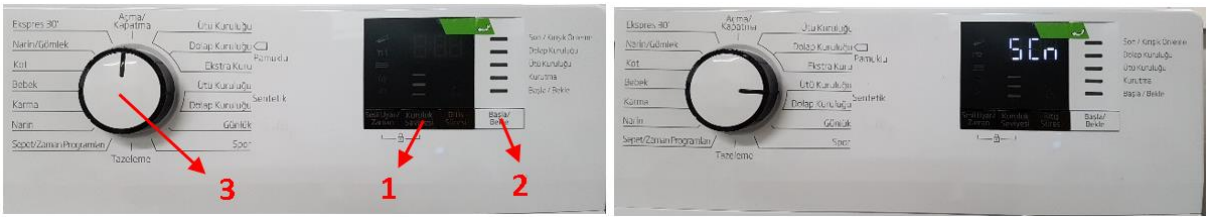
Step 11: "Start/Pause" button is pressed. "Anti-Creasing Led" lights on. If the model is tank-up, the pump activates. If the socket of the overflow microswitch is not connected, "Tank Full Led" blinks. If it is connected, "Sound Warning Led" blinks and it is allowed to finish the service test program.



Step 12: "Start/Pause" button is pressed. The service test program will be exited.

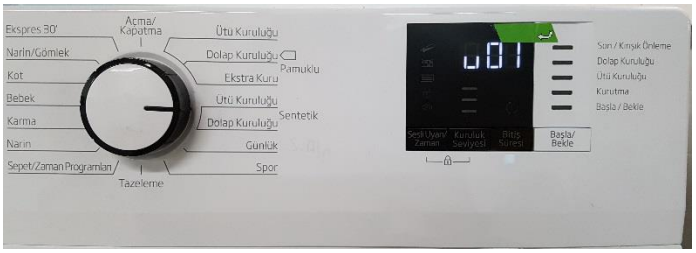
7. Service Test Program B7S

Step 1: Press *"Dryness Level(1)"* and *"Start/Pause(2)"* button, then turn the *"On/Off Program Selection Knob(3)"* 90 degrees in a clockwise direction within 2 seconds. This combination will start service test program. In this program *"Start/Pause"* button is used to pass other steps. Blinking of *"Sound Warning Led"* means that the step is OK and it is allowed to pass to the next step. **(SCn: Service Test – Condensation Type)**

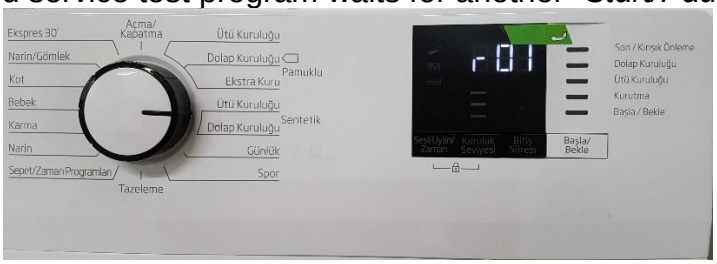


Step 2: *"Start/Pause"* button is pressed. All LEDs blink and service test program waits for another *"Start/Pause"* press.

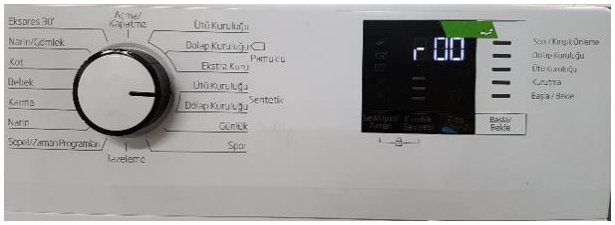
Step 3: *"Start/Pause"* button is pressed. A version of main software is shown on display and service test program waits for another *"Start/Pause"* press.



Step 4: *"Start/Pause"* button is pressed. Revision of main software is shown on display and service test program waits for another *"Start/Pause"* press.

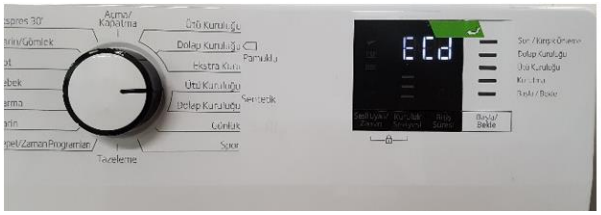


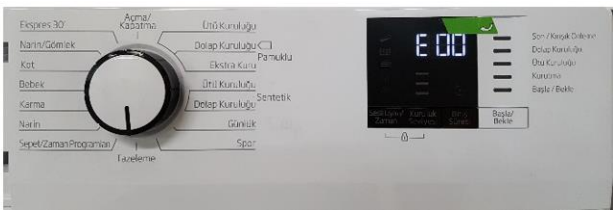
Step 5: *"Start/Pause"* button is pressed. Revision of parametric software and its number are sequentially shown on display and service test program waits for another *"Start/Pause"* press.



Step 6: *"Start/Pause"* button is pressed. All LEDs light on and service test program waits for another *"Start/Pause"* press.

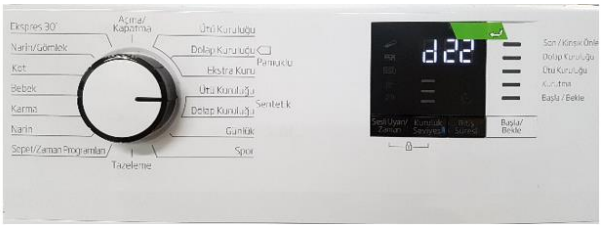
Step 7: *"Start/Pause"* button is pressed. The last error codes are shown on display. In this section, this error codes could be deleted by service technician with *"On/Off Program Selection Knob"*. Knob have to get position 180 degrees according to initial position as shown in the picture.





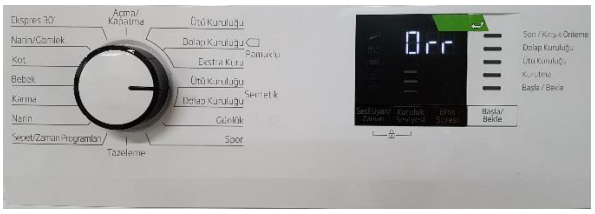
Step 8: *"Start/Pause"* button is pressed. The door and heater NTC are checked in this step. If there is no short or open circuit sensation error, door NTC value and heater NTC value are sequentially shown on display and it is allowed to pass to the next step.

Door NTC Open Circuit : "d:OC" is shown on display
Door NTC Short Circuit : "d:SC" is shown on display
Heater NTC Open Circuit : "h:OC" is shown on display
Heater NTC Short Circuit : "h:SC" is shown on display

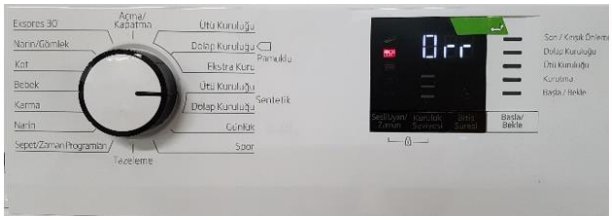


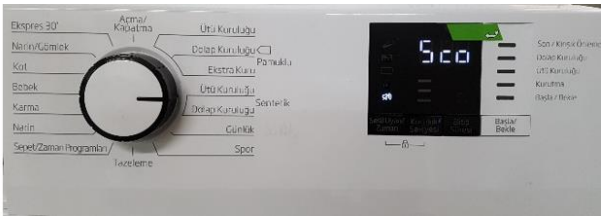
If NTC and voltage error occurs, it is not allowed to pass to the next step.

Step 9: *"Start/Pause"* button is pressed. *"Drr"* appears on display. The motor rotates in clockwise direction. After 3 seconds, *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.



Step 10: *"Start/Pause"* button is pressed. The motor continues to rotate in clockwise direction. *"Clean Filter Led"* starts to blink for humidity sensor short circuit control. Open the door of the tumble dryer and make the sensor short circuit by touching the sensor plate. If short circuit control of humidity sensor is OK, *"Clean Filter Led"* stops to blink, *"Sound Warning Led"* starts to blink, *"Sco"* appears on display and it is allowed to pass to the next step.

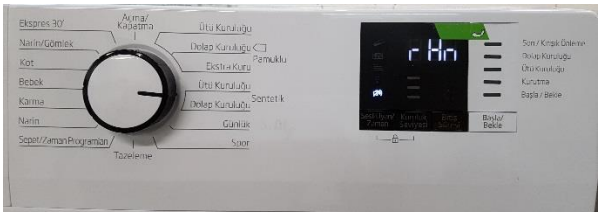




Important Note: At step 10, the sensor plate needs to be short circuit in 10 seconds, otherwise short circuit error occurs. If an error occurs *"ScE"* appears on display. In this situation below steps must be followed:

1. Dryer must be switched off and service test has to be restarted.
2. If the same error is seen in the second trial, a problem may be in humidity sensor cables and sockets. Please check humidity sensor cables and sockets.
3. A problem may be in the humidity sensor.
4. If there is not a problem in the above parts, a problem may be in the main board.

Step 11: *"Start/Pause"* button is pressed, *"rHn*" appears on display. The motor continues to rotate in clockwise direction and the heater of 1600W power starts to work. *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.



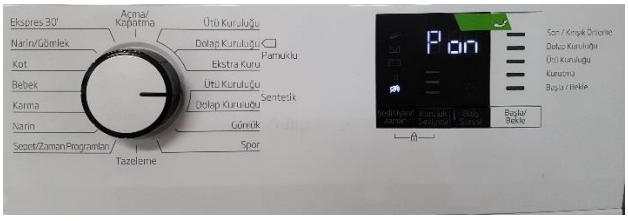
Step 12: *"Start/Pause"* button is pressed. *"rHH"* appears on display. The motor continues to rotate in clockwise direction and the heater of 2300W power starts to work. *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.

Step 13: *"Start/Pause"* button is pressed. All components stop. "StP" appears on display. After 3 seconds, *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.

Step 14: *"Start/Pause"* button is pressed. *"rLL"* appears on display. Motor starts to rotate in a counter-clockwise direction. If the humidity sensor is open circuit, "Sound Warning Led" starts to blink and it is allowed to pass to the next step. If the sensor is not open circuit, *"Clean Filter Led"* starts to blink and it cannot be passed to the next step till the sensor is open circuit.

Step 15: *"Start/Pause"* button is pressed. All components stop. "StP" appears on display. After 3 seconds, *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.

Step 16: *"Start/Pause"* button is pressed. *"Pon"* appears on display. If the model is tank-up, the pump activates. If the socket of the overflow microswitch is not connected, *"Tank Full Led"* blinks. If it is connected, *"Sound Warning Led"* blinks and it is allowed to pass to the next step.



Important Note: If the model is tank-bottom, *"Tank Full Led"* blinks. Meaning of this condition is that it is the end of the service test program for tank-bottom models. If the

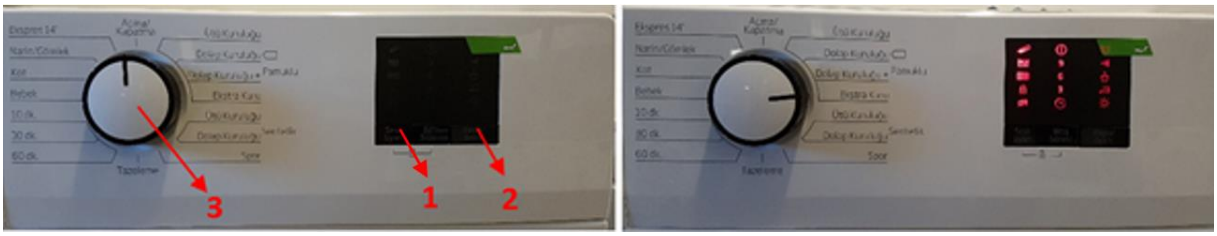
model is tank-up and “Tank Full Led” blinks, the overflow micro switch and cables have to be checked.

Step 17: *“Start/Pause”* button is pressed. The last error codes are shown on display. In this step, error codes cannot be deleted. It is allowed to finish the service test program.

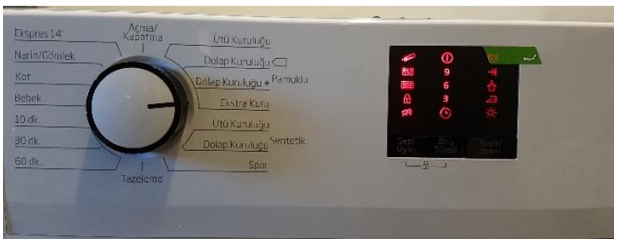
Step 18: *“Start/Pause”* button is pressed. The service test program will be exited.

8. Service Test Program BLED (Ecosense)

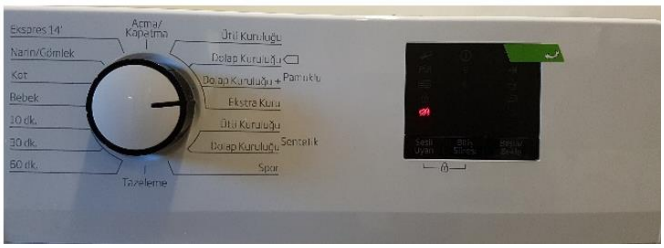
Step 1: Press “Ending In(1)” and “Start/Pause(2)” button, then turn the “On/Off Program Selection Knob(3)” 90 degrees in a clockwise direction within 2 seconds. This combination will start service test program and all LEDs blink. In this program “Start/Pause” button is used to pass other steps. Blinking of “Sound Warning Led” means that the step is OK and it is allowed to pass to the next step.



Step 2: “Start/Pause” button is pressed. All LEDs light on and service test program waits for another “Start/Pause” press.



Step 3: “Start/Pause” button is pressed. The door and condanser NTC are checked in this step. If there is no short or open circuit sensation error, “Sound Warning Led” blinks and it is allowed to pass to the next step.

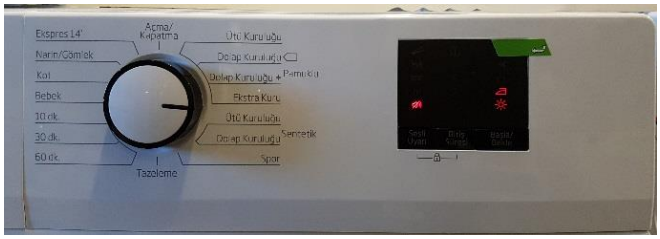


If NTC error occurs, “Sound Warning Led” does not blink, *“Clean Filter Led”, “Clean Condenser Led”* blinks and it is not allowed to pass to the next step.

“Clean Filter Led” blinks for Door NTC error (open or short circuit)
“Clean Condenser Led” blinks for Condanser NTC error (open or short circuit)

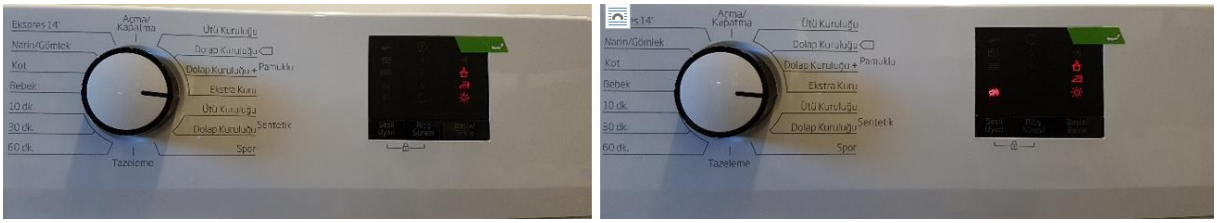
Step 4: “Start/Pause” button is pressed. “Drying Led” lights on. The motor rotates in clockwise direction. After 3 seconds, “Sound Warning Led” starts to blink and it is allowed to pass to the next step.

Step 5: “Start/Pause” button is pressed, “Iron Drying Led” lights on. The motor continues to rotate in clockwise direction and the heater of 1600W power starts to work. “Sound Warning Led” starts to blink and it is allowed to pass to the next step.



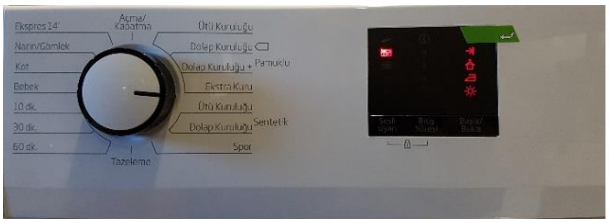
Step 6: “Start/Pause” button is pressed. “Cupboard Drying Led” lights on. The motor continues to rotate in clockwise direction and the heater of 2300W power starts to work. “Sound Warning Led” starts to blink and it is allowed to pass to the next step.

Step 7: *“Start/Pause”* button is pressed. All components stop. After 3 seconds, *“Sound Warning Led”* starts to blink and it is allowed to pass to the next step.



Step 8: “Start/Pause” button is pressed. “End Led” lights on. If the model is tank-up, the pump activates. If the socket of the overflow microswitch is not connected, “Tank

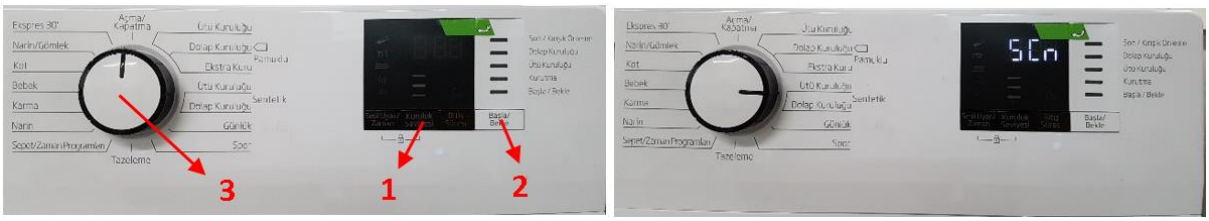
Full Led” blinks. If it is connected, “Sound Warning Led” blinks and it is allowed to finish the service test program.



Step 9: “Start/Pause” button is pressed. The service test program will be exited.

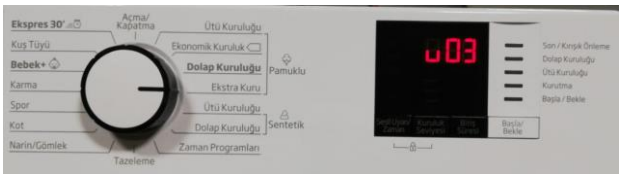
9. Service Test Program B7S (Ecosense)

Step 1: Press *"Dryness Level(1)"* and *"Start/Pause(2)"* button, then turn the *"On/Off Program Selection Knob(3)"* 90 degrees in a clockwise direction within 2 seconds. This combination will start service test program. In this program *"Start/Pause"* button is used to pass other steps. Blinking of *"Sound Warning Led"* means that the step is OK and it is allowed to pass to the next step. **(SCn: Service Test – Condensation Type)**



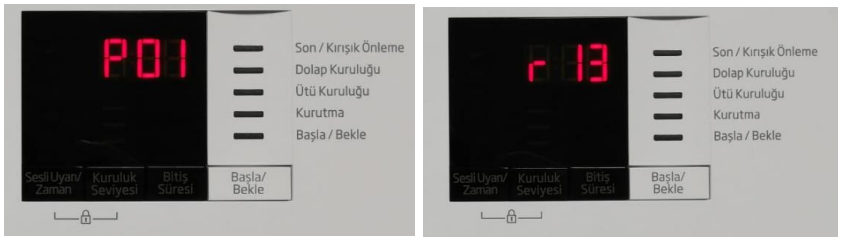
Step 2: *"Start/Pause"* button is pressed. All LEDs blink and service test program waits for another *"Start/Pause"* press.

Step 3: *"Start/Pause"* button is pressed. A version of main software is shown on display and service test program waits for another *"Start/Pause"* press.



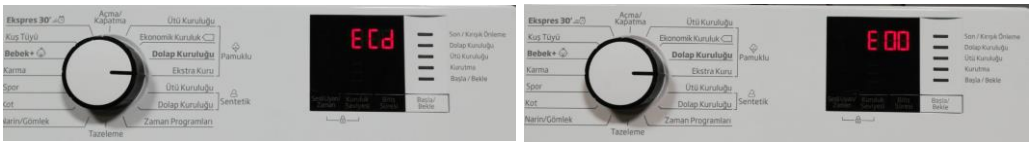
Step 4: *"Start/Pause"* button is pressed. Revision of main software is shown on display and service test program waits for another *"Start/Pause"* press.

Step 5: *"Start/Pause"* button is pressed. Revision of parametric software and its number are sequentially shown on display and service test program waits another *"Start/Pause"*press.



Step 6: *"Start/Pause"* button is pressed. All LEDs light on and service test program waits for another *"Start/Pause"* press.

Step 7: *"Start/Pause"* button is pressed. The last error codes are shown on display. In this section, this error codes could be deleted by service technician with *"On/Off Program Selection Knob"*. Knob have to get position 180 degrees according to initial position as shown in the picture.



Step 8: *"Start/Pause"* button is pressed. The door and condanser NTC are checked in this step. If there is no short or open circuit sensation error, door NTC value and condanser NTC value are sequentially shown on display and it is allowed to pass to next step.

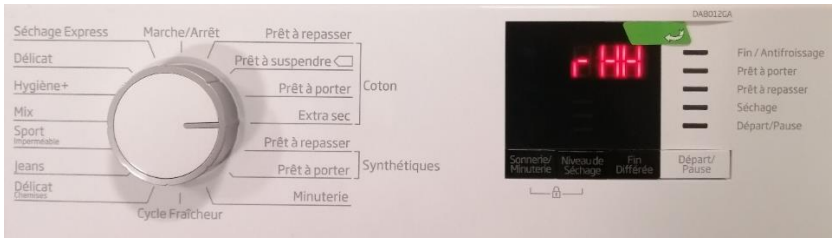
Door NTC Open Circuit : "d:OC" is shown on display
Door NTC Short Circuit : "d:SC" is shown on display
Condaser NTC Open Circuit : "c:OC" is shown on display
Condaser NTC Short Circuit : "c:SC" is shown on display

If NTC and voltage error occurs, it is not allowed to pass to the next step.

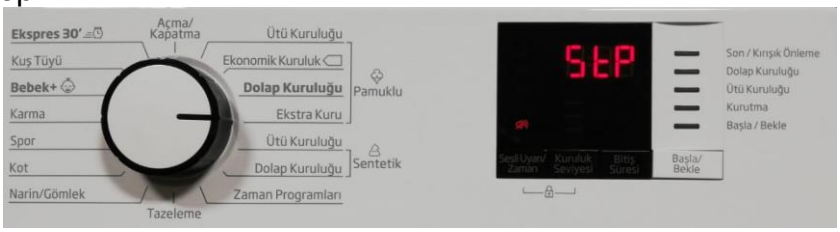
Step 9: *"Start/Pause"* button is pressed. *"Drr"* appears on display. The motor rotates in clockwise direction. After 3 seconds, *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.

Step 10: *"Start/Pause"* button is pressed, *"rHn*" appears on display. The motor continues to rotate in clockwise direction and the heater of 1600W power starts to work. *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.

Step 11: *"Start/Pause"* button is pressed. *"rHH"* appears on display. The motor continues to rotate in clockwise direction and the heater of 2300W power starts to work. *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.



Step 12: *"Start/Pause"* button is pressed. All components stop. "StP" appears on display. After 3 seconds, *"Sound Warning Led"* starts to blink and it is allowed to pass to the next step.



Step 13: *"Start/Pause"* button is pressed. *"POn"* appears on display. If the model is tank-up, the pump activates. If the socket of the overflow microswitch is not connected, *"Tank Full Led"* blinks. If it is connected, *"Sound Warning Led"* blinks and it is allowed to pass to the next step.

Important Note: If the model is tank-bottom, *"Tank Full Led"* blinks. Meaning of this condition is that it is the end of the service test program for tank-bottom models. If the model is tank-up and "Tank Full Led" blinks, the overflow micro switch and cables have to be checked.

Step 14: *"Start/Pause"* button is pressed. The last error codes are shown on display. In this step, error codes cannot be deleted. It is allowed to finish the service test program.

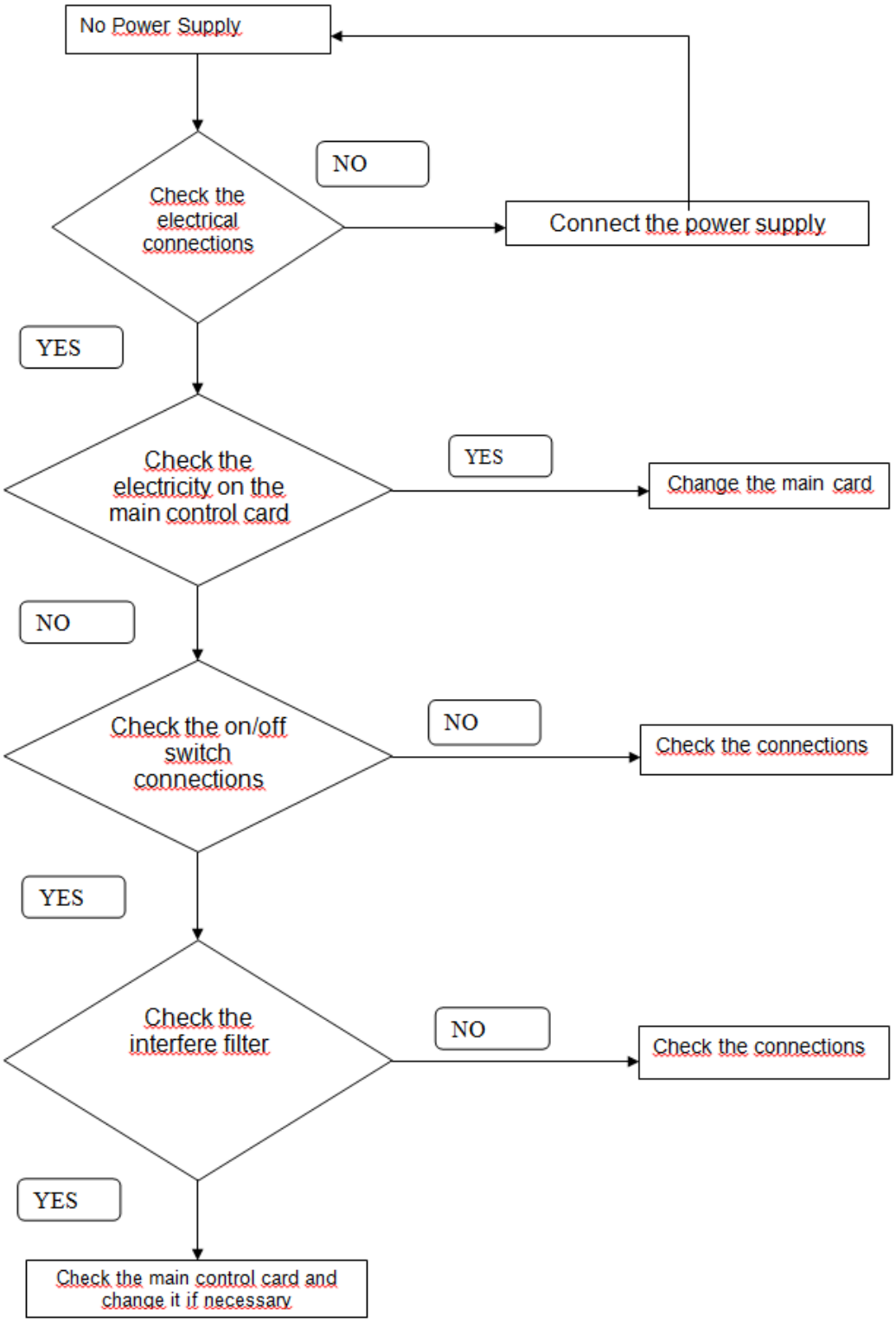
Step 15: *"Start/Pause"* button is pressed. The service test program will be exited.

Error Codes:

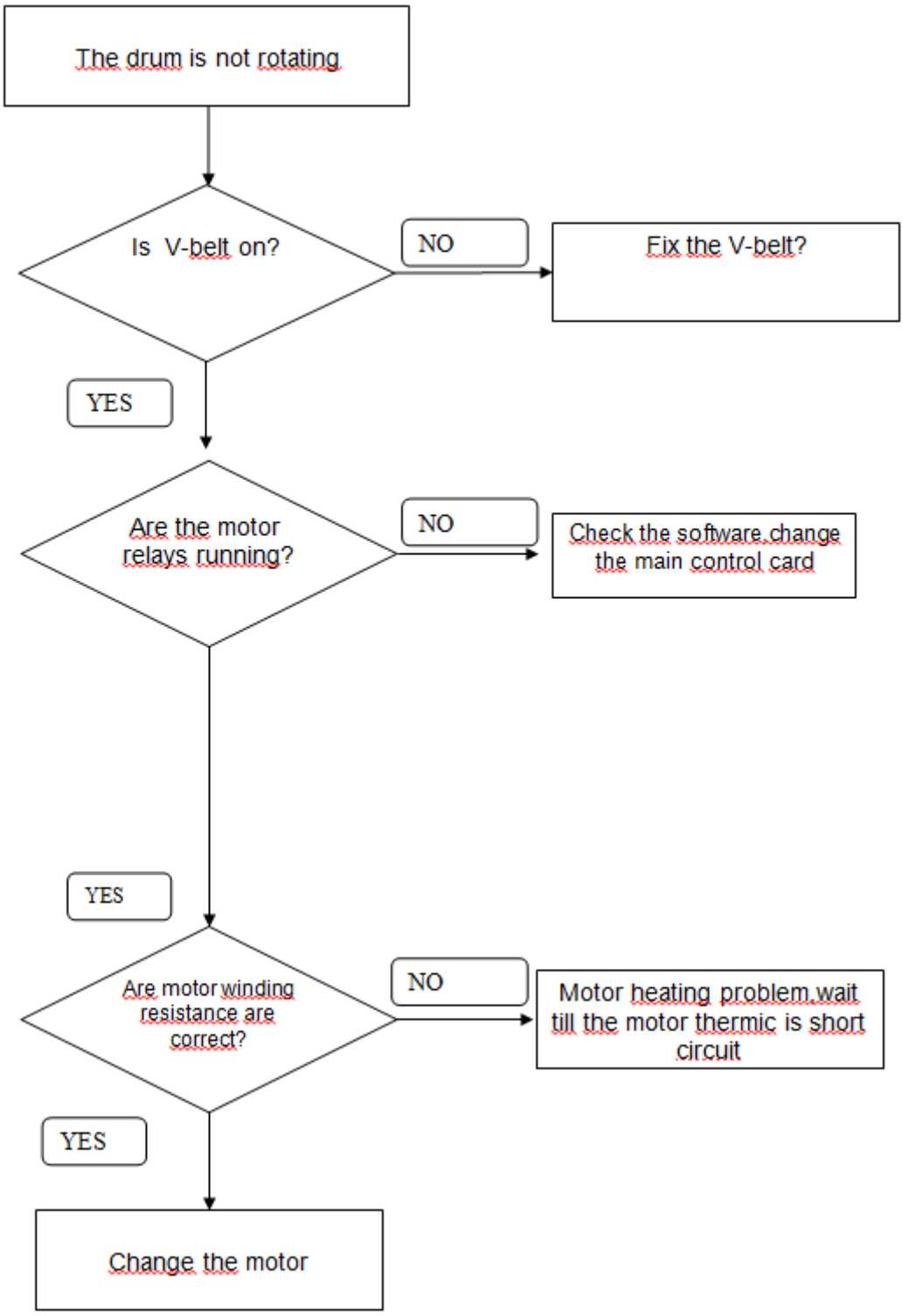
Error Codes Definition
E 00: No error
E 01: Door Opened While Running
E 02: Tank Full
E 03: Drum Empty
E 04: Start While Door Open
E 05: Maximum Time
E 06: Door NTC: Open Circuit
E 07: Door NTC: Short Circuit
E 08: Door NTC: Overheat
E 09: Heater NTC: Open Circuit
E 10: Heater NTC: Short Circuit
E 11: Heater NTC: Overheat
E 12: Belt Broken
E 13: Filter Blocked
E 14: Rapid Temperature Increase
E 15: Temperature Difference is High Between Heater and Door NTC
E 16: Low Voltage (Lower than 165V)
E 17: High Voltage (Higher than 265V)
E 18 : BLDC Communication Error (for tumble dryer with BLDC motor)
E 19 : BLDC System Pause (for tumble dryer with BLDC motor)
E 20 : BLDC RPM Tolerance (for tumble dryer with BLDC motor)
E 21 : BLDC Minimum RPM (for tumble dryer with BLDC motor)
E 22 : BLDC Reenergized (for tumble dryer with BLDC motor)
E 23 : BLDC Abnormal Voltage (for tumble dryer with BLDC motor)
E 24 : BLDC Overheat (for tumble dryer with BLDC motor)
E 25 : BLDC Locked Rotor (for tumble dryer with BLDC motor)
E 26 : BLDC Overspeed (for tumble dryer with BLDC motor)
E 27 : BLDC Overcurrent (for tumble dryer with BLDC motor)
E 31 : Combined Filter Not Mounted (for combined filter models)
E 32 : Condenser NTC: Open Circuit
E 33 : Condenser NTC: Short Circuit
E 34 : Condenser NTC: Overheat

10. Faults Algorithms

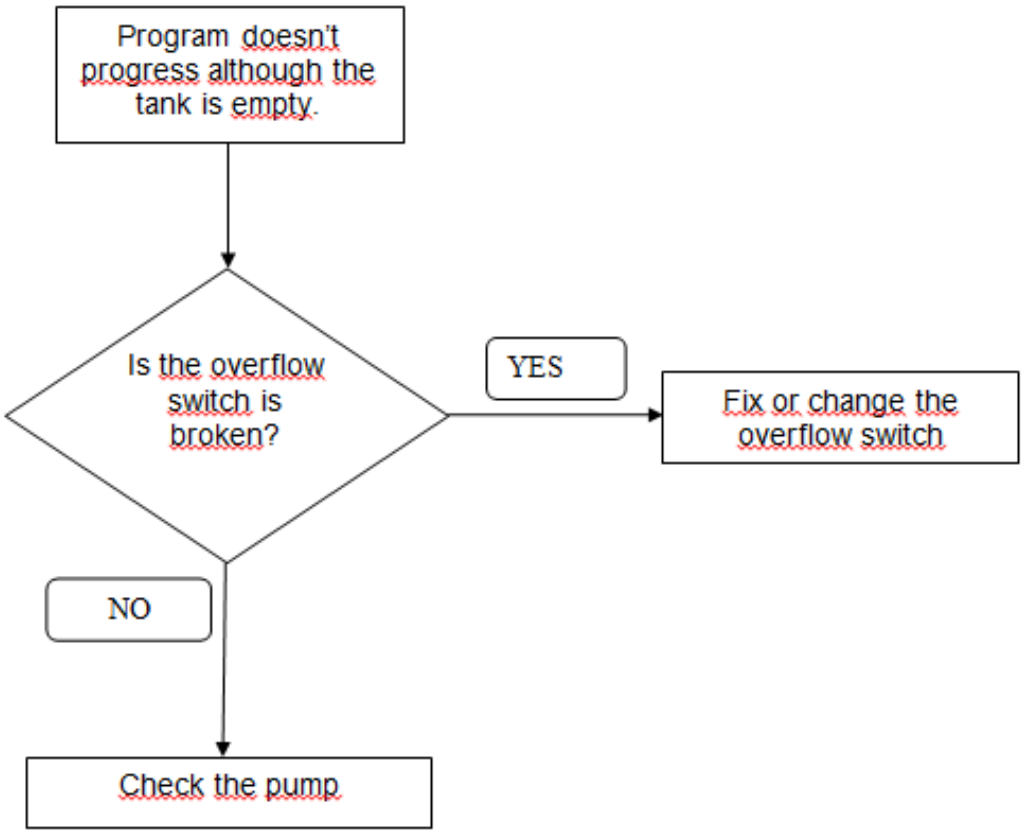
10.1. Machine Does Not Work:



10.2. Drum is not rotating:



10.3. Program does not progress although the tank is empty:



11. Dismounting Details

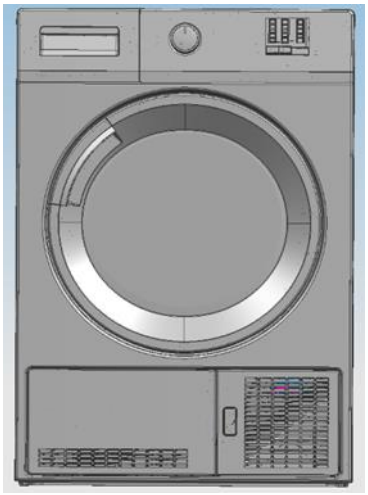


Figure 11.1. General View

11.1. Top Plate:

Figure 11.2. Disassembling the top plate

- Unscrew the top plate.
- Pull the top plate towards the rear of the machine.

11.2. Side Panel:

11.2.1. Side Panel / Side Support Bracket:

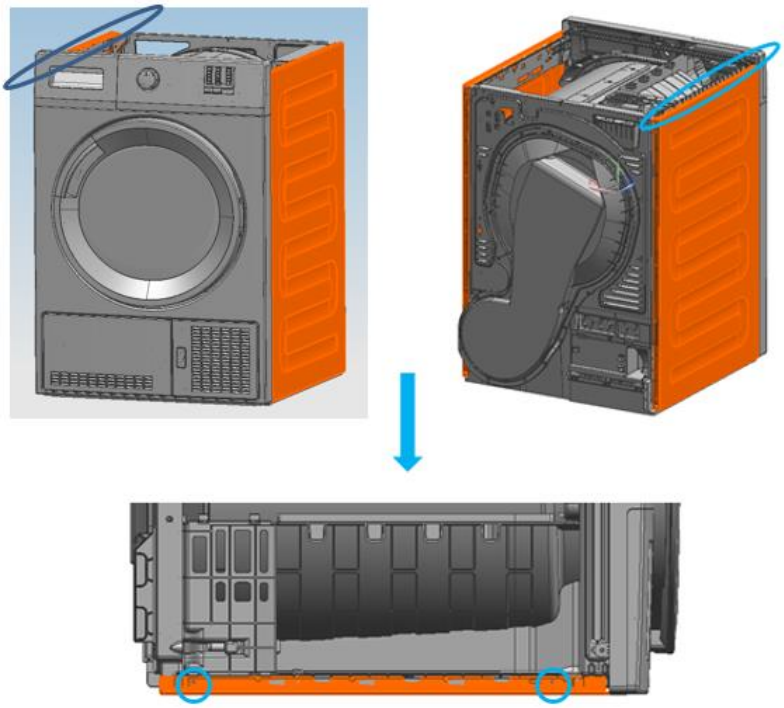


Figure 11.3. Screws between the side panel and side support bracket (Water Tank Side)

- Remove the screws between the side panel and side support bracket.

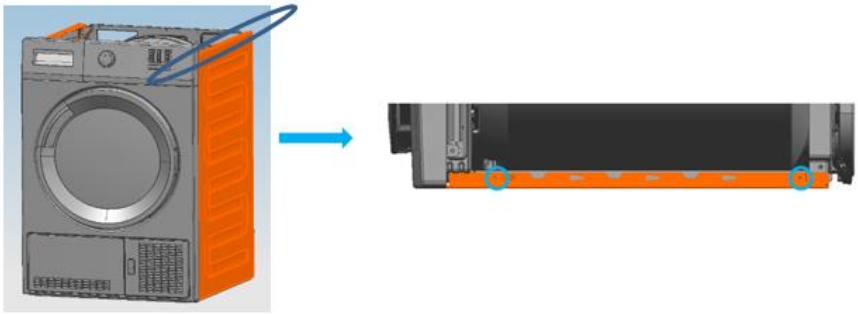


Figure 11.4. Screws between the side panel and side support bracket (Drum Side)

- Remove the screws between the side panel and side support bracket.

11.2.2. Side Panel / Rear Panel:

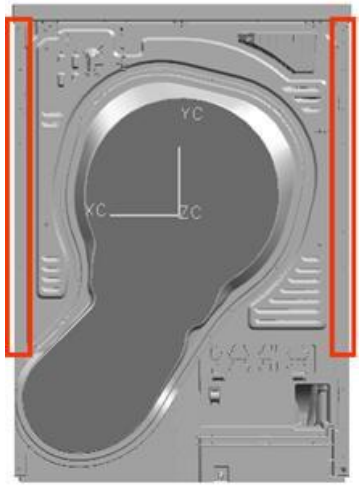


Figure 11.5. Connections between the side panel and the rear panel at the back side of the dryer

- Remove the screws as highlighted in the figure between the side panel and the rear panel.

11.2.3. Side Panel / Plastic Chassis Assembly:

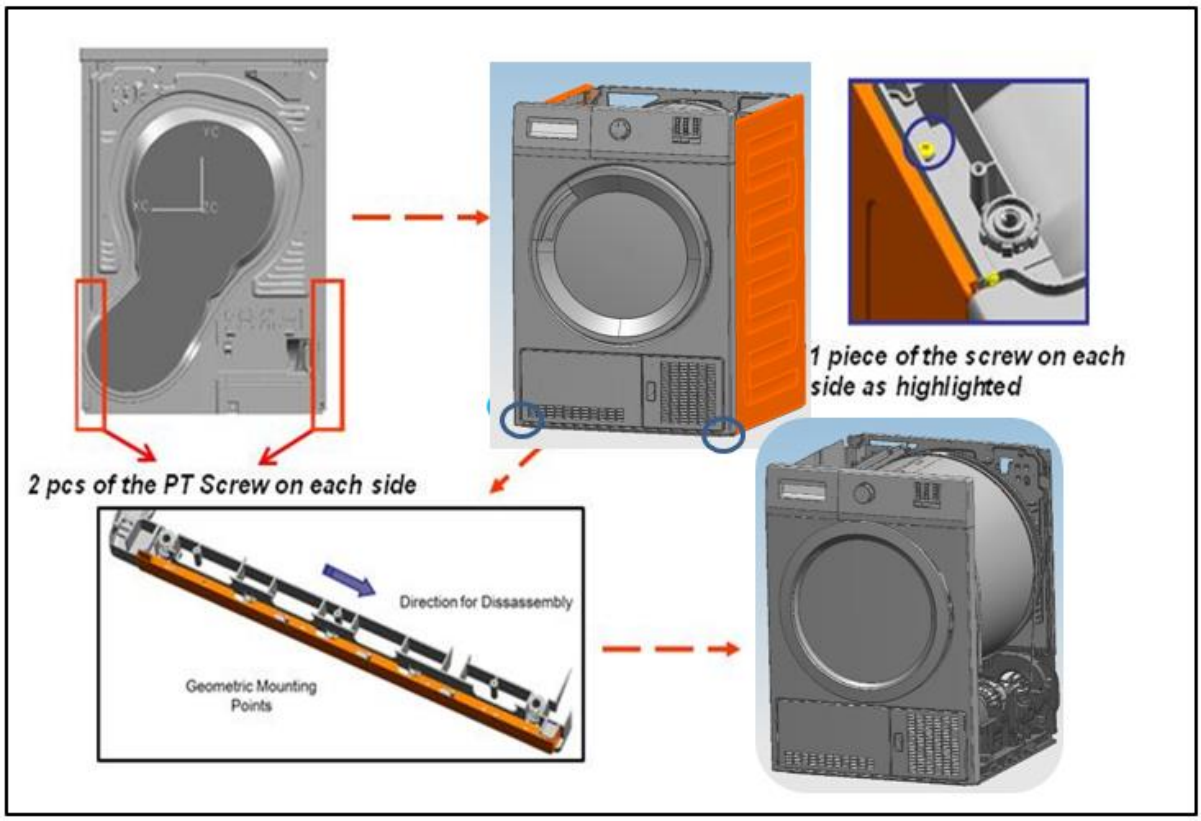


Figure 11.6. Connections between the side panel and the plastic chassis assembly

- Remove the 2 pieces of the PT screw on each side of the dryer as highlighted in the figure between the side panel and the plastic chassis.

- Remove the 1 piece of the screw on each bottom side of the dryer as highlighted in the figure.
- Disassemble the side panels from the geometric mounting points through the direction as shown in the figure.

11.2.4. Side Panel and Front Panel Connection:

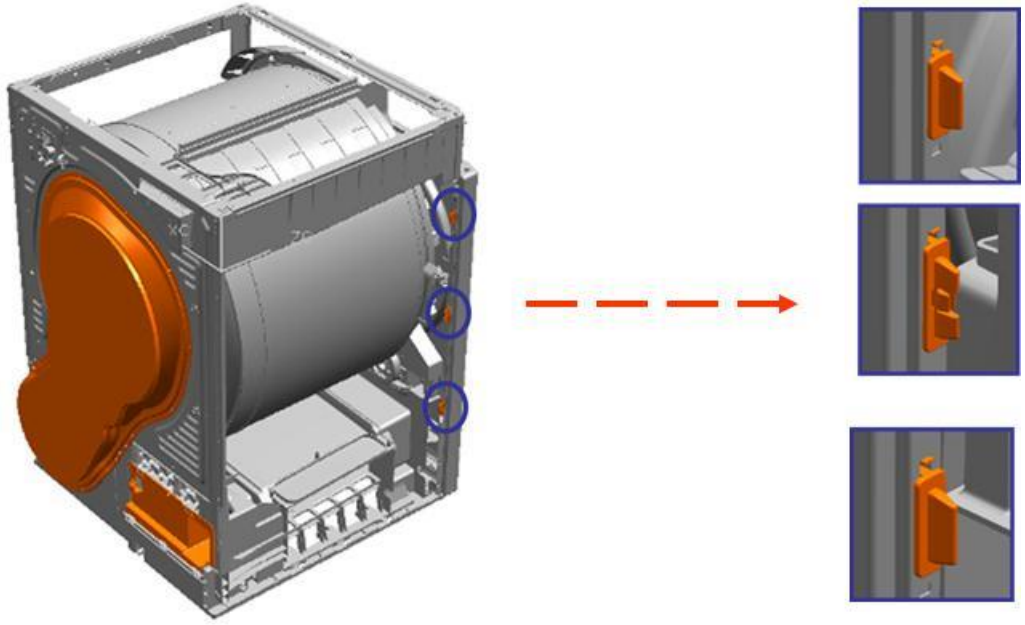
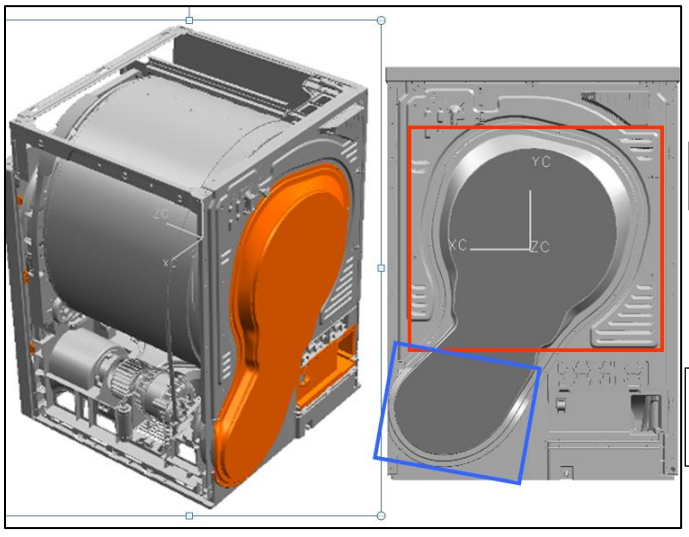


Figure 11.7. Coincident points between the front panel and side panel

- Dismount the coincident points between the front panel and the side panels.

11.3. Heater Cover:



Heater cover & rear panel connections

Heater cover Plastic chassis connections 10 pcs. PT screw

Figure 11.8. Connections Points of the heater cover

- Remove the sheet screws between the heater cover and the rear panel.
- Remove the PT screws between the heater cover and the plastic chassis.

11.4. Control Panel Assembly:

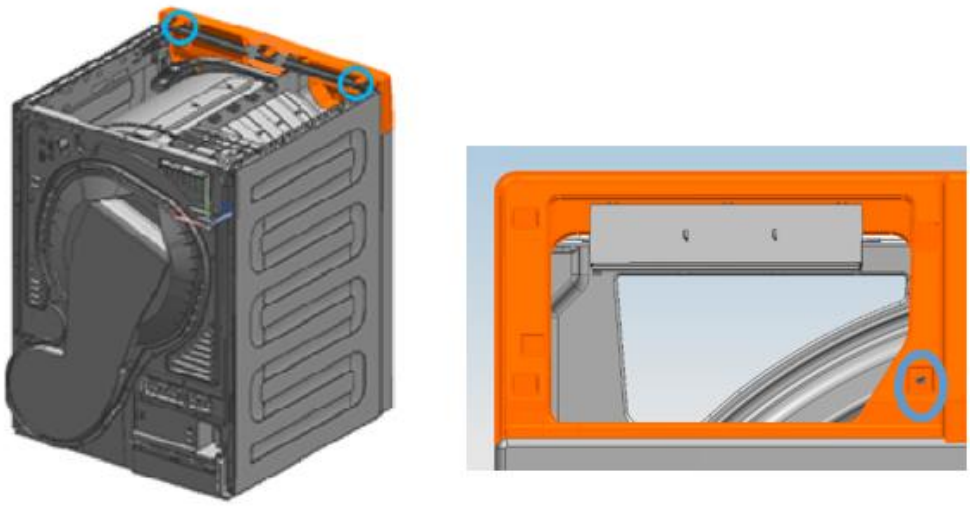


Figure 11.10. Connection points between Control Panel and Tank Housing

Figure 11.9. Connection points between Front Panel Assembly and Support Sheet of Front Panel

- Remove the 2 pieces of sheet screws between the front panel and support sheet of the front panel.
- Remove the PT screws between the control panel and tank housing.

11.5. Support Sheet Brackets:

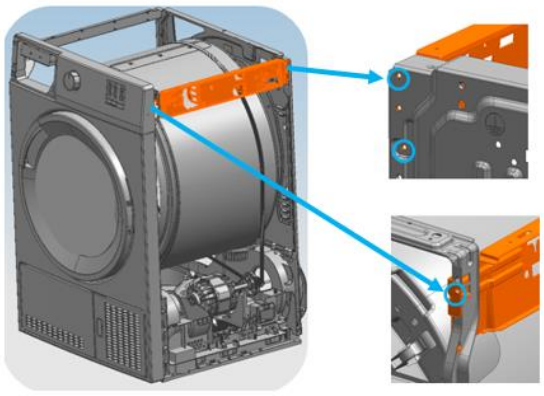


Figure 11.11. Connection points for Support Sheet Brackets on Right Hand Side (RHS)

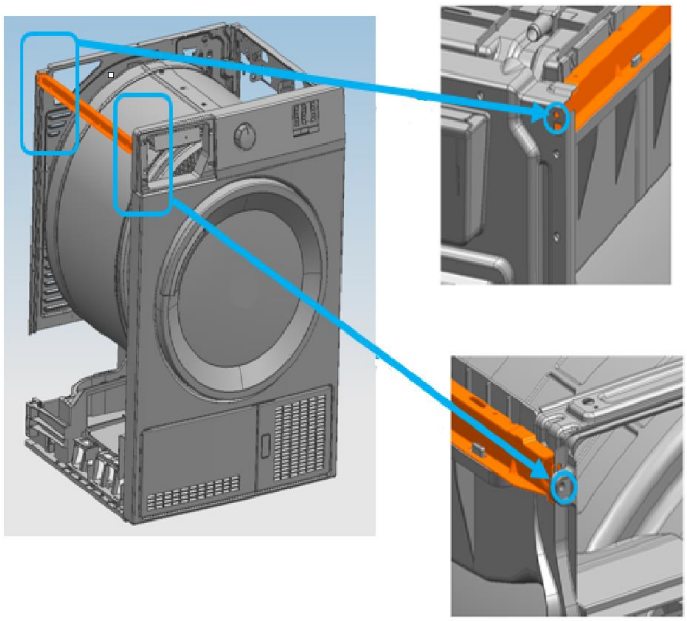


Figure 11.12. Connection points for Support Sheet Brackets on Left Hand Side (LHS)

- Remove the screws on the connection points of support sheet brackets on left and the right-hand sides of the dryer.

11.6. Rear Panel Assembly

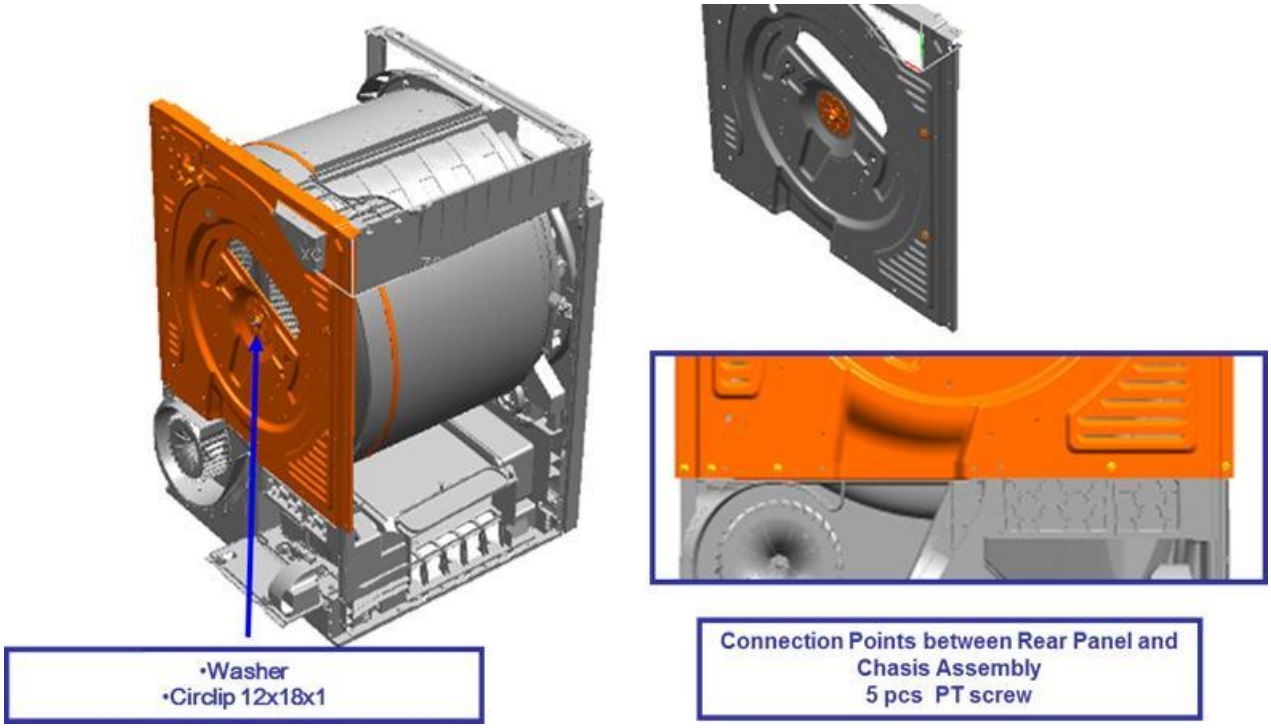


Figure 11.13. Connection points between Rear Panel and Chassis Assembly

- Remove 5 pieces PT screws between the rear panel and the chassis assembly.

- Disassemble the washer and the circlip shown in the figure by the aid of a screwdriver.

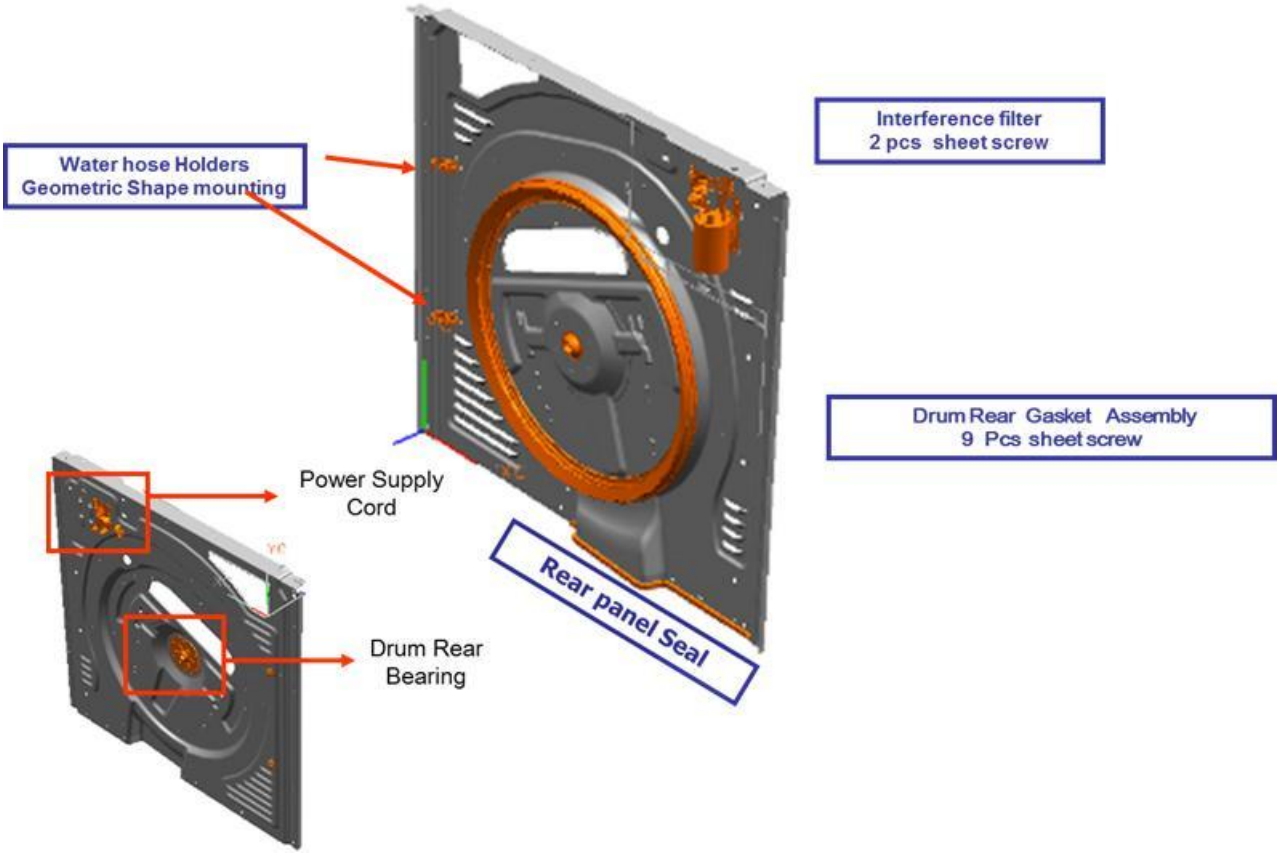


Figure 11.14. Sub-parts on the Rear Panel Assembly

- After removing the PT screws, washer and circlip, dismount the rear panel from the assembly by removing the hoses from the water hose holders located on the rear panel as shown in the figure. Sub-parts shown in the figure above are listed below:

  - Power Supply Cord
  - Drum Rear Bearing
  - Drum Rear Gasket Assembly
  - Interference Filter
  - Water Hose Holders

11.7. Drum Assembly:

- To disassemble the drum assembly:
  - Lift up the drum on the highlighted direction.
  - Pull towards the drum to the backside and remove from the dryer body.
  - By this movement, any interaction between the drum and the plastic chassis is prevented.

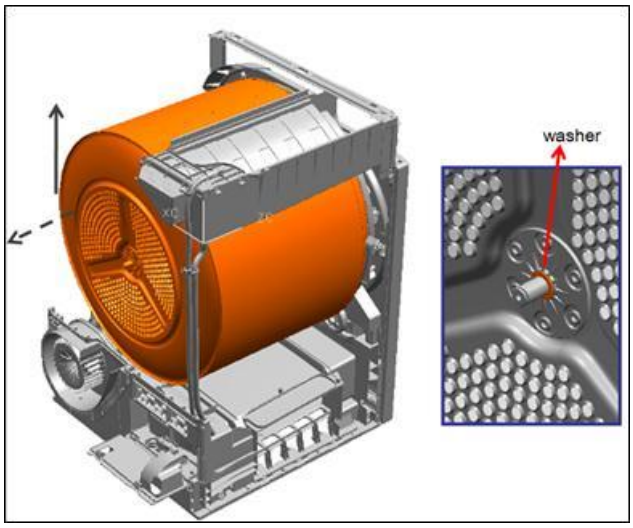


Figure 11.15. Drum Disassembly

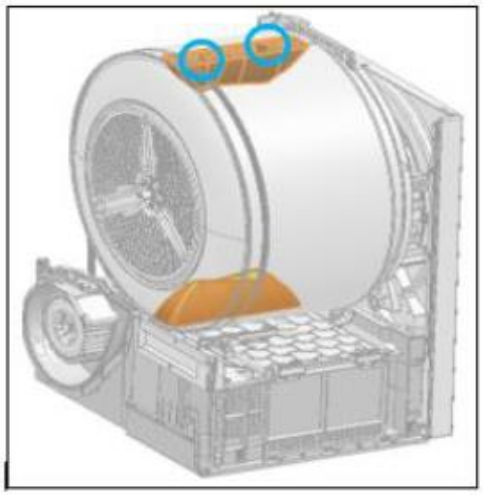


Figure 11.16. Drum Pedals

- Remove the 3 PT screws for each of the drum pedals to dismount them.

11.8. Control Panel Support Bracket:

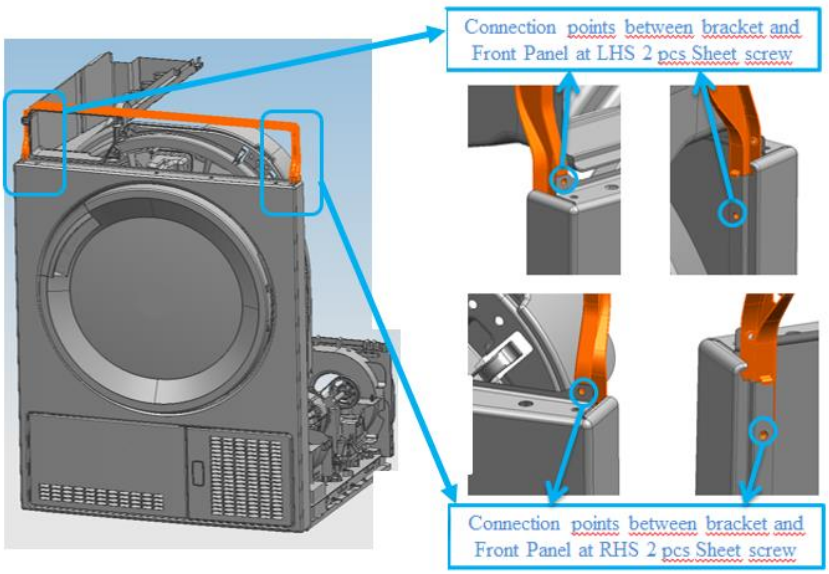


Figure 11.17. Control Panel Support Bracket Disassembly

11.9. Water Tank Housing:

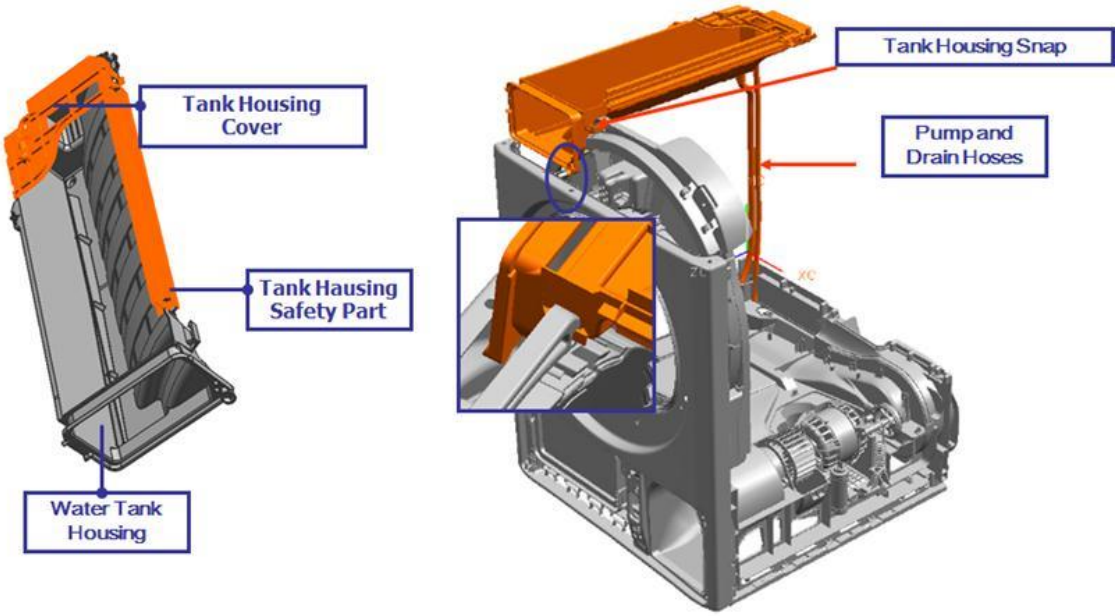


Figure 11.18. Water Tank Housing

- Disassemble the water tank housing due to the details mentioned above figure.
- Water tank housing consists of hose holders, tank housing safety part and the tank housing cover.

11.10. Microswitch and Pump:

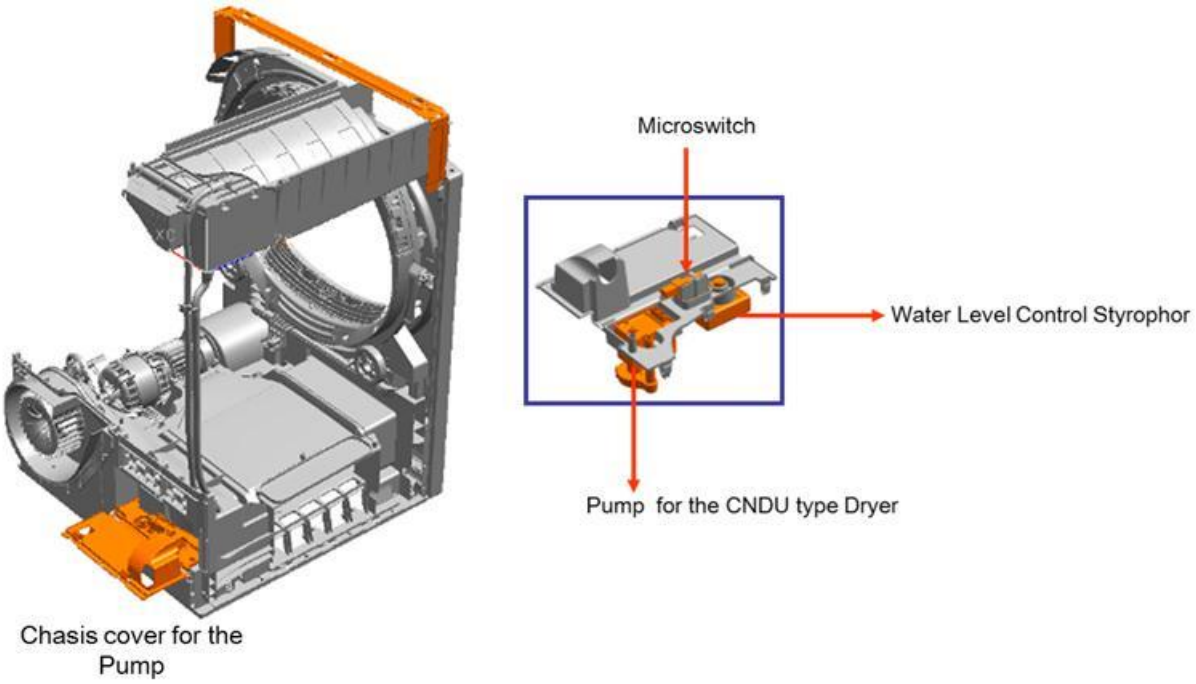


Figure 11.19. Disassembling the pump and the microswitch

11.11. Kickplates:

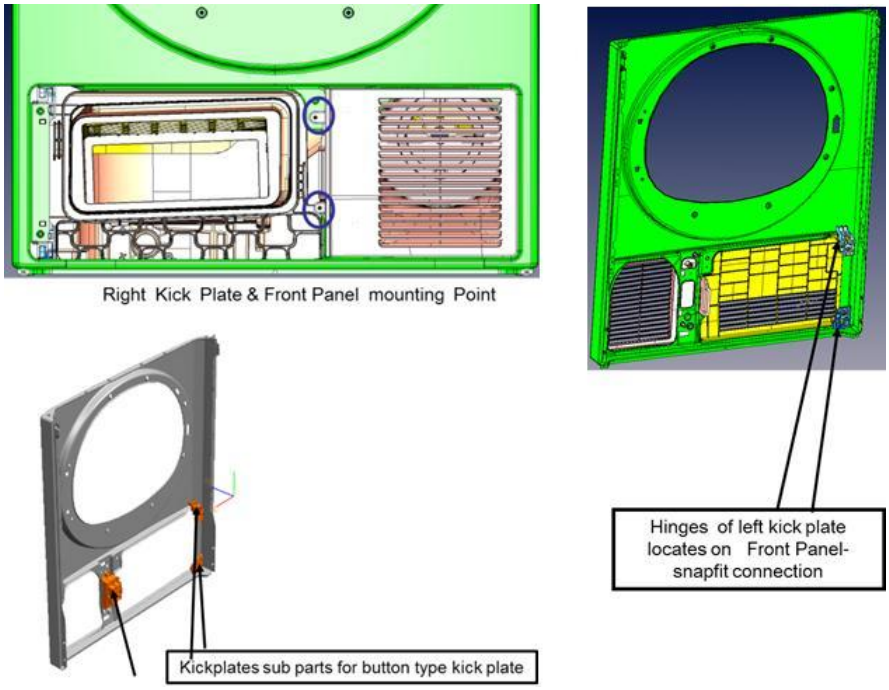


Figure 11.20. Disassembling the kickplate

11.12. Front Panel:

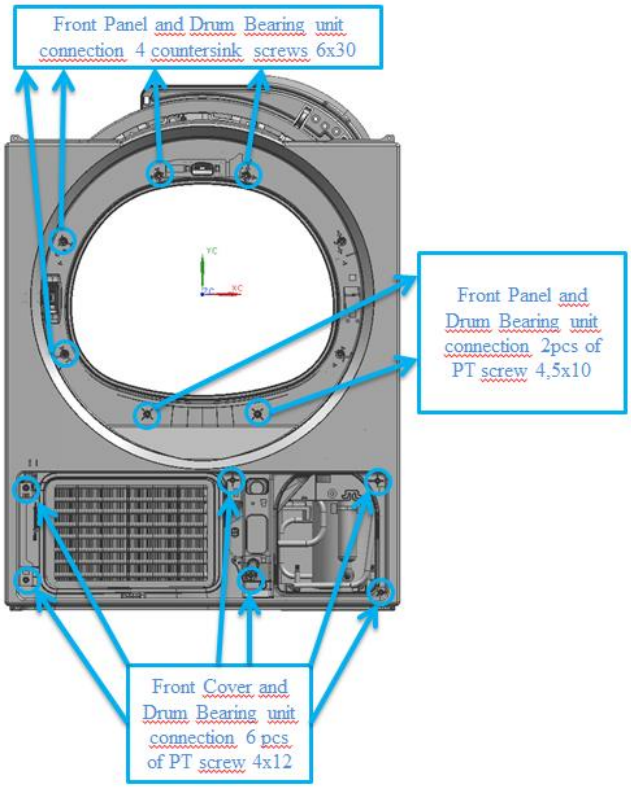


Figure 11.21. Disassembling the front panel

- After disassembling the kickplates, front panel can be dismounted from the dryer by removing the screws shown in the figure above.

11.13. Drum Front Bearing Unit:

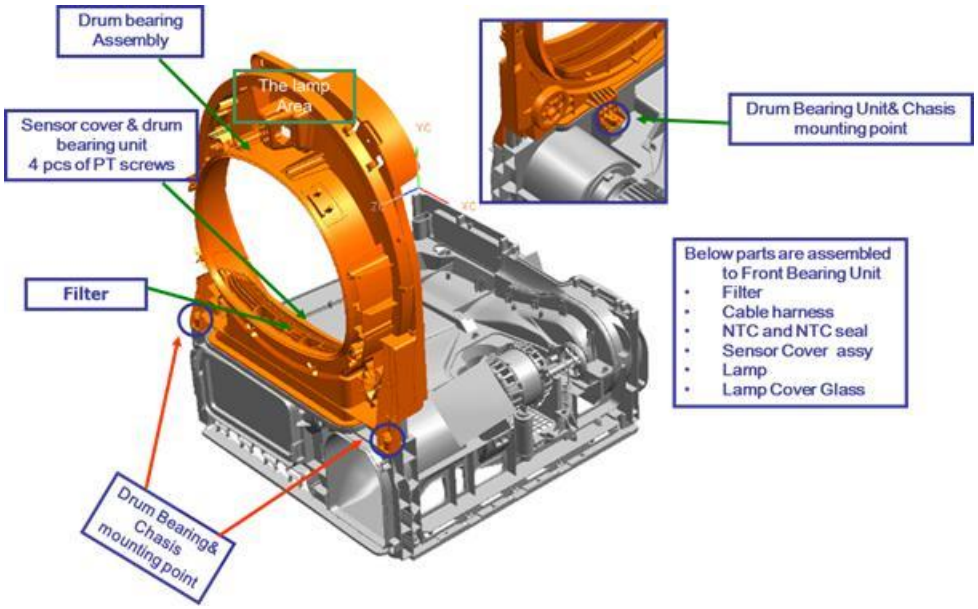
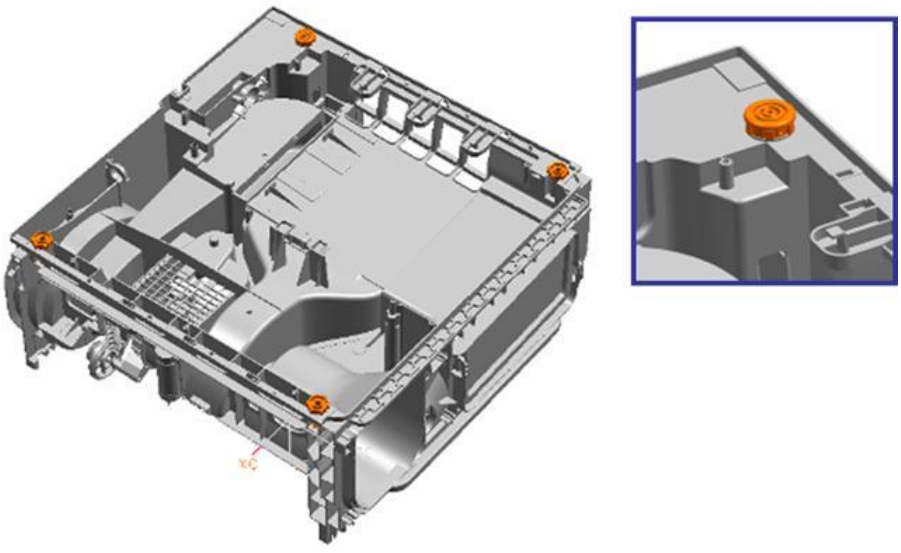


Figure 11.22. Connections of drum front bearing housing

- Disassemble the front bearing housing from the mounting points shown in the figure above.

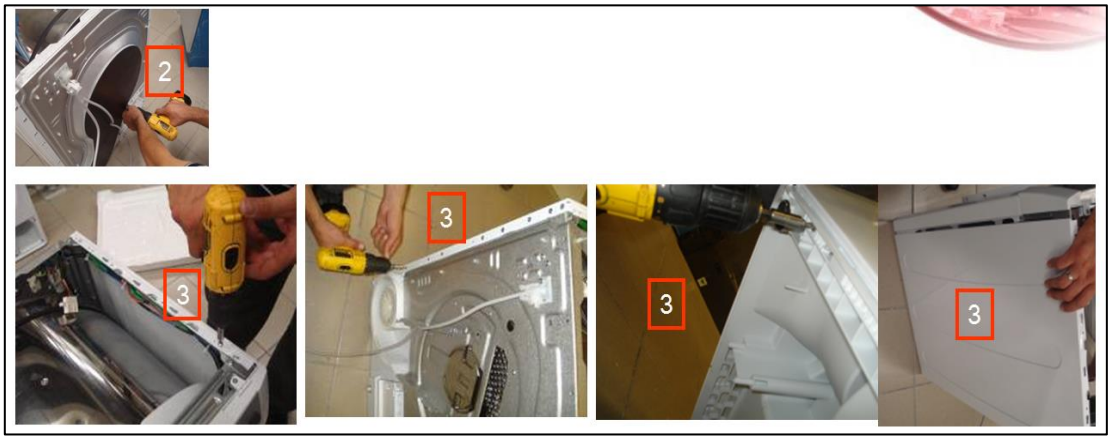
11.14. Adjustable Feet:



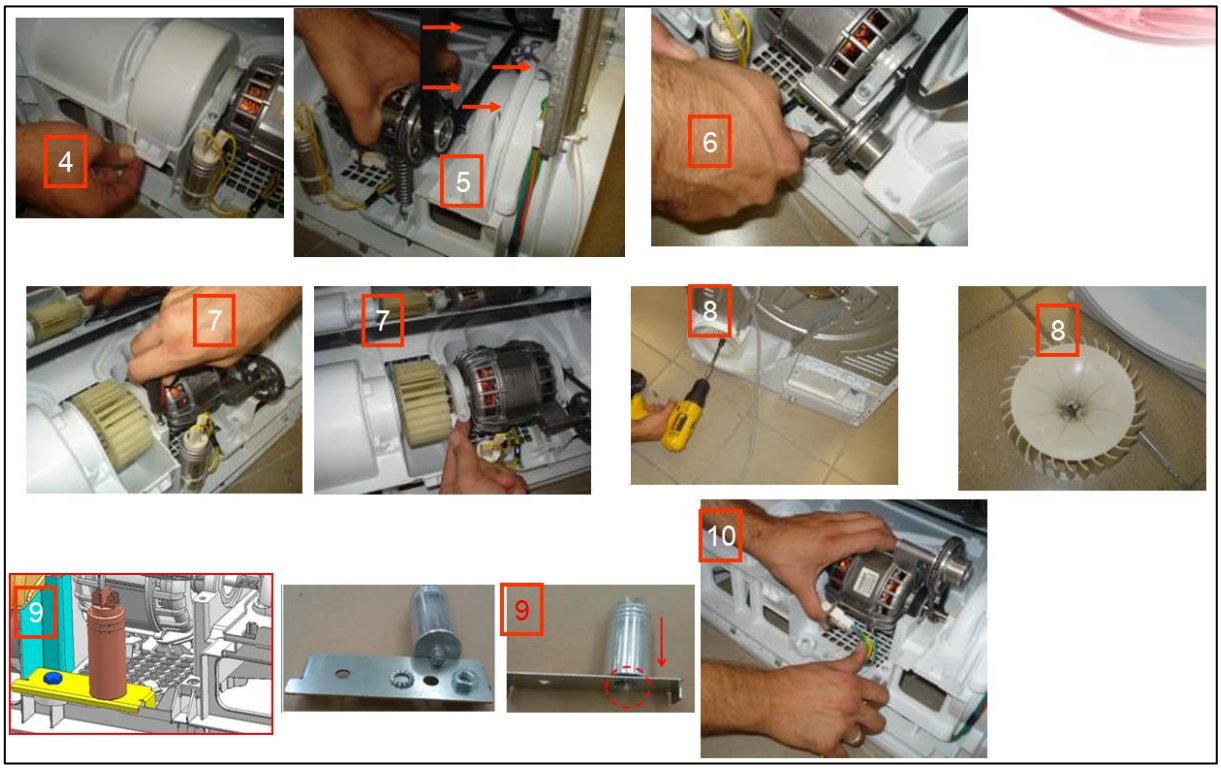
- 4 adjustable feet and their rubber parts are mounted underneath the plastic chassis as shown in the figure above.

12. Service Details for the Components:

12.1. Service Details of the Motor Unit:



- Remove the top plate.
- Remove the heater cover (2).
- Remove the side panel on RHS (3).

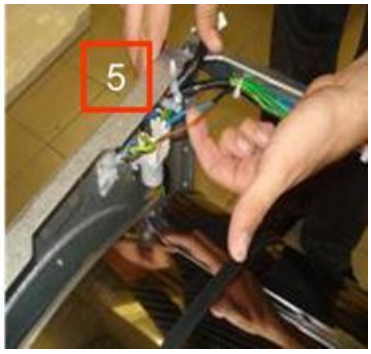


- Force the motor assembly to turn it on clockwise direction to loosen V-belt (5).
- Take out the tension spring (6).
- Unscrew the 4 pcs of the PT screw as shown on the picture and take out the plastic brackets (7).
- Dismount the motor socket (7).

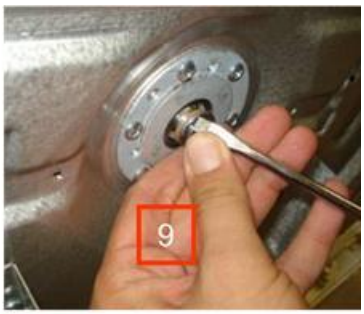
- Take out the process fan dismounting the mounted nut (8).
- Dismount the capacitor from the support sheet parts which is located on plastic chassis (8)

  Read the Service Information form with 2012-K13 code before applying that operation.
- Take out the motor as shown on the picture (10).

12.2. Service Details of Drum Assembly:

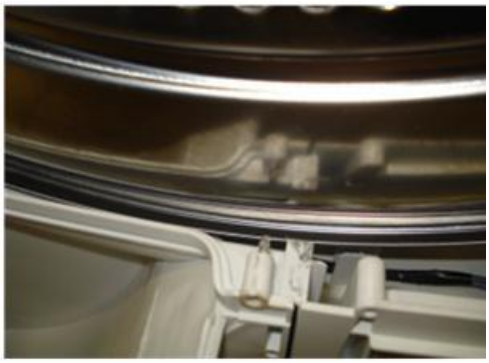


- Remove the top plate (1).
- Remove the side panels on each side (2).
- Remove the rear Plastic Cover (3).
- Remove the plugs and the cables of interference filter (5).



- Take out the bracelets on the main cable harness path (6).
- Remove the drum bearing prevention part (8).
- Remove the circlip and nut as highlighted on picture (9).

- Disassemble hoses (10).
- Drum assembly lifted up direction and pull back slightly (11).

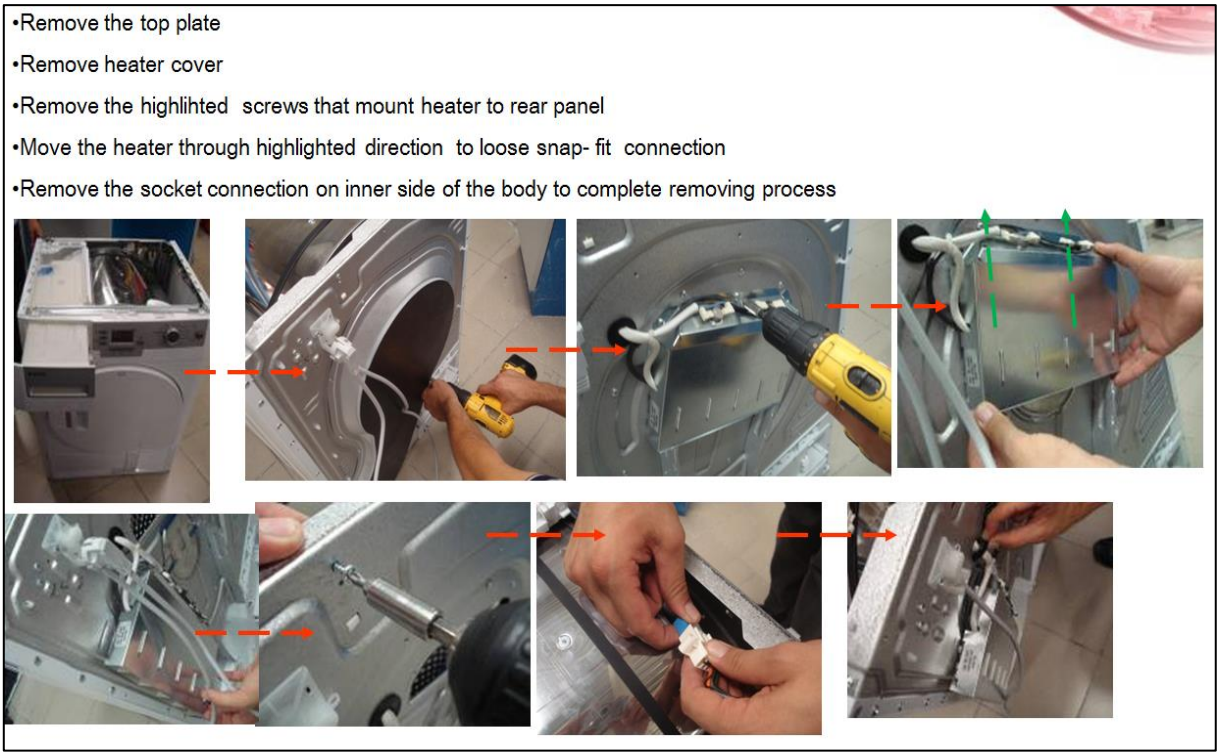


- To re-assemble the drum assy. to the dryer properly, the above pictures should be considered.

12.3. Service Details of Door NTC:

- Open left kickplate with or without button.
- Remove the screw on the right kickplate.
- Take out the filter.
- Take out the NTC as shown on picture.

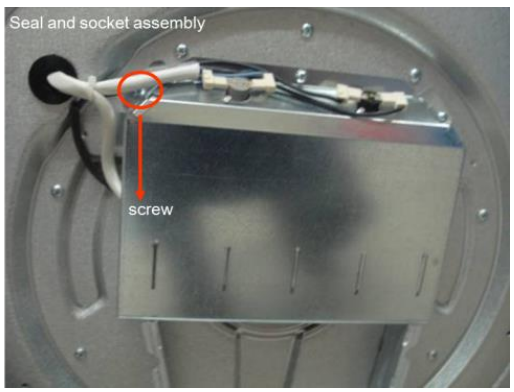
12.4. Service Details of Heater:



Listed details below should be applied while assembling the heater to the dryer body.

- Heater cover must be changed after every service operation
- Heater assembly is mounted to the dryer body with 2 type of connection by listed order
  - Snap fit connection
  - Screw connection

There must be no damage or deformation on heater harness during heater mounting.



12.5. Service Details of Pump and Microswitch:

- Remove the highlighted screw.
- Open the cover with pushing snap-fit.
- Remove the highlighted hose.
- It is possible to apply service on microswitch parts on this level.
- It needs to completely remove pump cover to service the pump and water level part.

12.6. Service Details of Control Panel and Drum Lamp:

- Remove the top plate.
- Remove the 3 pcs of the screw that highlighted on picture.
- Control panel assembly is available to apply service action on this level.

12.7. Service Details of Door Lock System:




- Remove the top plate.
- Remove side panel on LHS.
- Disassemble the plastic housing as shown on the pictures.
- Take out the locking assembly working on inner side as highlighted on the picture.