COMPONENTS

Mechanical Parts

All tubs are made of a highly resistant special plastic material that drops the noise volume and that has not any corrosion problem. The front tub used in Medium series machines is also plastic and it is permanently fixed to the back of the back tub by means of vibration welding. There is one counterweight at the upper and lower parts of the drum. Motors are fixed by connecting them with two bolts on Medium series. There are transportation safety bolts on the back side of the tub. The tub assembly is suspended from the body from its sides by means of two springs and it is connected on to the lower surface of the body by means of two friction horizontal suspensions. The drum is made of stainless steel.

Suspension System

The tub is attached on to the body by means of 2 springs. Moreover, the tub is fixed to the body from its lower part by means of 2 friction suspensions. The springs and the suspensions prevent moving and noisily operating of the machine by transferring the vibrations that are created in the tub to the body. Suspensions are connected to the tub by means of plastic pins instead of bolts.

Electronic Control and View Card

With the aid of the control and view card designed as single-face and produced by Arçelik, washing programs written on the microprocessor, washing and spinning motor profiles, protection algorithms and components (motor, heater, pump, valves, door safety lock, ntc, water level selection key, spin/temperature potentiometer) are controlled.

While on the front face of the card are the feeding circuit (smps), motor and other component control circuits – triac and relays – and component connection terminals, there are the microprocessor, function and time delay buttons and leds as well as the program follow up leds on its back surface.

The required washing program is run in accordance with the program selection key (rotary switch) connected on to the card, spin/temperature adjustment potentiometer, and the data read on auxiliary function and time delay switches. Auxilliary functions, spin speed/temperature and delayed time options and functions can be selected via this card.

Door Safety Lock

A PTC door safety lock is used. When any washing program is started after the door is closed, the PTC disk heats up to lock the door and prevent its opening while the program is running. The PTC cools down and the door is unlocked within 70 seconds after the program comes to an end. Currents of all components pass through the door safety lock. In case it is defective, the machine does not operate.

Nominal Operating Voltage	250V 50-60Hz
Operating Current	10-50 mA
PTC Resistance	Min. >=50 ohm
Time of Contact Lock	<=8sec
Time of Contact Unlock	35...70sec

Motor

Universal serial motor is used. The universal serial motor is composed of a stator and armature (rotor). Stator and armature coils are serially connected with the aid of the collector and brush to transmit the current to the armature coils. Motor revolution control is made via the electronic card. The motor triac on the card adjusts the motor/drum revolution by changing the triac triggering angle according to the signal coming from the tacho. There is a thermoregulator on the motor coil to protect the coil from excessive heat in abnormal cases (continuous operation-locked rotor).

Nominal Operating Voltage	220-240V 50-60Hz
Current	6A max (washing) / 3A (spin)
Input Power	300 / 450 W

Initial Startup Current	5…8A (washing) / 10A max (spin)

Technical Specifications of Tachogenerator

Number of Double Pole	8
Tacho output voltage at 300 rpm	>0.9 V
Tacho output voltage at 16500 rpm	<45 V

Heater

There are two thermofuses on heater inlets as the appliance is an electronically controlled machine.

In the models with one thermofuse, the heater terminal which do not belong to the side without a thermofuse is driven over the water level key. Therefore, colors of plastic insulators around the heater terminals are different from each other (to distinguish the part where a thermofuse is used). For this reason,

during heater replacements, which terminal should be mounted to which color side is an issue to be taken into consideration.

When the heater runs as dry, the thermic element heats up excessively and short circuits the heater. A short circuited heater cannot be reused. In order to prevent working of the heater without water "during heating", a heater safety water level has been defined at the microprocessor (P_{heater}). In case the water level which has been defined by the water level sensor drops below the P_{heater} level, the heater is deactivated. As soon as the water temperature that is read by NTC reaches the "selected temperature", the heater is deactivated by the microprocessor.

Nominal Voltage	230V 50-60Hz
Nominal Power	1950 W (±5%)

Valve

There is a double valve in single water-inlet models while there is an additional single valve besides the double valve in machines with hot water inlet. Valves are driven with the triacs on the electronic card; both valves are driven at the softener step by using the collision water direction system to send the water towards the middle compartment of the detergent drawer.

Nominal Voltage	220-240 V 50/60 Hz
Nominal Power	5-8 W
Coil Resistance	3400-4500 ohm
Flow Rate	10 l/min

Discharge Pump

It is a single-phase, double-pole synchronous motor with magnet rotor. It is driven by the triac on the electronic control card in the discarging step. It is impedence protected against cases of continuous operation and blocked rotor.

Nominal Voltage	220-240 V 50Hz
Resistance	145 ohm
Current	<0.2A
Flow Rate	>14 l/min
Initial Startup Performance	<=4s (160V)

NTC

This component is used to measure the water temperature in the drum, which reduces the resistance against temperature increase. In some models the temperature is defined on the program while in some the temperature can be selected via "temperature selection button."

When the water temperature reaches the set temperature, the heater is deactivated by means of the heater relay on the card.

Resistance (25 °C)	4773 ohm (±4.2%, Siemens)-4837 ohm (±3.25, Elth)
Operating Temperature	-10°C...+100°C
Thermal time constant	18 ±2 sec

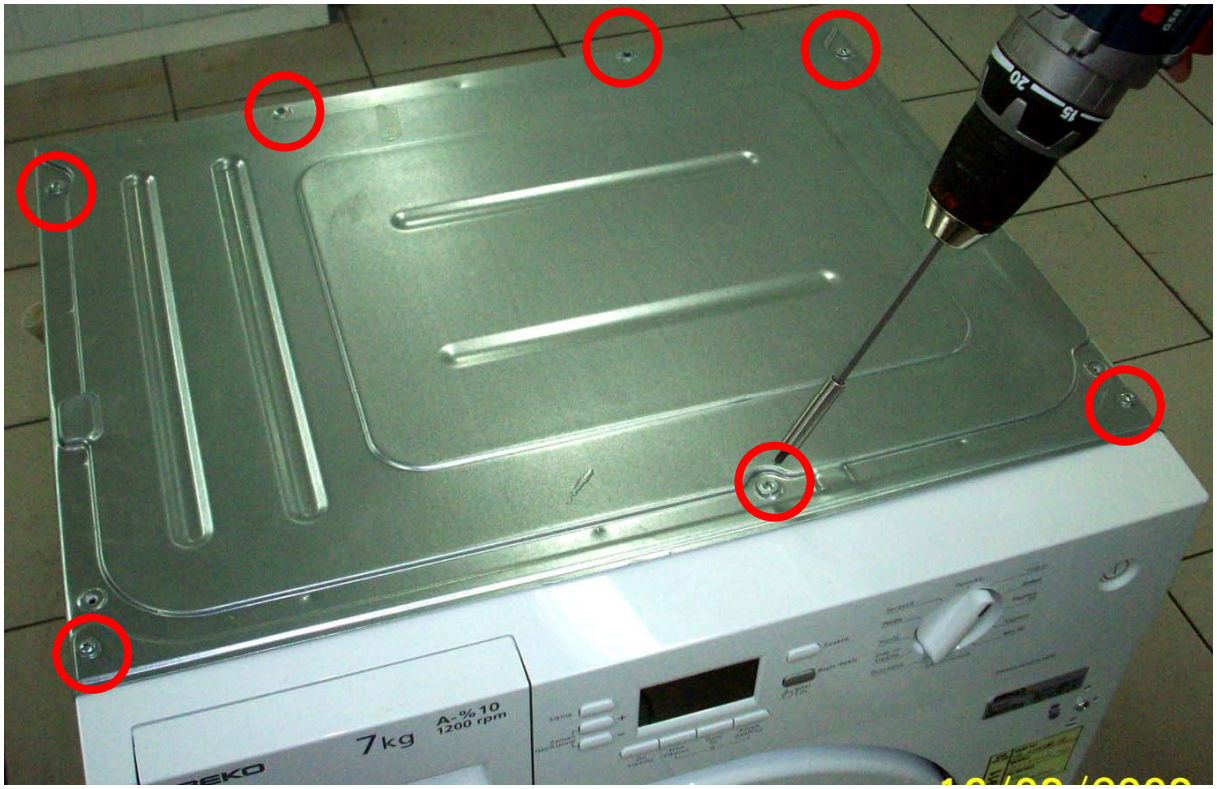
Water Level Sensor

An analogue water level sensor fed by 5V voltage is being employed. This sensor allows instantaneous determination of the water level by means of the frequency values it creates against the pressure formed. There are frequency values corresponding to all pressure values. Infinite number of levels can be defined with the analogue water level sensor. The water level varies according to the designed program's washing criteria subject to the selected program, temperature and auxiliary function.

DISASSEMBLY PROCESES

1- Top Cover

- 7 screws fixing the Top Cover Plate to the body will be removed.



2- Front Panel

- The front lid will be opened.
- The gasket clamp that connects the gasket to the Front Panel will be removed by using the special gasket clamp Pliers.
- Top cover plate will be removed.
- Panel will be removed.
- Safety switch will be removed.
- Front wall screws will be removed.

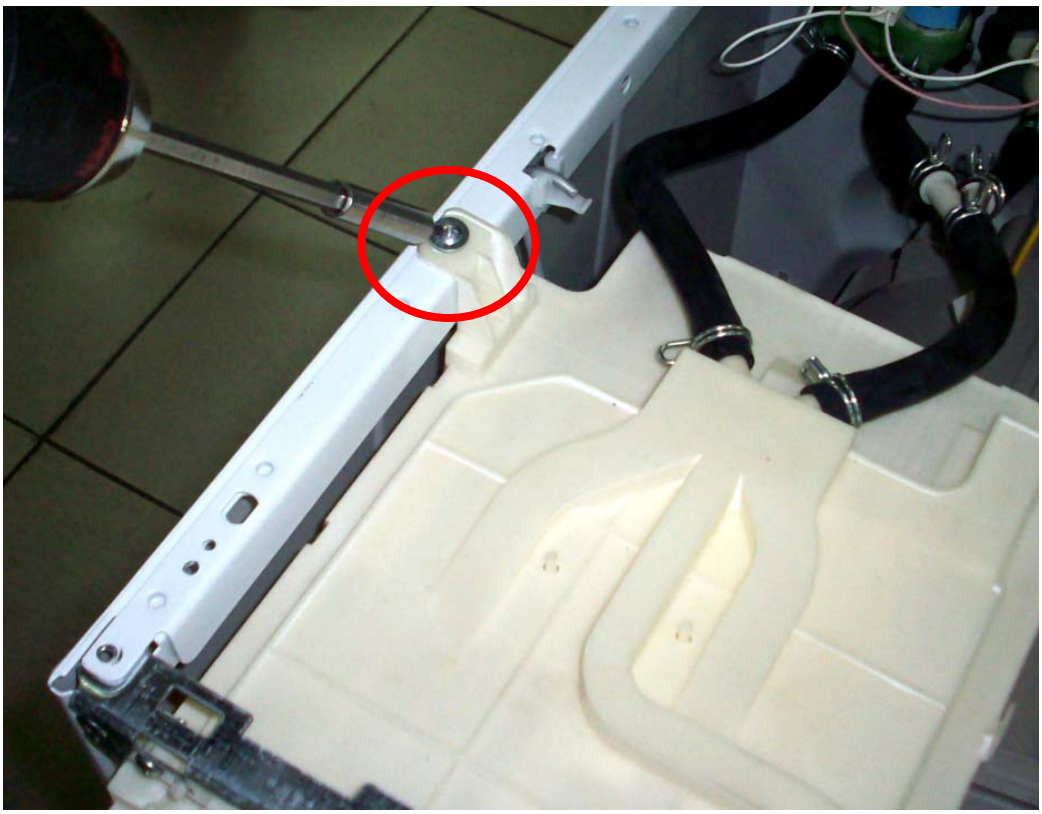
- After the screws are removed, the front wall will be pulled towards front to release it from the lower pins. Then, it will be slid downwards and taken out.

3- Detergent Drawer Front Cover

- The drawer will be taken out by pulling it strongly.

4- Panel Assembly

- The drawer will be removed.
- 2 screws connecting the panel to the panel support bracket as well as the 3 screws connecting it to the detergent box will be removed.



Tabs locking the panel on to the support bracket will be removed to release the panel from the support bracket.

5- Water Inlet Valve (single)

- Top cover plate will be removed.
- Ends of Single Valve cable will be removed.
- Hose clamp of the Single Valve will be pulled backwards on the hose.
- Hose will be taken out from the inlet on the valve.
- The valve will be turned leftward by loosing the valve intermediate assembly from the sheet iron to which it is fitted. The valve will be removed from its place.

6- Water Inlet Valve (double)

- Top cover plate will be removed.

- Ends of Single Valve cable will be removed.
- Hose clamp of the Single Valve will be pulled backwards on the hose.
- Hose will be taken out from the inlet on the valve.
- The valve will be turned leftward by loosing the valve intermediate assembly from the sheet iron to which it is fitted. The valve will be removed from its place.

7- Mounting the cabinet door

- Door of the cabinet may be attached to left or right depending on the preference. Mounting method of the cabinet door that opens leftward is explained below. The same mounting method applies for the right side.

- Primarily the hinge and the cabinet door plate must be attached on the cabinet door.

- There are 4 hinge attachment points on the front wall, namely, bottom left, top left, bottom right, and top right.

- Hinges will be attached onto the cabinet door and the front wall by using 2 screws for each as shown in the pictures below.

After mounting the cabinet door, the plastic magnet assembly will be fitted in the empty assembly housings on the front wall primarily by seating the tabs and by means of 1 screw. The same process will be repeated for the lower part.

8- Cabinet door plate

- The cabinet door plate will be fixed onto the door of the cabinet by means of 2 fiberboard screws for each.

9- Plugged hose holder

- Lid of the plugged hose holder will be opened by releasing it from its tab. Plug of the plugged hose will be pulled rightward to take it out of its housing. It will be taken out when it is loosened.



Kick-plate plastic plug

- The plug will be removed by releasing from its edge by means of a screwdriver. There are 2 of them; one on the left and one on the right.