Reference Number: SM2701201700D4

SOGEDIS
ELECTROMENAGER

Manuel de service

pour

Séries D4

Document without reference number is not valid.

Table of Contents

About Content

This service bulletin is prepared for all OEM products within D4 range. Therefore you may encounter information about some optional components that may not exist in your product. As this is a generic service bulletin covering all range, please ignore and skip extra/optional component information. Sections marked with asterisk (*) sign contain information about optional components.

Information already exists in user manuals is not included in this service manual. Please refer to user manual of your product for basic installation, operating, maintenance and troubleshooting issues.

Contact

For your inquiries please send an email to:

WashingMachineCustomerSupport@vestel.com.tr

You can also open a support ticket using Service Support Page:

https://www.vestelservice.com/VestelService/

Acronyms:

WM	:	Washing Machine
W&D	:	Washer & Dryer
WMCS	:	Washing Machine Customer Support
TJ	:	Twinjet
UI	:	User Interface
SI	:	Service Interface
A	:	Available
NA	:	Not Available

1. Safety Precautions

Important:

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Warning:

Before any disassembly/repair operation make sure appliance is unlplugged water tap is closed and heating elements are cooled down. There is electrical shock, burning and flood risk.

Warning:

Please replace whole cable group even in case there is any minor failure with cables / terminals / sockets. Never try to repair nor to solder cable group. It may cause smoke, ignition and there is major risk of electrical shock.

Important:

Always use insulator gloves to prevent injury by metal edges or to prevent electrical shock during electrical tests.

Work with uniforms having long sleeves to protect your arms from metal edges.

Always use original spare parts. You may harm appliance, end user, environment or yourself using untested and unapproved 3rd party spare parts.

Use right tools to prevent any wear or damage to components during assembly/disassembly.

2. Specifications

Here you will find descriptions of generic specifications for the range specified for this service manual. Please refer to product fiche and user manual for detailed technical specifications.

***Twinjet System:**

Twinjet system is designed to obtain a better washing performance by directly injecting water with detergent using a recirculation system and two nozzles connected to it. With twinjet system, water consumption is decreased by 30%, energy consumption is decreased by 10% and washing time is decreased by 15%

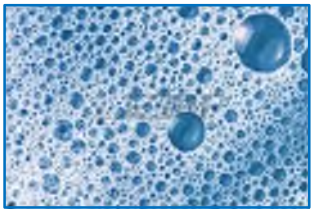
Twinjet system is valid for all programs except spin and drain mode. The system dos not function during Water inlet, heating, spinning, drain phases.

Even with a large load of 8 kg. the washing machine will have the minimum energy consumption by the help of Twinjet system.

Washing machines with Twinjet system are very environment-friendly by having maximum washing performance with minimum water consumption.

Eco-Logic System:

Half load detection system, thus using less water and power accordingly. This system is available for cotton programs only.

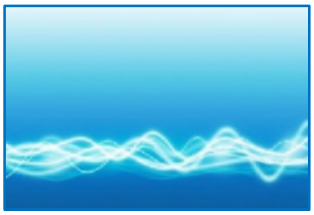


Foam Protection System:

Foam Protection System is a safety algorithm that interrupts normal program flow and reduces foam level by taking water and draining. This algorithm protects machine and environment avoiding over foaming inside tub in case any customer misuse such as detergent overdose or use of foamy cleaning agents.

Overflow Protection System:

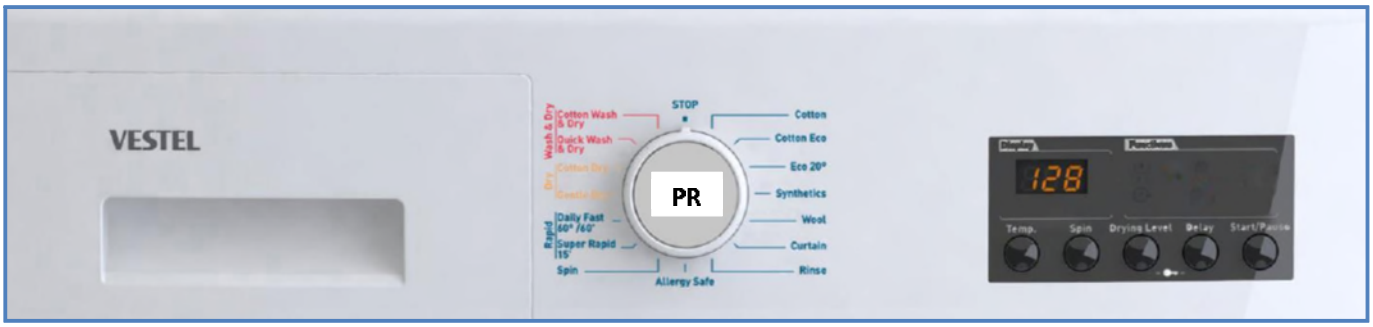
Overflow protection is another safety algorithm in case of a flood risk. If there is more water in tub than expected by algorithm, it will start to the drain routine giving E04 failure code. For example this may happen in case of a valve failure and the machine constantly takes water. This algorithm will keep drain routine, keeps water leveled and protects environment and machine avoiding any flood risk.

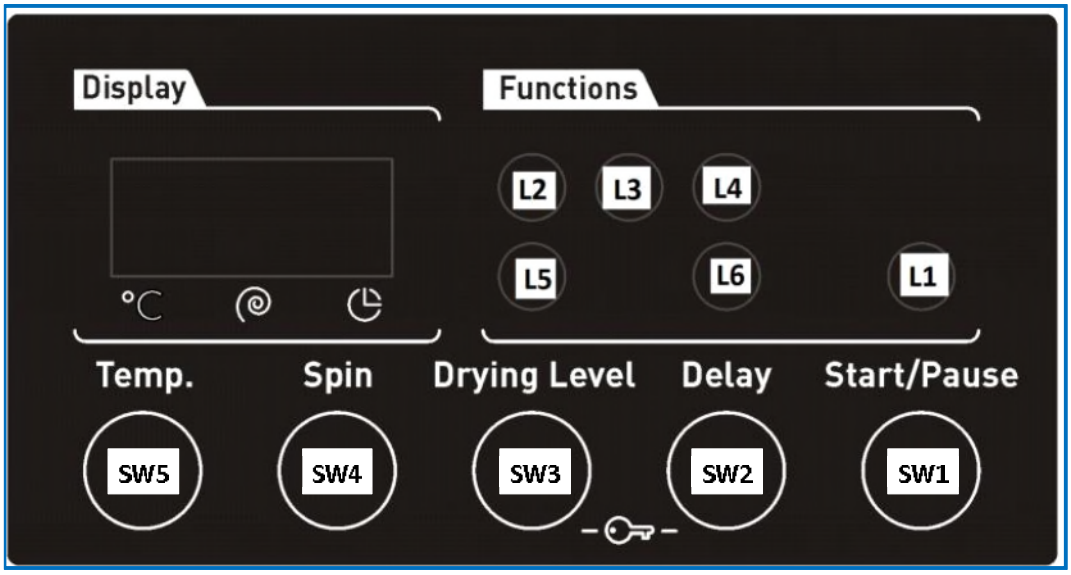


Unbalanced Load Detection and Control System:

Unbalance Control System is another safety algorithm that protects the machine and environment avoiding machine movement due to vibration during spinning profile. The algorithm tries to balance load by a special balancing agitation, postponing spin profile till it is balanced. This avoids spinning while load is unbalanced and prevents any possible physical harm both to the appliance and to surroundings.

3. Control Panel and Acronyms





PR	Program selector 16 programs including off position
SW1	Switch 1, Start / Pause
SW2	Switch 2, Option 1 (Delay Timer)
SW3	Switch 3, Option 2 (Drying Level)
SW4	Switch 4, Spin Speed Selection
SW5	Switch 5, Temperature Selection
L1	LED 1, Start/Pause LED
L2	LED 2, Drying Level 1 LED
L3	LED 3, Drying Level 2 LED
L4	LED 4, Drying Level 3 LED
L5	LED 5, Drying Level Option LED
L6	LED 6, Delay Time LED

4. Test Mode

4.1. Autotest (With Button Model)

1. Press and hold SW5.

2. While pressing SW5, turn PR to 1st position (Cotton). Wait 3 seconds and release SW5. During test "AU" is visualized on display.

3. When autotest is finished, END screen is visualized.

4.1.1. Autotest Steps

Autotest follows a predefined flowchart in order. Unlike service autotest, autotest automatically skips to next step upon completing one. The steps of the test are as follows:

Step1:
The drain pump is checked.
Step2:
Motor ramps to max spin speed while valves are activated in order.
Step3:
Motor stops, both valves are activated simultaneously.
Step4:
The motor turns to right. Also, dryer valve is activated.
Step5:
The motor turns to left.
Step6:
Both valves are activated. (Water intake for heating)
Step7:
Washer NTC is checked.
Step8:
Washer Heater is checked.
Step9:
Dryer resistance I and I&II are checked.
Step10:
Dryer NTC is checked for 2sec.
Step11:
Fan is checked.

In case of no failure test ends after this step and "End" is displayed. In case of an error detection EXX and error definition will pop up on display. (where XX is the error number 1 to 10)

Please see following autotest chart for details.

4.2. Autotest (With Touch Model)

** This test is for quick checking of the product. You can not see the failure codes.*

1. Press SW3 button and simultaneously position program knob to 1

2. After 3 sec, door will be locked and the auto test starts.

The test steps are as below;

Step1: The pump is activated for 3 seconds and there is EPS check , the frequency value should be between the 46.04Hz and 43.40Hz. It checks the EPS and if it is OK it continues the autotest; if it is NOK then it should give E10 ERROR & cancels the autotest (goes to the selection mode). Also if any frequency can not be detected, then it means there is problem with connection or EPS, so it gives E10 which is EPS error and cancels the autotest.
L1-L3 and L4 should fast blink during E10 error for panels except F4.

Step2: The motor ramps to max spin for 15 seconds. While its speed rising up to the maximum speed the EV1 (prewash valve) is activated for 5 seconds and then the EV2 (wash valve) is activated for 5 seconds.

Step3: The motor reduces speed to stop (depends on the motor stop time) for 5 seconds. While it is slowing down it activates EV1 and EV2 valve, concurrently.

Step4: The motor turns to right.

Step5: The motor turns to left for 5 seconds.
Test is stopped. In that period, the Pre Wash icon makes fast blink.

Step6: **The option 1 button is pushed**

The EV1 and EV2 are activated concurrently until it reaches pressure sensor's first level frequency (Hz) for 5 seconds.

Step7: Software will detect NTC's resistance value and will check if the temperature is between 5°C < Tdetected < 40°C . If it is inside the range, heating step will be done. If temperature value is outside the range, then it means NTC is detecting the temperature in a wrong way and heating step will be skipped.

Step8: Autotest ends and "End" is visualized on LCD for F4. For F2B, F2A,F2B and F2C ''End'' led will be fix on.

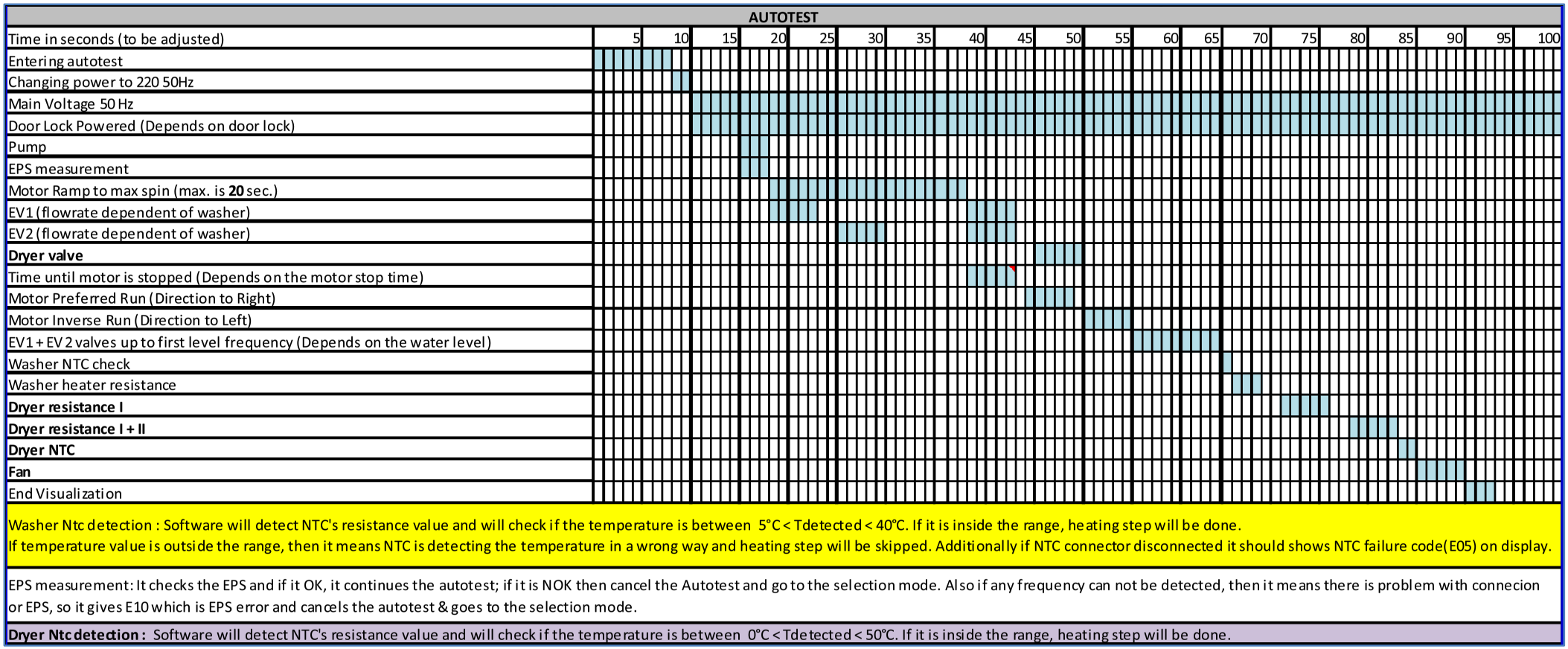


Diagram for model which has button

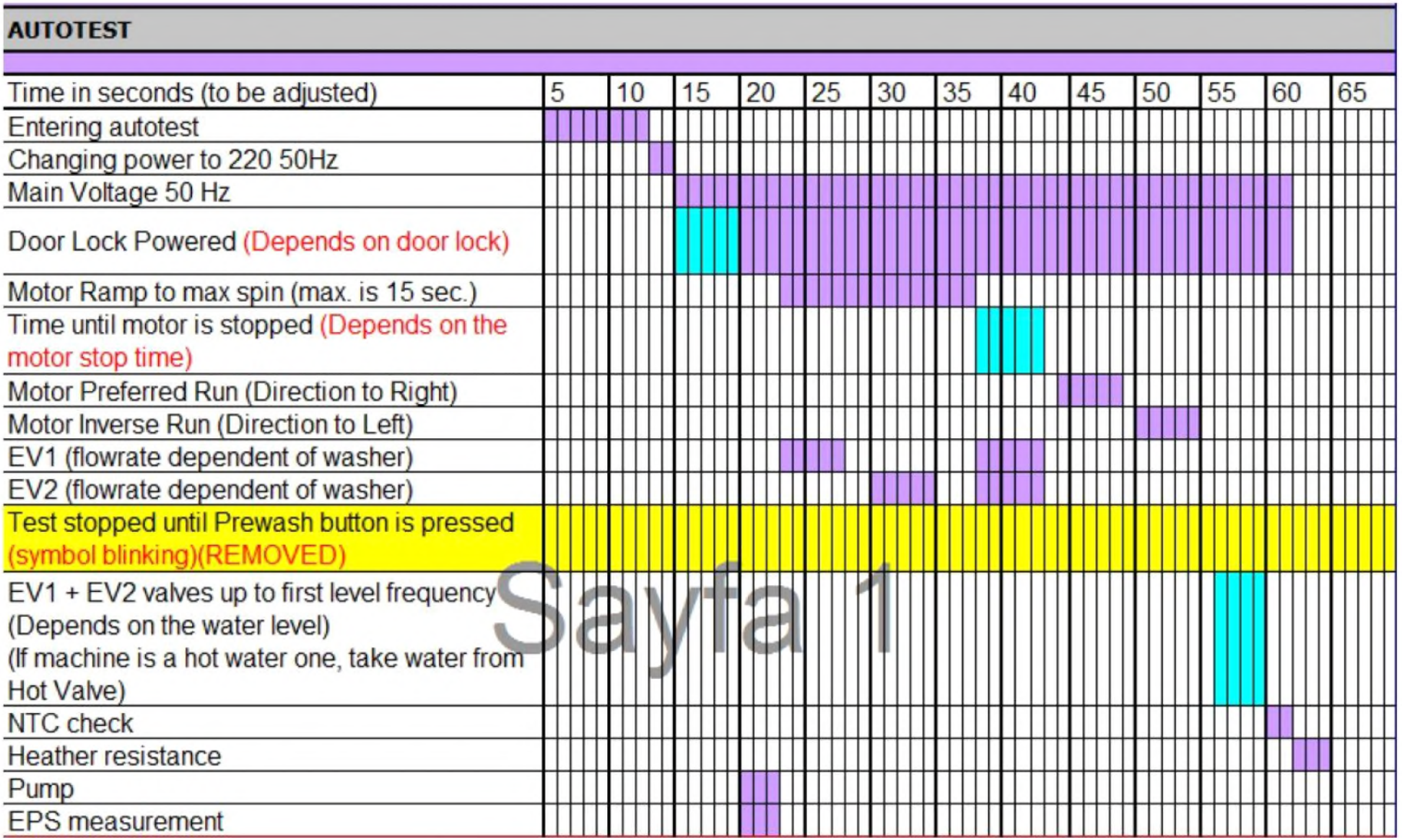


Diagram for model which has touch

5. Service Mode

5.1. Service Autotest (With Button Model)

1. Press and hold SW4.

2. While pressing SW4, turn PR to 1st position (Cotton). Wait 3 seconds and release SW4. Step 1 of service autotest will start. During test “SAU” is visualized on display. Please see details about steps in right column.

3. When autotest is finished, END screen is visualized.

5.1.1. Service Autotest Steps

If you turn knob position to other program between 1st to 3rd it will skip current test and start the selected one. It is recommended not to skip any steps for a detailed checkup. Unlike autotest, service autotest starts next test step manually by rotating program selection knob.

Step1:
There will be a certain amount of water intake and then washer heater is activated for 8 minutes. Washer NTC values are checked in this period. In case of a washer heater/NTC failure, it pops up E05 error displaying “E05” on SW3.

At the end of heating, "SAU" visualization should make slow blink to indicate that the step is over. You can turn program knob to 2nd position to continue with step2.

*During this step if EPS detects high water level, overflow algorithm is applied and E04 is released.

Step2:
Drain pump is activated; in case of a pump failure it pops up E03 error.

At the end of pump activation, "SAU" visualization should make slow blink to indicate that the step is over. You can turn program knob to 3rd position to continue with step3.

Step3:
Dryer Heater I and fan is activated. After 3 mins if there will be no temperature change (ΔT< 10°C), it will release E14 failure.

If temperature increases accordingly (ΔT > 10°C), "SAU" visualization should make slow blink to indicate that the step is over. You can turn program knob to 4th position to continue with step4.

Step4:
Dryer Heater II and fan is activated. After 3 mins if there will be no temperature change (ΔT< 10°C), it will release E14 failure.

If temperature increases accordingly (ΔT > 10°C), "SAU" visualization should make slow blink to indicate that the step is over. You can turn program knob to 5th position to continue with step5.

Step5:
Rapid 15’program algorithms is run to test all washing components, the only difference is error codes are displayed which normally are not displayed to end user.

If no error found in test program ”SAU" visualization should make slow blink to indicate that the step is over. You can turn program knob to 6th position to continue with step6.

Step6:
A 5 mins drying program is run to test all drying components.

If case of no error service autotest ends and "End" is displayed.

*If user changes the selector position, machine will do what is defined for the new selected position.

5.1. Service Autotest

End users can only see E1-E2-E3-E4. During service autotest, other failures can be seen.

1. To activate service autotest, Press SW2 button and simultaneously position program knob to 1.
2. After 3 sec, door will be locked , after door is locked, all leds will be fix OFF and machine will get into service autotest mode.

	Selector Position 1	Selector Position 2	Selector Position 3
	Result	Result	Result
	HEATER ON	PUMP ON	TEST PROGRAM ON
Comments :	When entering in service test, door will be locked.		TEST IS OVER Door will be unlocked, machine will go to END state.

The test steps are as below ;

Step 1 :

Selector position 1 will be “HEATER ON”
Before heating it should take water till first level frequency then start heating.
Heater will be on max. 8 minutes.If temperature doesn’t increase 2°C in 8 minutes,machine will give NTC failure. (E05).
Or if the NTC connection is broken then it should give again E05 NTC failure.
L2 and L4 should fast blink during E05 error.
At the end of heating, "SAU" visualization should make slow blink to indicate that the step is over.
Note : If user changes the selector position, machine will do what is defined for the new selected position.

Step 2 :

Selector position 2 will be “PUMP ON”
Temperature will be measured, if it is higher than 50°C, it should take 80sec. cooling water and then make "Drain+ 5sec.)

At the end of pump activation, "SAU" visualization should make slow blink to indicate that the step is over.

Step 3 :

Selector position 3 will be “RAPID 15' ”
So machine will make exactly the same algorithm of Rapid 15'.
So, time for selector position 1 is 15 minutes.
At the end of Rapid 15' the door will be unlocked and machine will go to END mode.

LD1 ➔ Star/ Pause Led ➔ Slow Blink
LD2 ➔ Wash Phase Led ➔ Slow Blink
LD3 ➔ Rinse Phase led ➔ Off (Except Rinse program. For Rinse program L2 makes slow blink)
LD4 ➔ Spin Phase Led ➔ Off (Except Spin program. For Spin program L4 makes slow blink.)
LD5 ➔ Delay Timer Led ➔ Off (If it is selected ➔ On)
LD6 ➔ Function Led ➔ Off (If it is selected ➔ On)

5.2. Failure Codes

Error Indication	Error Number	Indication in UI	Indication in SI
Door/Door Lock Failure	E01	A	A
Lack of water	E02	A	A
Pump failure	E03	A	A
Overflow	E04	A	A
NTC or Heater Failure	E05	NA	A
Motor Failure	E06	NA	A
Configuration Failure	E07	NA	A
Motor Triac Failure	E08	NA	A
Voltage Error	E09	A	A
Electronic Pressure Sensor	E10	NA	A
Dryer Board Connection Failure	E11	NA	A
Dryer Thermostat Failure	E14	NA	A
Twinjet Failure	E15	NA	A
Dryer Overheated Failure	E16	NA	A
Flowmeter Failure	E17	NA	A
Dryer NTC Failure	E18	NA	A

6. Critical Torque Values

	Assembly Location	Bolt/Nut/Screw	Torque Min. (Nm)	Torque Nom. (Nm)	Torque Max. (Nm)	Air Pressure Wrench Speed (rpm)
*	Transport Screw Assembly	Transport Screws	6.50	6.50	7.00	1000
*	Motor Assembly	Motor Screws	6.00	6.50	7.50	800
*	Front Concrete Weight - Front Tub Assembly	Front Counterweight Screws	14.00	14.50	14.75	600
*	Upper Counter Weight Assembly	Upper Counterweight Screws	25.00	27.50	30.00	440
*	Pulley – Drive Shaft – Washing Group Assembly	Pulley – Drive Shaft Assembly Bolt	39.50	40.00	40.50	440
*	Washer Heater Assembly	Heater Assembly Nut	3.85	4.00	4.00	970

The bolts/nuts above are important for product safety purposes. Please tighten screw, bolts and nuts according to the torque values given in table above.

7. Disassembly and Assembly Instructions

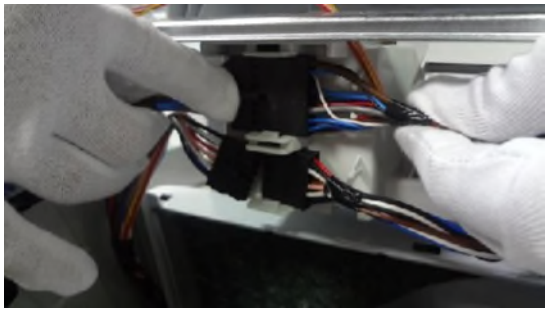
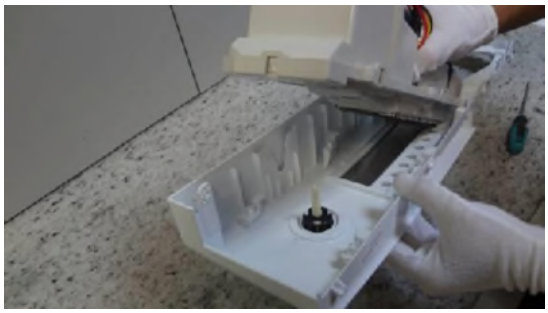
7.1. Top Plate

1		2	
	Remove two screws that fix the top-plate at the back.		Push the top-plate back and pull it up.

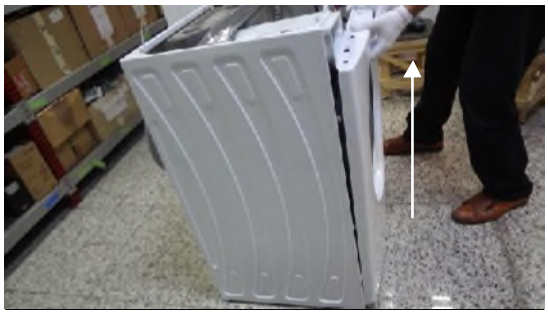
7.2. Door

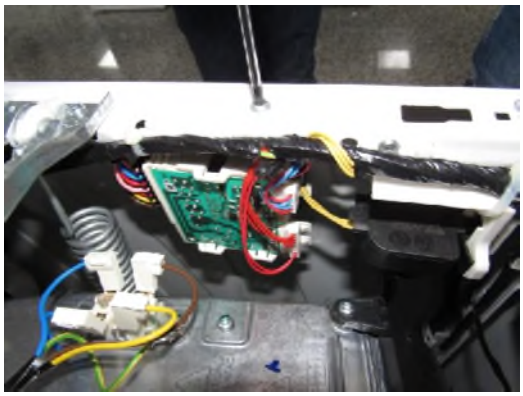
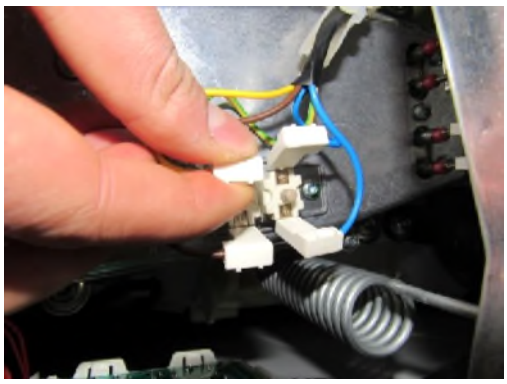
1	   T25	2	
	Remove two screws that fix the door. (by using T25 tool)		Pull the door up.
3		4	
	Remove screws that fix the door group.		Put the door outside plastic with helping screwdriver.
5		6	
	Remove the door inside plastic.		Remove six screws that fix the door hinge.

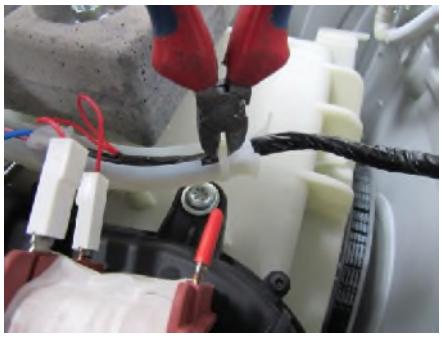
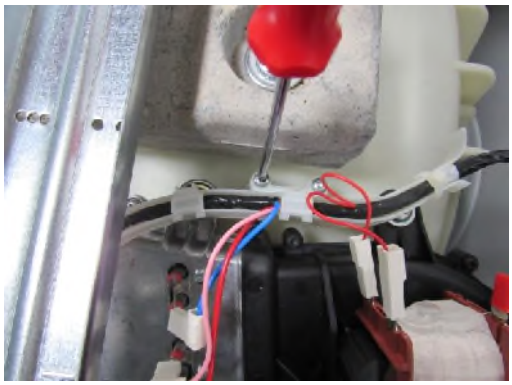
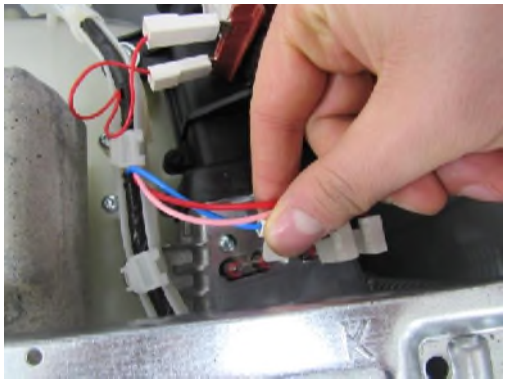
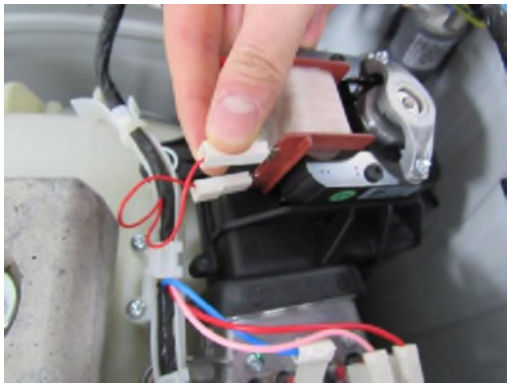
7*		8*	
	Remove the door handle.		Remove the door handle pin.
7.3. Spring Wire			
1		2	
	First, remove the spring wire fixing the tub bellows seal by using the small size screw driver. Pull the tub bellows seal.		Remove the tub bellows seal-body fixing spring.
7.4. Detergent Drawer			
1		2	
	Gently pull the detergent drawer.		While pressing siphon cover keep pulling drawer to remove it.
7.5. Control Panel			
1		2	
	Remove the screw which fixes the control panel to the front panel.		Remove two screws fixing control panel.

3		**4**	
	Pull the control panel out.		Remove connectors.
5		**6**	
	Remove electronic card cover as it is shown in the pictures by using small screw driver.		Remove the PCB card box from the control panel.
7.6. Electronic Card & Fuse			
1		**2**	
	Remove PCB box using a small screw driver.		
3		4	
	Unplug display card connector.		Open fuse box and remove the fuse.

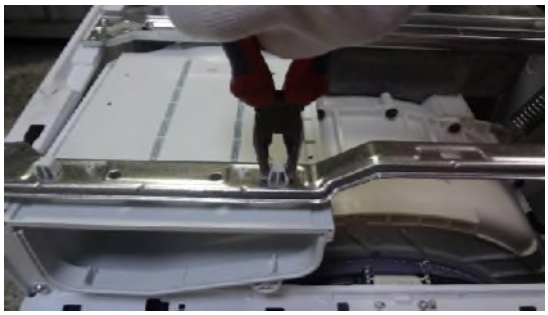
7.7. Front Panel

1		**2**	
	Remove the screw fixing the front panel at the bottom		Remove two screws fixing the door lock
3		**4**	
			Remove the tub bellows seal.
5		**6**	
	Remove two screws fixing front panel to body		Remove the screw fixing twinjet elbow
7		**8**	
	Pull front panel up		Remove front panel

9		**10**	
	Remove the screw that fixes the pump filter cover.		Release the holder of the pump filter cover.
7.8 Dryer Card			
1		**2**	
	Remove the screws that fixes the dryer card		Remove the sockets.
7.9 Dryer Unit			
1		**2**	
	Remove the screws that fixes the heater unit of the dryer		Remove the sockets of the heater unit

2		**3**	
	Remove the screws that fix the fan group.		Release the cable group by cutting the cable connection.
4		**5**	
	Remove the Cable group of the dryer unit		Remove the sockets of the heater group
6		**7**	
	Remove the sockets of the fan group.		Remove the screws that fix the fan group.
8		**9**	
	Cut the connection plastic of the dryer unit.		Cut the cable connection of the dryer NTC and remove the sockets.

7.10 Support Bracket

1		2	
	Remove two screws fixing the body group on the upper part		Remove two clips fixing detergent drawer housing to upper support bracket

7.11 Detergent Drawer Housing

1		2	
	Remove the tub bellow hose by releasing the holder extensions of bellow hose		Unplug connectors from feed valve
3		4	
	Slightly turn the feed valve counter-clockwise to remove		Remove the detergent drawer housing assembly

7.12 Power Cable Group and EMI Filter

1		2	
	Remove the five conectors that is connected to the EMI filter		Remove two screws fixing EMI filter.

3		**4**	
	Pull the power cable group up		Remove EMI filter
7.13 Electronic Pressure Switch (EPS)			
1		**2**	
	Unplug EPS connector		Pull EPS up
3			
	Remove clamp from EPS hose		
7.14 Door Lock*			
1			
	Unplug door lock connector		

7.15 Drain Pump

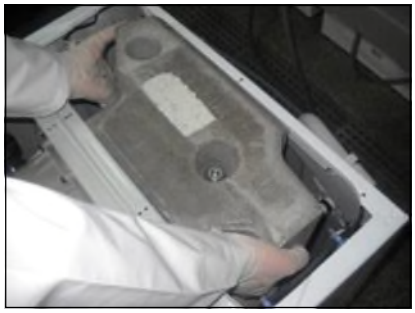
1		**2**	
	Remove clamp holding drain hose by using a plier		Remove clamp fixing tub outlet hose
3		**4**	
	Unplug drain pump connector		Remove screws holding drain pump

7.16 Front Counterweight*

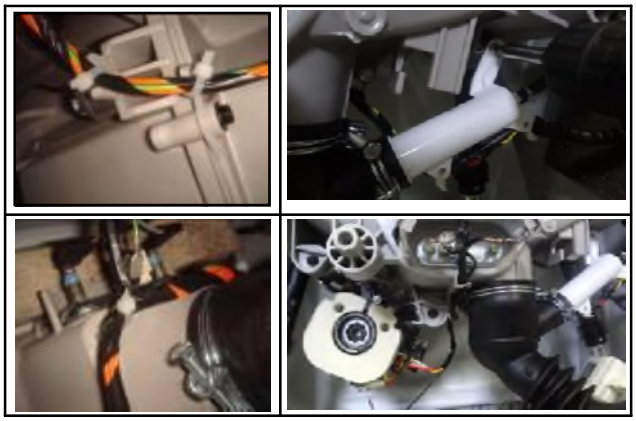
1		**2**	
	Remove three screws on the front counterweight. (Wrench size 13 mm)		Gently pull counterweight out

7.17 Heater

1		**2**	
	Unplug heater connectors		Remove nut (8 mm) fixing the heater

3			
	Pull heater out gently holding both sides.		
7.18 Tub Bellow Seal*			
1		**2**	
	Remove the tub gasket clip by using small screwdriver		Hold the tub bellows seal and gasket-body fixing spring together, and pull them out.
7.19 Transport Screw			
1		**2**	
	Remove four transport screws		Hold the transport screw and pull it out.
7.20 Upper Counterweight*			
1		**2**	
	Remove two screws fixing the upper counterweight by using box wrench size 13 mm		Hold and carry upper-counterweight out.

7.21 Washing Group

1		2	
	Unplug motor connectors		Cut all the cable ties which fix cable group
3		4	
	Remove the screws fixing hanger bracket		Remove the washing group carrying it out through front side

7.22 Shock Absorber Pin

1	
	Remove shock absorber pins squeezing the ratchet by a pliers

7.23 Driven Pulley

1	
	Remove the belt rotating the driven pulley

7.24 Driven Pulley

1		1	
	Remove the bolt at the center of pulley by tucking a wooden bar avoids rotation		Remove pulley

7.25 Motor

1		**2**	
	Remove two screws holding motor by using box wrench		Pull motor up

7.26 Tub

1		**2**	
	Remove tub inlet bellow hose loosening the clamp squeezing it by using a pliers		Remove screw holding EPS reservoir
3		**4**	
	Remove tub outlet bellowed hose loosening screwed-clamp		Remove 19 screws around tub using box wrench size 8 mm
5		**6**	
	Remove front tub		Remove drum

8. Component Specifications

8.1. Drain Pump

Drain pump is both a mechanical and electrical component which is used to drain water inside the washing machine. It has an synchronous motor inside. For better performance maintanance, pump filter should be cleaned regularly.

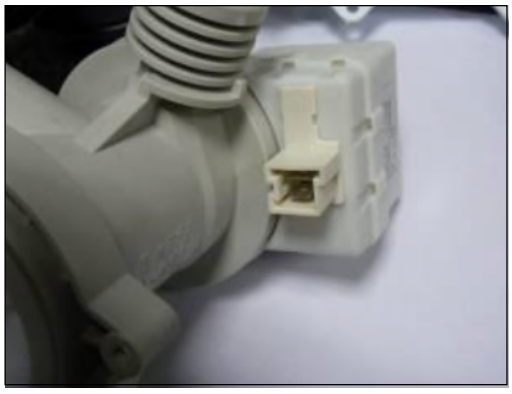
Drain pump

Technical features

Nominal voltage	220-240 V	Resistor (coil)	125 Ω (±5%)
Nominal current	0.28 A (±10 %)	Water flow	17 L/min(to 1 m height)
Nominal power	30 W (±20 %)		
Frequency	50 Hz	Thermal protector	YES

Testing component

Check the resistance value on the component with multimeter as shown below.
Resistance value should be between 125 Ω (±5%)



8.2. Heater

Heating element (Resistance) is a component which is desingned to regulate temperature of water inside the drum. It has three connections: Phase, notral and ground connections.

Resistance

Technical features

Heater type	Tubular heating element with NTC – sensor	Nominal power	2000 W ±5%
		Resistance	26.4 Ω ±5%
Nominal voltage	230 V	Termal fuse	2 sided

Testing component

Check the resistance value on the component with multimeter as shown below.
Resistance value should be between 26.4 Ω ±5%

8.3. Washer NTC

The component which sends signals to PCB about the water temperature inside the tub. The resistance value of the NTC decreases as the temperature increases.

NTC

Technical features

Temp. (°C)	R min (kΩ)	R max (kΩ)
-10	54.9	62.6
-5	43.0	48.6
0	33.9	38.1
5	27.0	30.1
10	21.6	23.9
15	17.4	19.1
20	14.1	5.4
25	11.5	12.5
30	9.4	10.2
35	7.8	8.3
40	6.4	6.9
45	5.4	5.7

Temp. (°C)	R min (kΩ)	R max (kΩ)
50	4.5	4.7
55	3.8	3.9
60	3.2	3.3
6	2.7	2.8
70	2.3	2.4
75	1.9	2.0
80	1.7	1.8
85	1.4	1.5
90	1.2	1.3
95	1.1	1.1
100	0.9	1.0

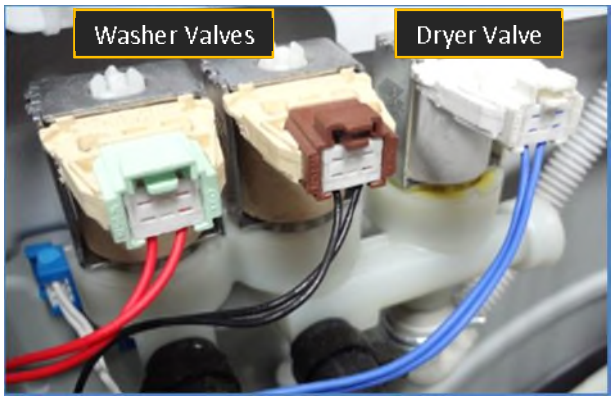
NTC Resistance vs. NTC Temperature

Testing component

Check the resistance value on the component with multimeter as shown below.

8.4. Valve

Valve is an electrical and mechanical component which is designed to take water from network system into the washing machine. It is operated by PCB card.



Valves

Technical features

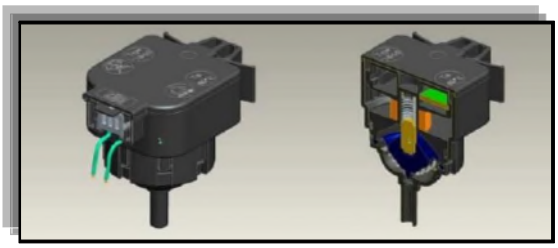
Nominal voltage	220-240 V	Flow rate (washer valves)	7 L/min (±15 %)
Frequency	50-60 Hz	Flow rate (dryer valve)	1.2 L/min (±15 %)
		Operating water pressure	1-10 bar

Testing component

Check the resistance value on the component with multimeter as shown below. Washer valves' water flow rate should be 7 L/min ±15%. Dryer valve's water flow rate should be 1.2 L/min ±15%. Washer valves' coil resistance values should be 3750Ω ±10%. Dryer valve's coil resistance value should be 5190Ω ±10%.

8.5. Electronic Pressure Sensor (EPS)*

Electromagnetic field occurs due to movement of pressurized membrane. The coil moves vertically by nucleus due to electromagnetic field. The water level is regulated according to the frequency changes of the coil by electronic card.



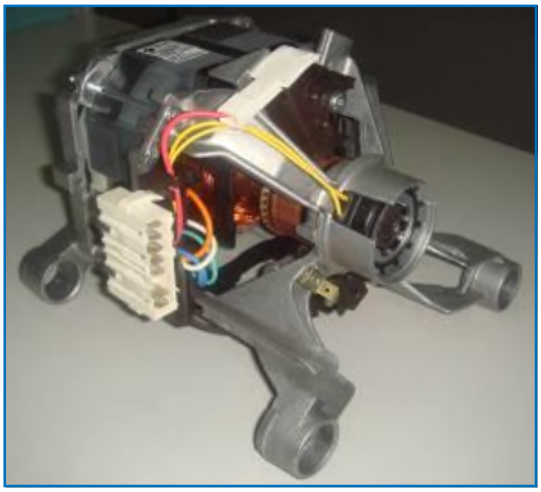
EPS

Testing component

1. Make sure there are no laundry in washing machine, tap is connected and opened, power cord is plugged. Put no detergent in drawer.
2. Bring porgram knob to position 1 (Cotton 90°C program)
3. Press start button.
4. Wait for water intake step to finish. You can recognise it by listening the water sound or slightly opening and observing detergent drawer.
5. As soon as water intake is over turn program knoc to position 0 (Off position)
6. Check water level from door glass. The water level should be just below door glass as seen in the picture below: (There is a %10 tolerance with this level) 32013066

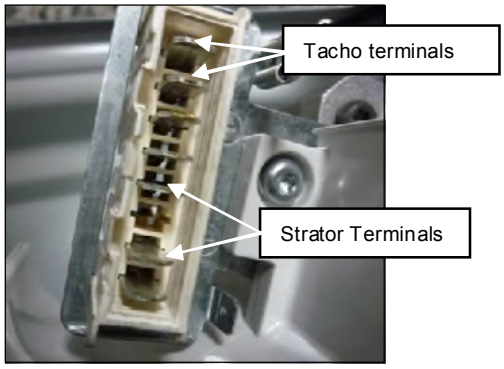
8.6. Motor

The washing machine has an asynchronous motor. It is controlled by the PCB. It is essential to check the motor for correct diagnosis and quick servicing. In the below picture, socket points on the motor is shown to measure with multimeter.



Motor

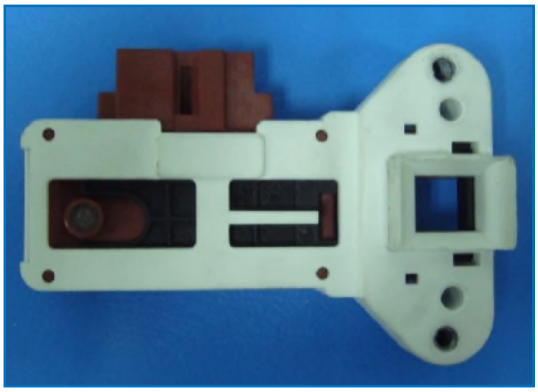
Motor socket terminals



MOTOR CODE	BRAND	STATOR (FULL) Ω	TACHO Ω	STATOR (HALF) Ω	TEMP.
32013066	ANAIMEP	1.20±7%	180±7%	0.55±7%	20 °C

8.7. Door Lock*

Door lock is activated at the beginning of the program in order to prevent the door from opening. It can be unlocked between 45 seconds to 85 seconds after the program end. This time delay is caused by the PTC which is assembled in the door lock.



Door lock

Technical features

Nominal voltage	250 V

Testing component

Check the resistance value on the component with multi-meter as shown in below figures. Resistance value should be 1000Ω ±50% at 20 °C.

8.8. Fan Group

Air pump component for drying cycle. Pumps dry cold air from condenser to dryer heater.

Fan group

Technical features

Nominal voltage	230 V	Resistance @ 20°C	82.7Ω ±3Ω
Frequency	50 Hz	Motor speed	1300 RPM
Rated Power	34 W	Air Flow Rate	70 m^3/h

Testing component

Check the resistance value on the component with multi-meter as shown in below figures. Resistance value should be 82.7Ω ±3Ω at 20 °C.

8.9. Dryer Heater

Air heater unit consist of two separate resistance with nickel diffusion technology.

Dryer Heater

Technical features

Nominal voltage	230 V	Resistance @ 20°C	65.5 – 72.6 Ω
Rated power (Heater I)	750 W		
Rated power (Heater II)	750 W		

Testing component

Check the resistance value on the component with multi-meter as shown in below figures. Resistance value should be in 65.5 – 72.6 Ω range.

8.10. Dryer NTC

The component which sends signals to PCB about the flowing air temperature just after dryer heater. The resistance value of the NTC decreases as the temperature increases.

Dryer NTC

Technical features

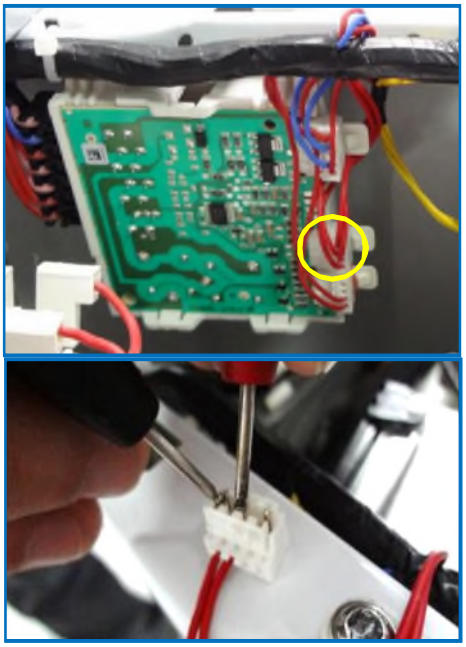
Temp. (°C)	R min (kΩ)	R max (kΩ)
25	19.40	20.60
30	15.56	16.67
40	10.19	11.10
50	6.82	7.54
60	4.65	5.23
70	3.25	3.70
80	2.32	2.68
90	1.69	1.97
100	1.24	1.47

Temp. (°C)	R min (kΩ)	R max (kΩ)
110	0.93	1.11
120	0.70	0.85
130	0.54	0.66
140	0.42	0.52
150	0.33	0.41
160	0.26	0.32
170	0.21	0.25
180	0.17	0.20

NTC Resistance vs. NTC Temperature

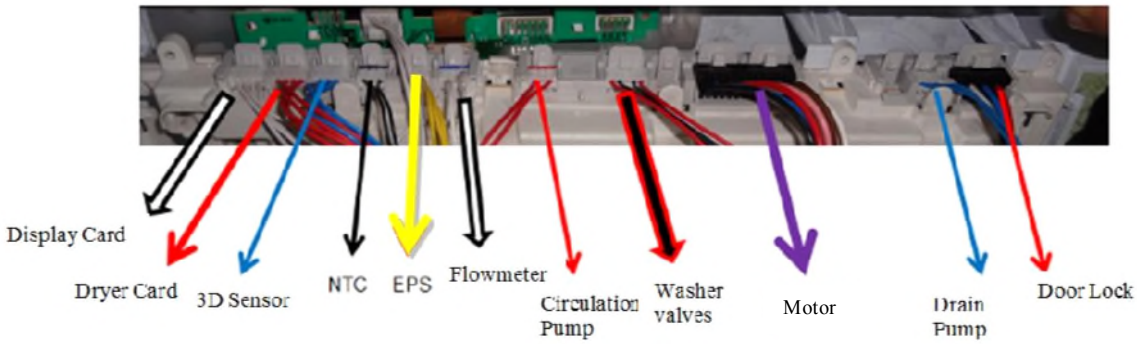
Testing component

Check the resistance value on the component with multi-meter as shown in below figures.



8.11 Component Control on PCB

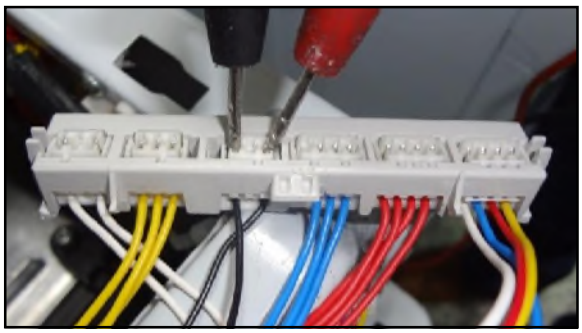
Sockets on the PCB



Scokets on the Dryer Board

8.11.1 Washer NTC

NTC resistance values are checked (black cables) as shown.
Refer to the relevant table for the NTC resistance values..



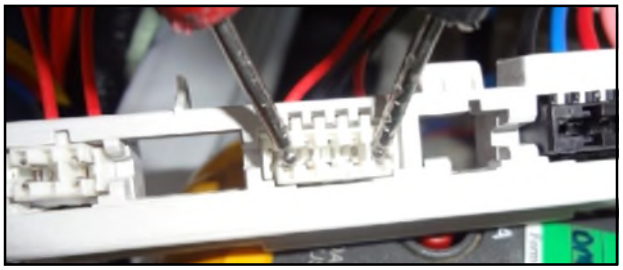
8.11.2 Circulation Pump

Resistance values are checked (red cables) as shown.

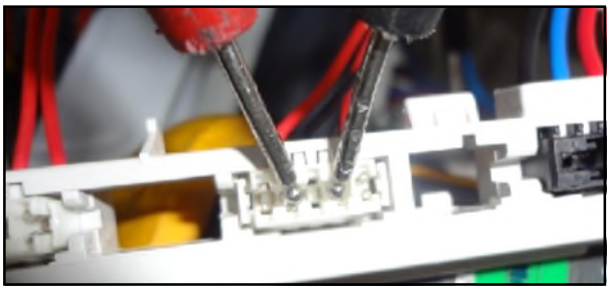
8.11.3 Washer Valves

Valve resistance value is checked with a multimeter as shown.
Washer valves resistance values : 3750 Ω +10%

Pre-Wash Valve:
Check the red cables

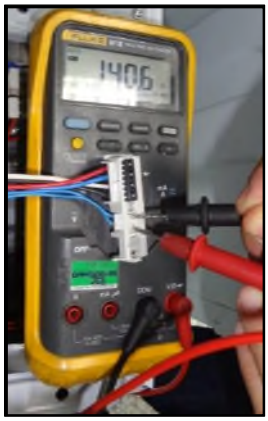


Main Wash Valve:
Check the black cables



8.11.4 Drain Pump

Check the blue-blue cables
Drain Pump resistance value: 125 - 140 Ω



8.11.5 Door Lock

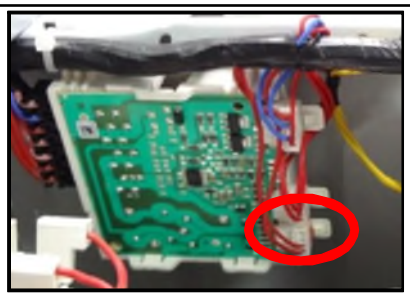
Resistance value is checked with a multimeter as shown.

Check the white and blue cables

Resistance values 240Ω ±20% (25 °C)

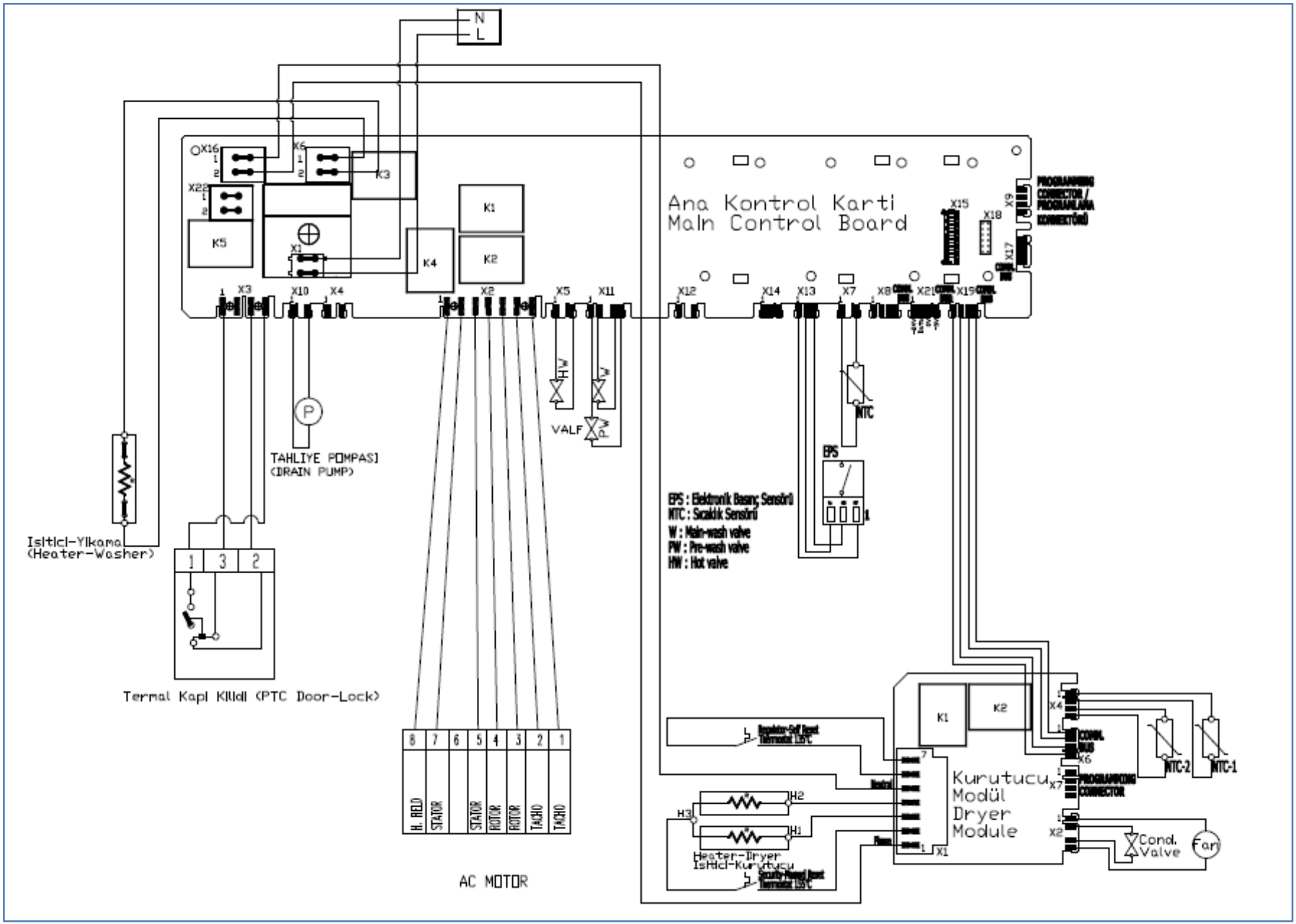
8.11.6 Dryer NTC

Component Control :
Check the socket at the bottom of the dryer board as shown.



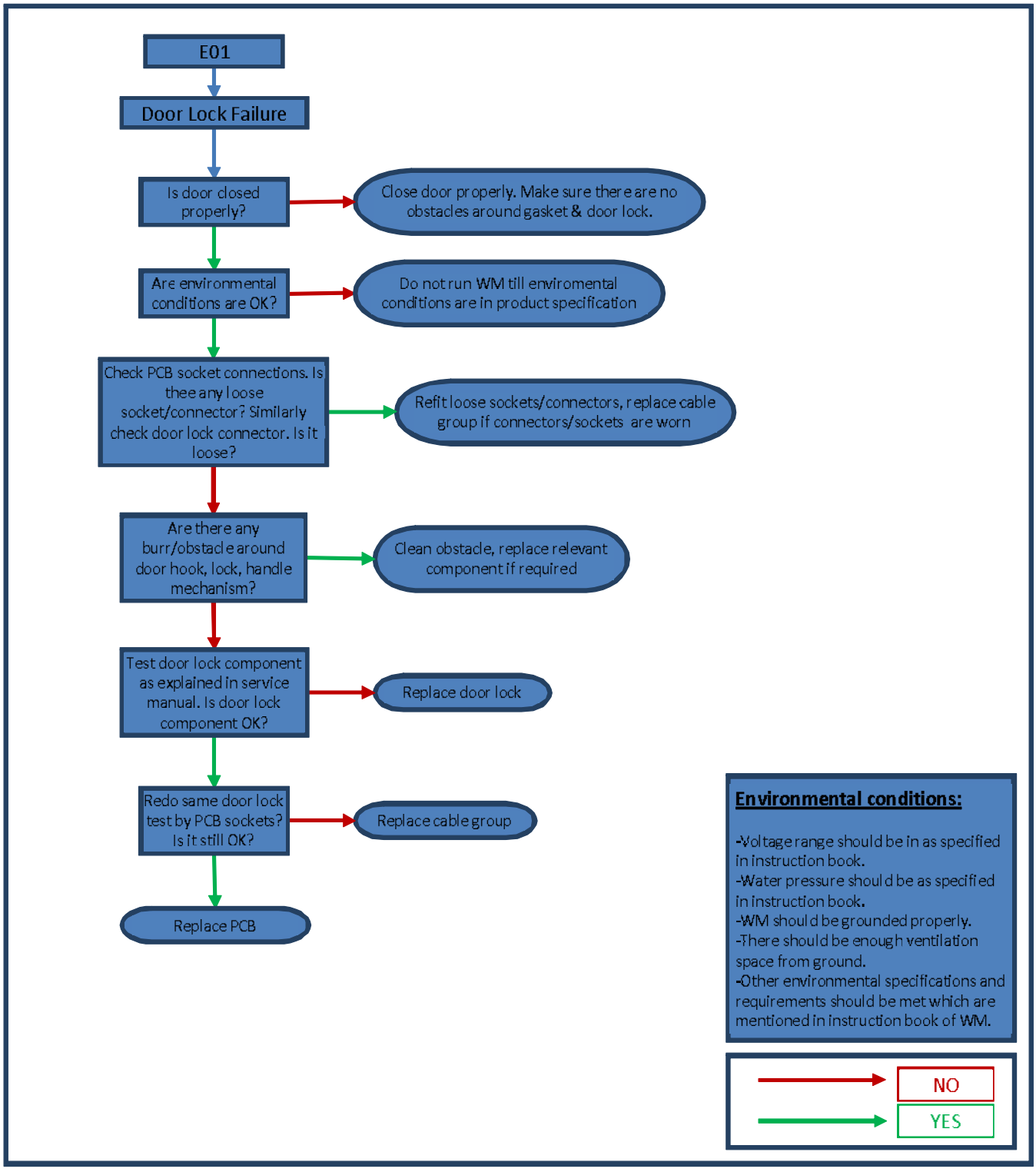
T°C	R(KΩ) MIN	R(KΩ) CEN	R(KΩ) MAX
25	19.40	20.00	20.60
30	15.56	16.11	16.67
40	10.19	10.64	11.10
50	6.819	7.176	7.544
60	4.653	4.933	5.225
70	3.246	3.466	3.697
80	2.322	2.495	2.679
90	1.688	1.825	1.972
100	1.244	1.353	1.471
110	0.9296	1.017	1.112
120	0.7042	0.7747	0.8516
130	0.5404	0.5976	0.6603
140	0.4198	0.4665	0.5180
150	0.3296	0.3681	0.4107
160	0.2614	0.2932	0.3286
170	0.2092	0.2357	0.2653
180	0.1690	0.1912	0.2161

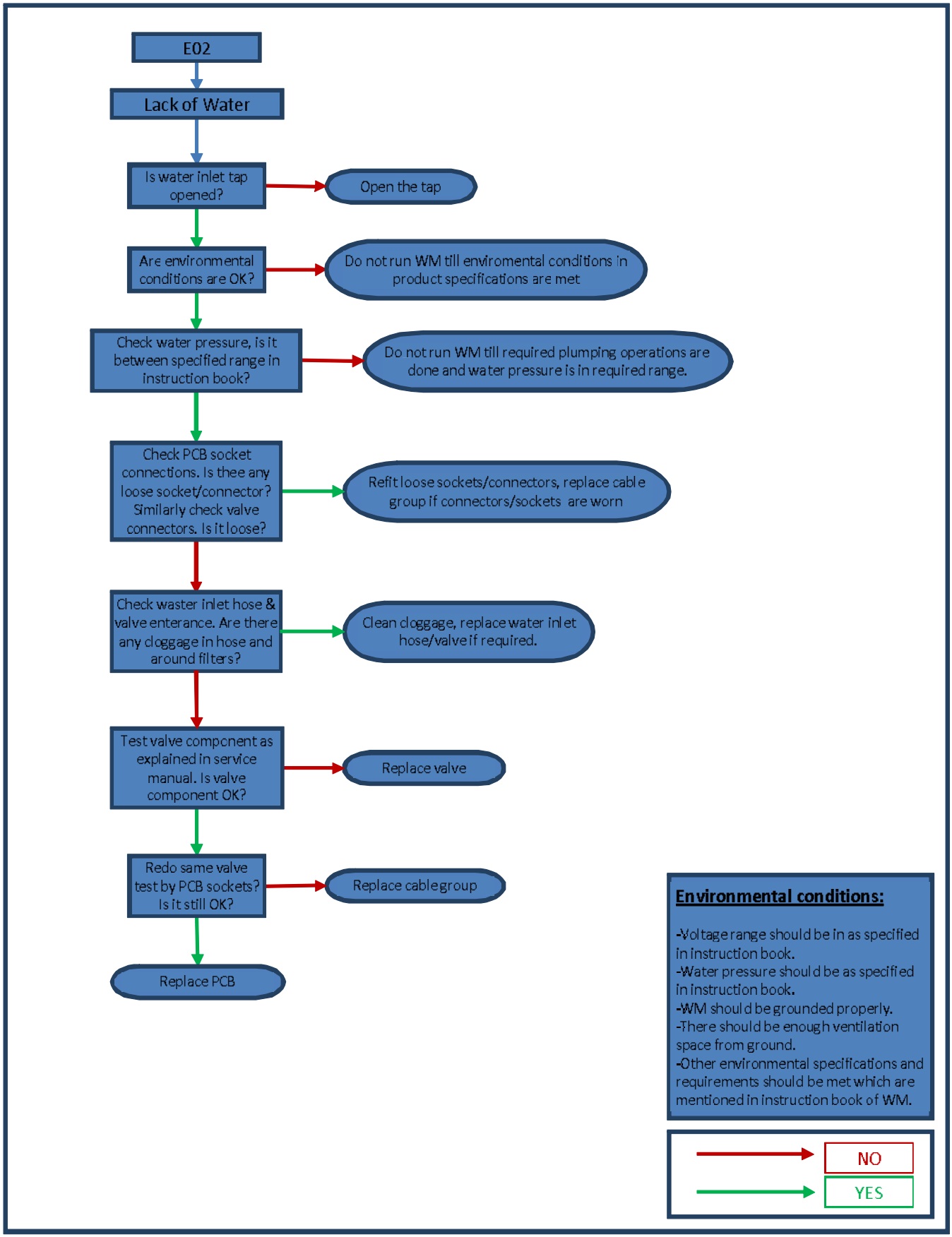
9. Wiring Diagram*

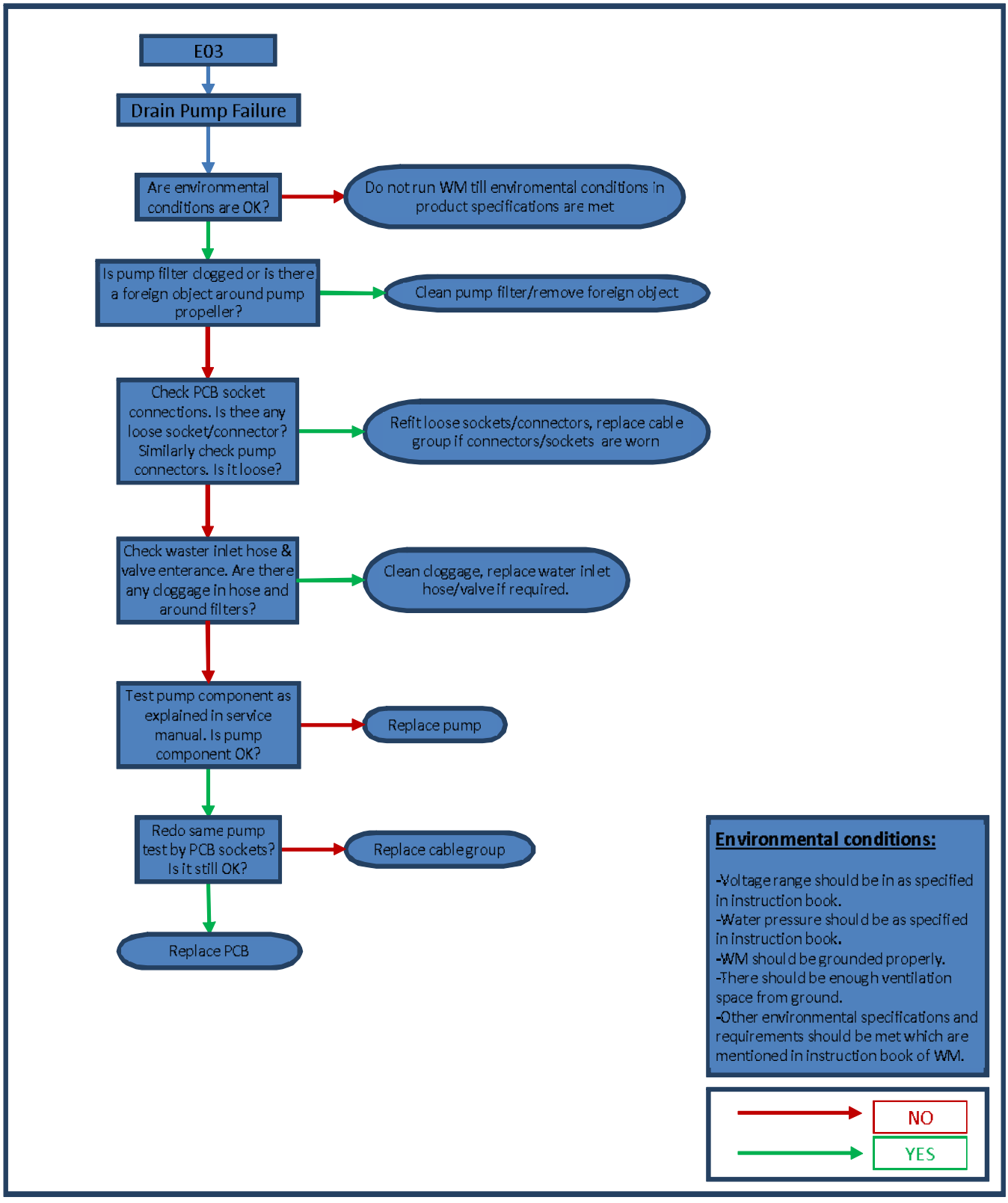


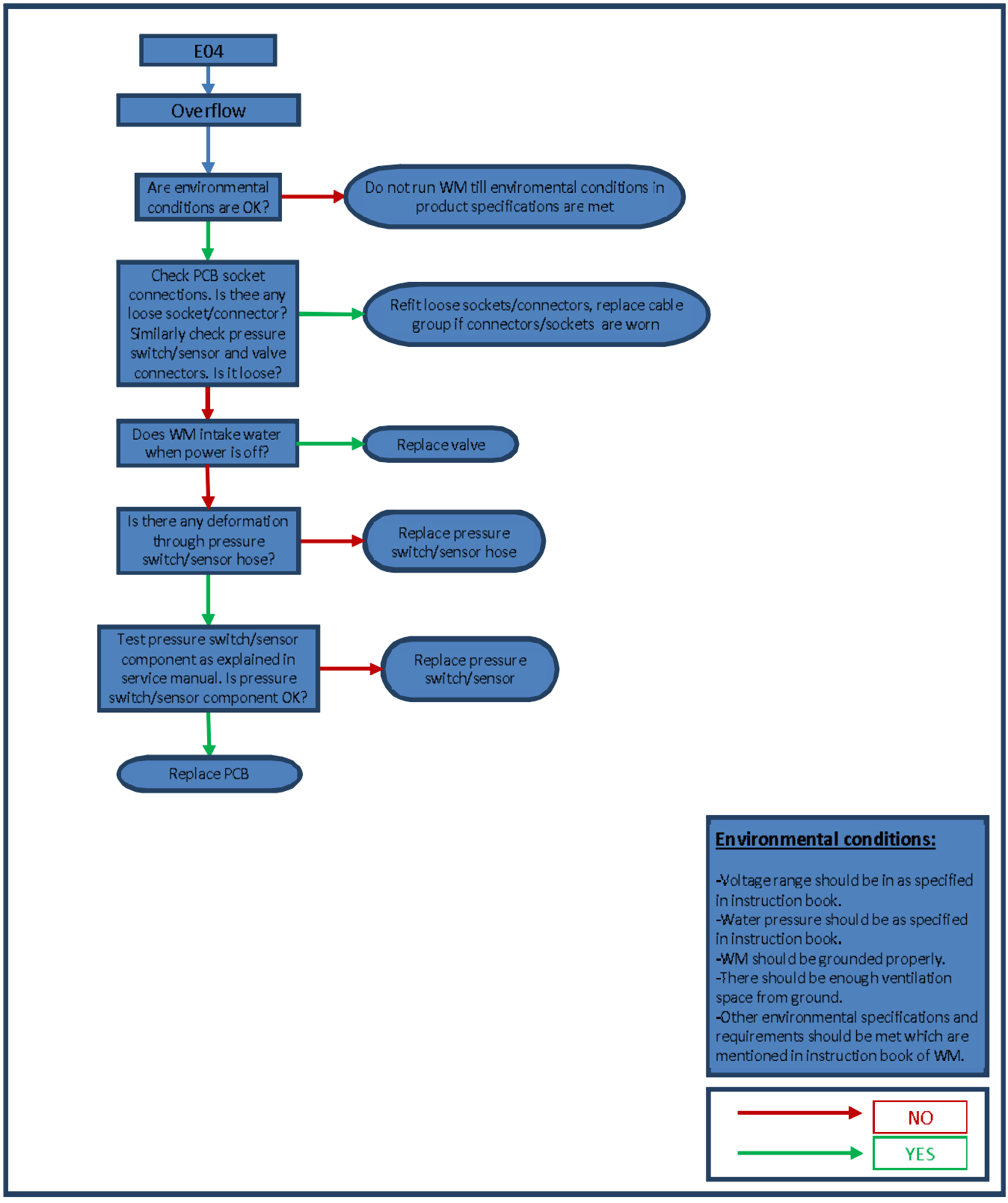
10. Troubleshooting

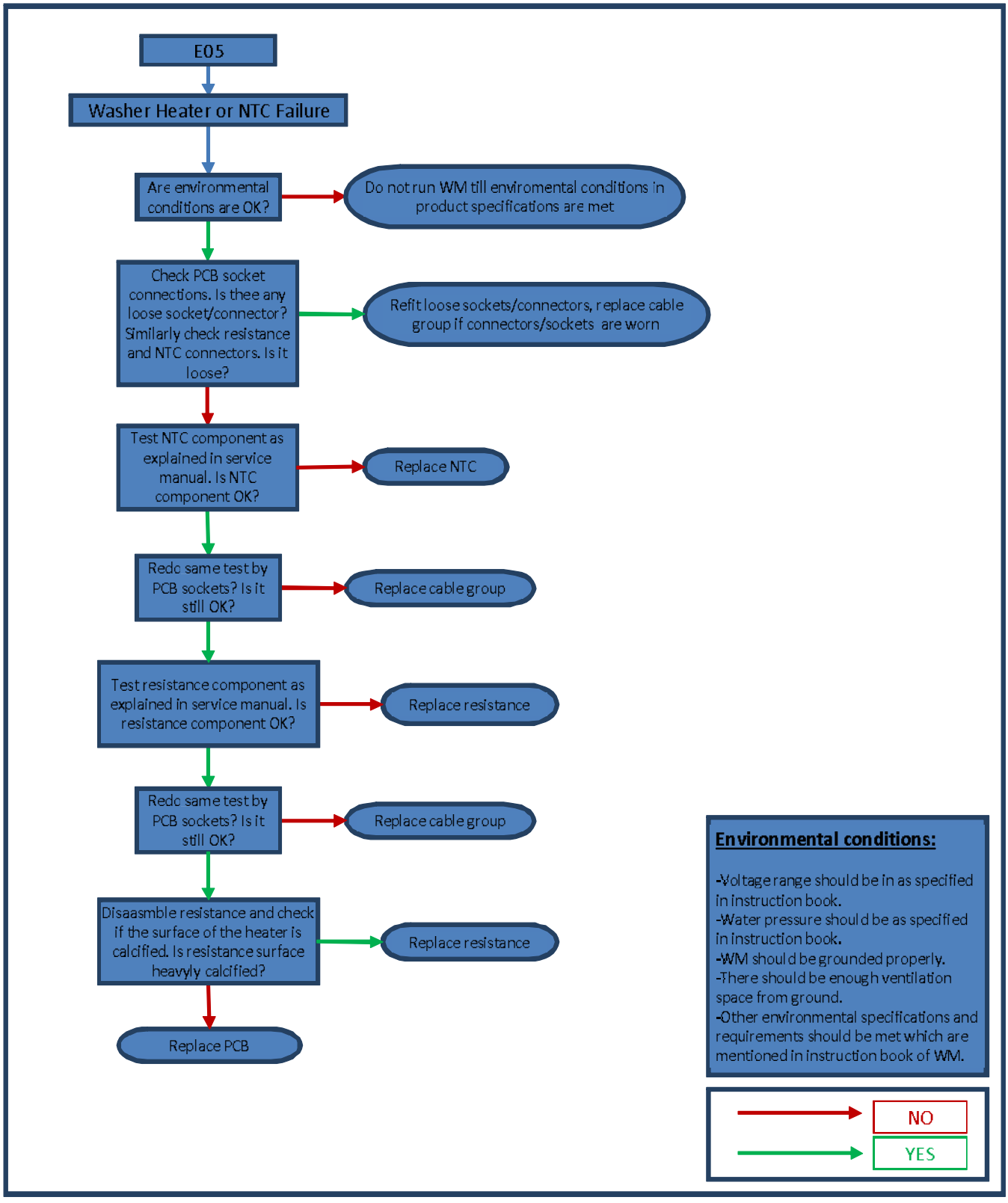
Please apply basic troubleshooting steps described in user manual. If you can not find a solution you should run service autotest and complete all steps. In case of an error encounter please follow the instructions through flowchart related with the error.

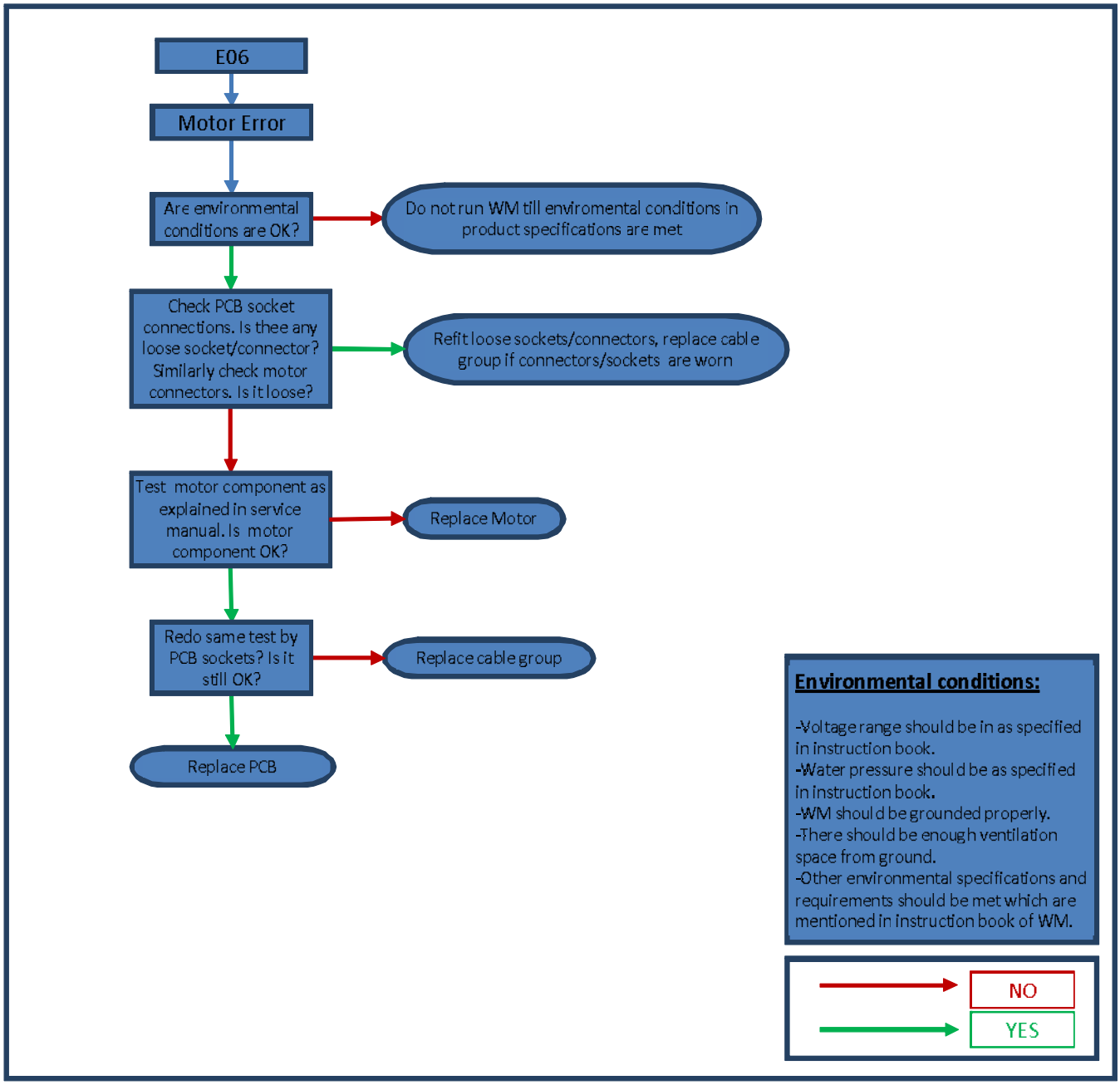


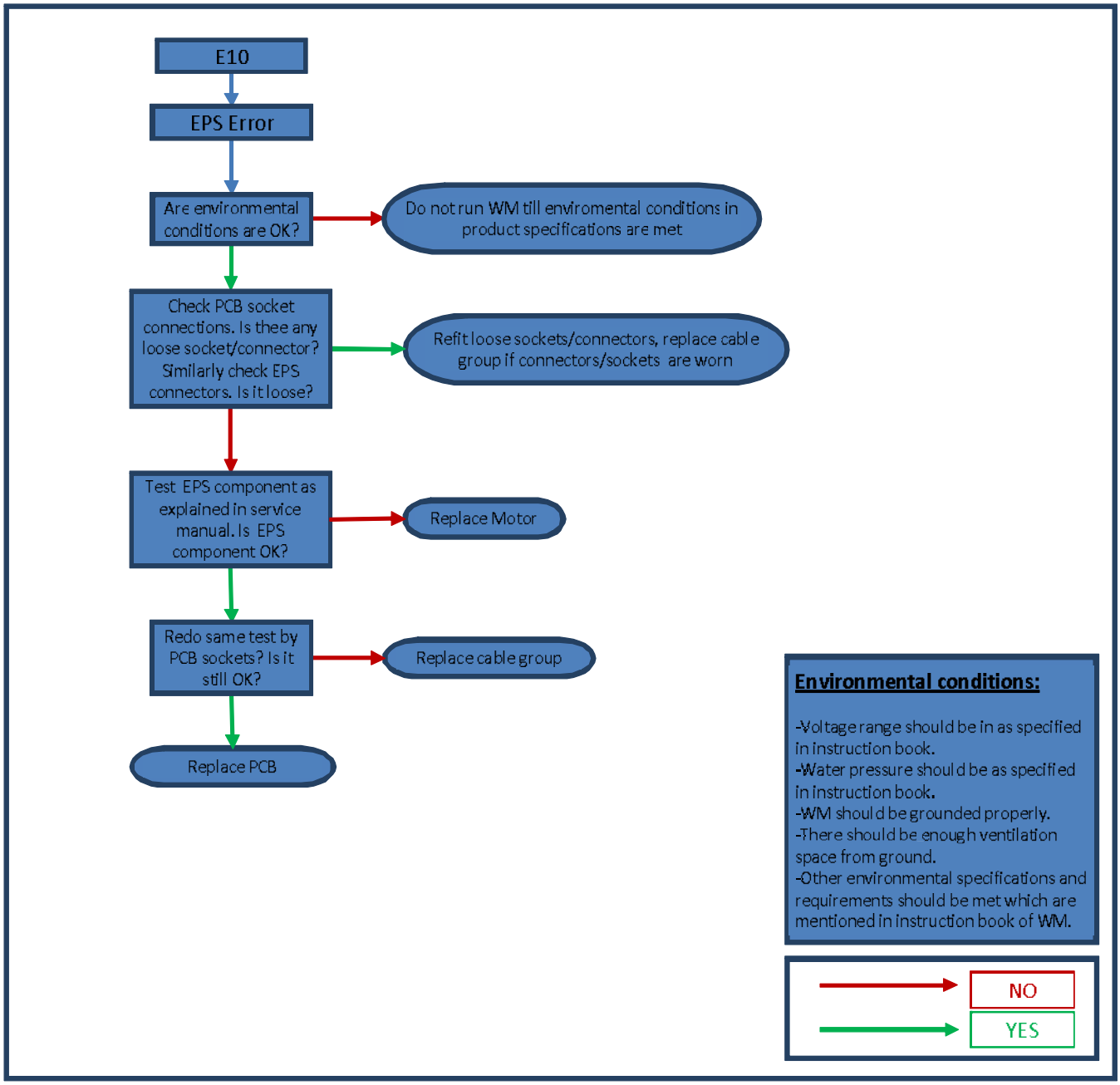

E02
Lack of Water
Is water inlet tap opened?
Open the tap
Are environmental conditions are OK?
Do not run WM till enviromental conditions in product specifications are met
Check water pressure, is it between specified range in instruction book?
Do not run WM till required plumping operations are done and water pressure is in required range.
Check PCB socket connections. Is thee any loose socket/connector? Similarly check valve connectors. Is it loose?
Refit loose sockets/connectors, replace cable group if connectors/sockets are worn
Check waster inlet hose & valve enterance. Are there any cloggage in hose and around filters?
Clean cloggage, replace water inlet hose/valve if required.
Test valve component as explained in service manual. Is valve component OK?
Replace valve
Redo same valve test by PCB sockets? Is it still OK?
Replace cable group
Replace PCB
Environmental conditions:
-Voltage range should be in as specified in instruction book.
-Water pressure should be as specified in instruction book.
-WM should be grounded properly.
-There should be enough ventilation space from ground.
-Other environmental specifications and requirements should be met which are mentioned in instruction book of WM.
NO
YES

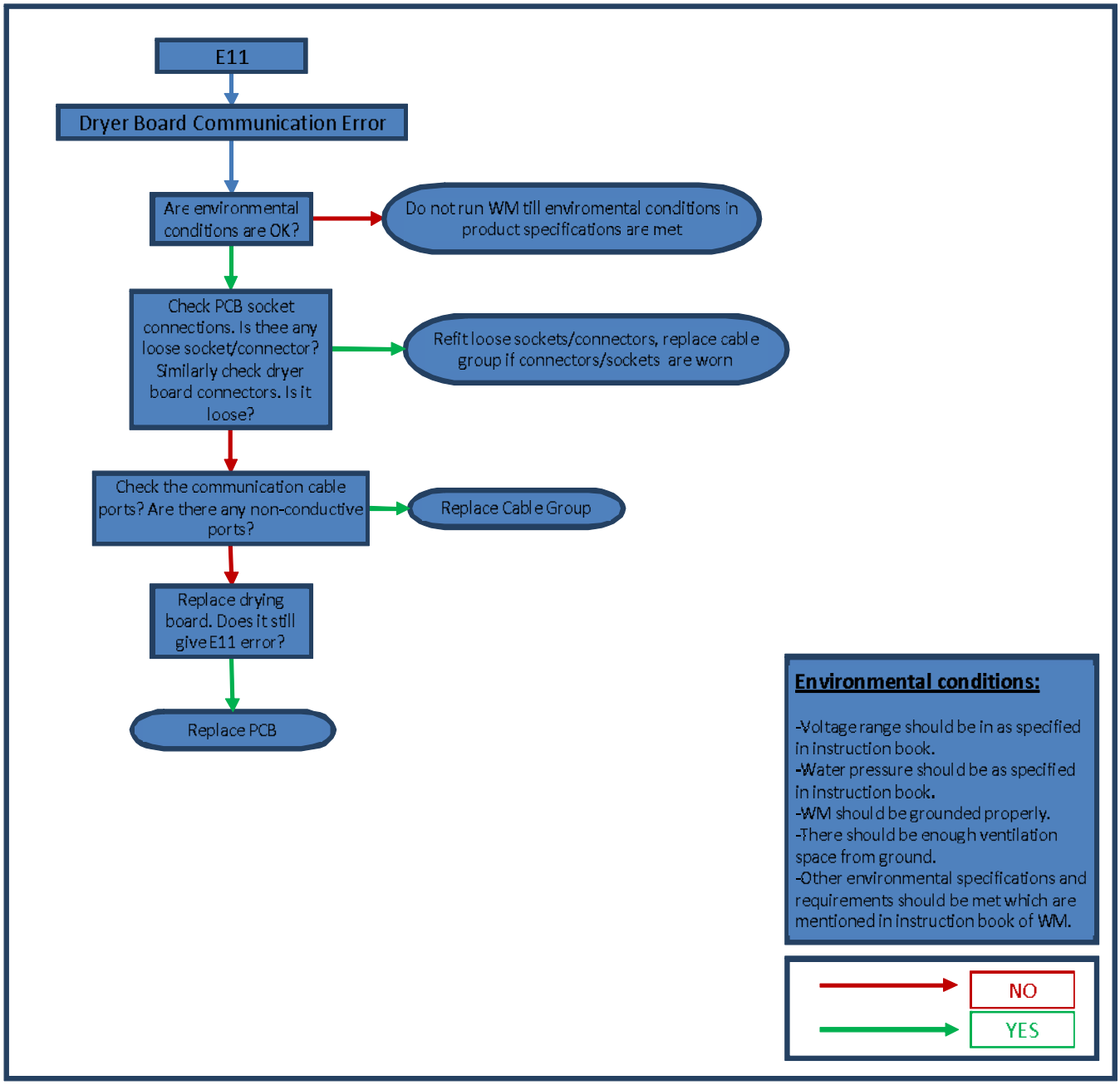

E03
Drain Pump Failure
Are environmental conditions are OK?
Do not run WM till enviromental conditions in product specifications are met
Is pump filter clogged or is there a foreign object around pump propeller?
Clean pump filter/remove foreign object
Check PCB socket connections. Is thee any loose socket/connector? Similarly check pump connectors. Is it loose?
Refit loose sockets/connectors, replace cable group if connectors/sockets are worn
Check waster inlet hose & valve enterance. Are there any cloggage in hose and around filters?
Clean cloggage, replace water inlet hose/valve if required.
Test pump component as explained in service manual. Is pump component OK?
Replace pump
Redo same pump test by PCB sockets? Is it still OK?
Replace cable group
Replace PCB
Environmental conditions:
-Voltage range should be in as specified in instruction book.
-Water pressure should be as specified in instruction book.
-WM should be grounded properly.
-There should be enough ventilation space from ground.
-Other environmental specifications and requirements should be met which are mentioned in instruction book of WM.
NO
YES

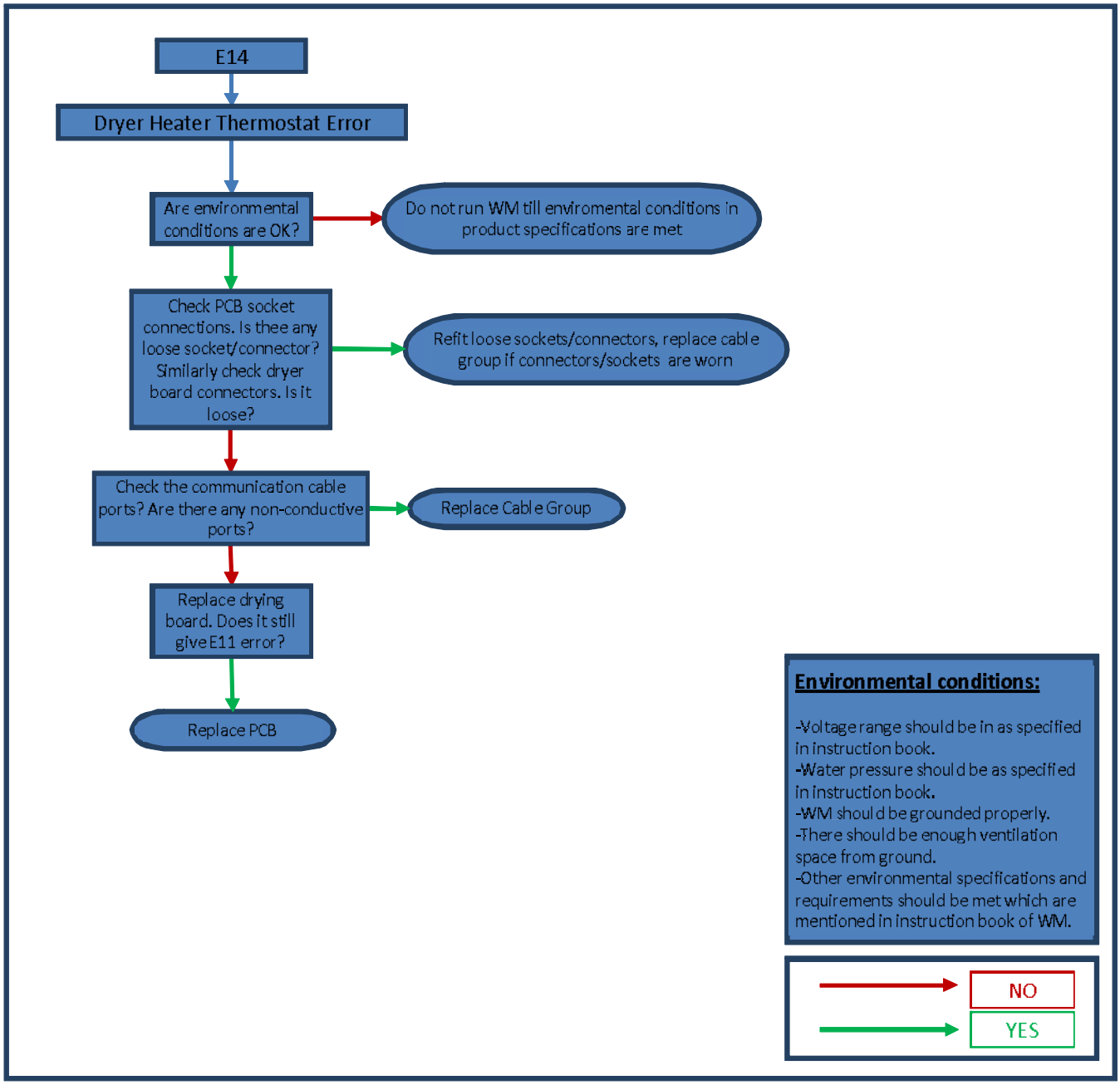

E04
Overflow
Are environmental conditions are OK?
Do not run WM till enviromental conditions in product specifications are met
Check PCB socket connections. Is thee any loose socket/connector? Similarly check pressure switch/sensor and valve connectors. Is it loose?
Refit loose sockets/connectors, replace cable group if connectors/sockets are worn
Does WM intake water when power is off?
Replace valve
Is there any deformation through pressure switch/sensor hose?
Replace pressure switch/sensor hose
Test pressure switch/sensor component as explained in service manual. Is pressure switch/sensor component OK?
Replace pressure switch/sensor
Replace PCB
Environmental conditions:
-Voltage range should be in as specified in instruction book.
-Water pressure should be as specified in instruction book.
-WM should be grounded properly.
-There should be enough ventilation space from ground.
-Other environmental specifications and requirements should be met which are mentioned in instruction book of WM.
NO
YES

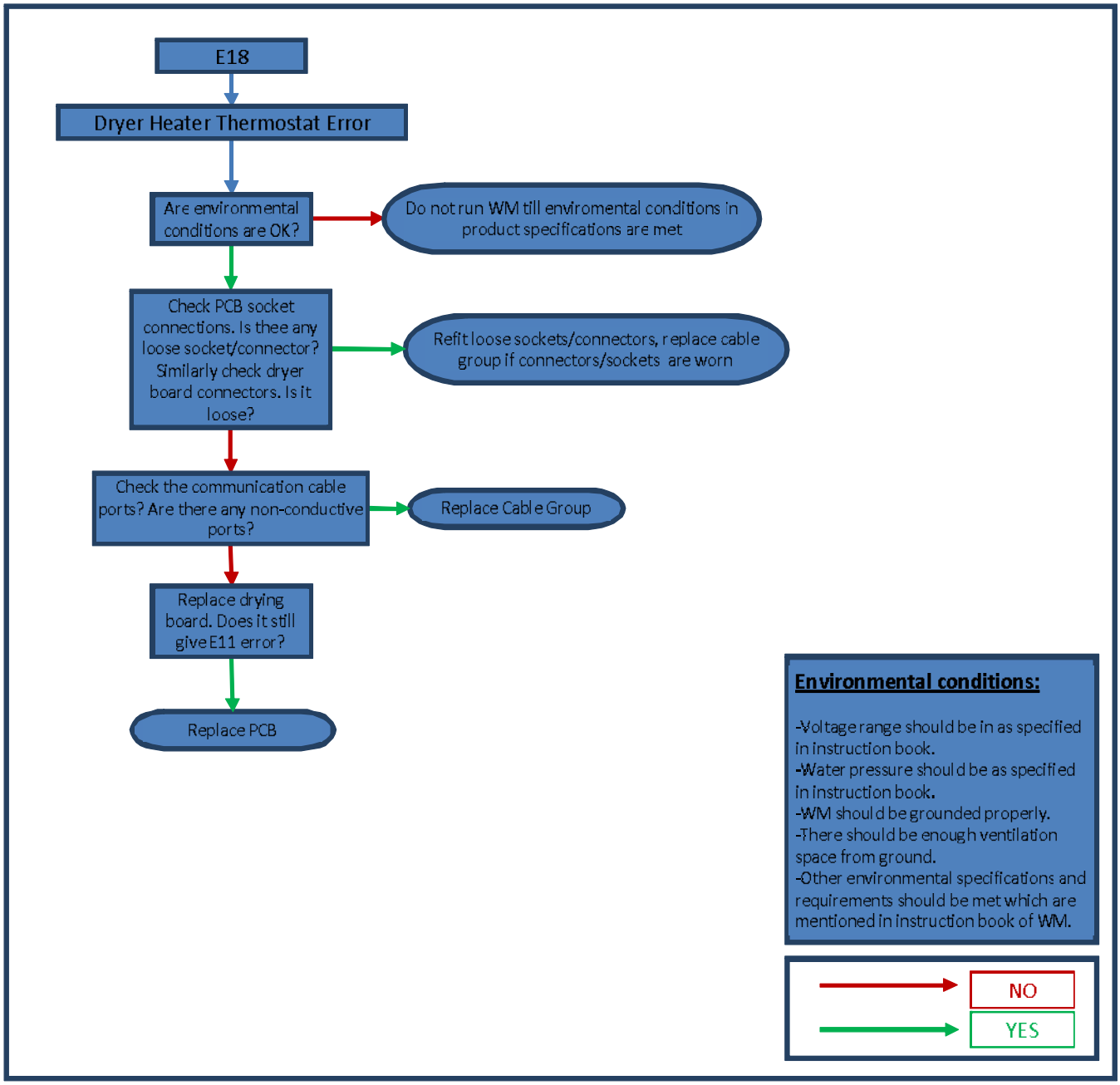

E05
Washer Heater or NTC Failure
Are environmental conditions are OK?
Do not run WM till enviromental conditions in product specifications are met
Check PCB socket connections. Is thee any loose socket/connector? Similarly check resistance and NTC connectors. Is it loose?
Refit loose sockets/connectors, replace cable group if connectors/sockets are worn
Test NTC component as explained in service manual. Is NTC component OK?
Replace NTC
Redo same test by PCB sockets? Is it still OK?
Replace cable group
Test resistance component as explained in service manual. Is resistance component OK?
Replace resistance
Redo same test by PCB sockets? Is it still OK?
Replace cable group
Disaasmble resistance and check if the surface of the heater is calcified. Is resistance surface heavyly calcified?
Replace resistance
Replace PCB
Environmental conditions:
-Voltage range should be in as specified in instruction book.
-Water pressure should be as specified in instruction book.
-WM should be grounded properly.
-There should be enough ventilation space from ground.
-Other environmental specifications and requirements should be met which are mentioned in instruction book of WM.
NO
YES


E06
Motor Error
Are environmental conditions are OK?
Do not run WM till enviromental conditions in product specifications are met
Check PCB socket connections. Is thee any loose socket/connector? Similarly check motor connectors. Is it loose?
Refit loose sockets/connectors, replace cable group if connectors/sockets are worn
Test motor component as explained in service manual. Is motor component OK?
Replace Motor
Redo same test by PCB sockets? Is it still OK?
Replace cable group
Replace PCB
Environmental conditions:
-Voltage range should be in as specified in instruction book.
-Water pressure should be as specified in instruction book.
-WM should be grounded properly.
-There should be enough ventilation space from ground.
-Other environmental specifications and requirements should be met which are mentioned in instruction book of WM.
NO
YES


E10
EPS Error
Are environmental conditions are OK?
Do not run WM till enviromental conditions in product specifications are met
Check PCB socket connections. Is thee any loose socket/connector? Similarly check EPS connectors. Is it loose?
Refit loose sockets/connectors, replace cable group if connectors/sockets are worn
Test EPS component as explained in service manual. Is EPS component OK?
Replace Motor
Redo same test by PCB sockets? Is it still OK?
Replace cable group
Replace PCB
Environmental conditions:
-Voltage range should be in as specified in instruction book.
-Water pressure should be as specified in instruction book.
-WM should be grounded properly.
-There should be enough ventilation space from ground.
-Other environmental specifications and requirements should be met which are mentioned in instruction book of WM.
NO
YES


E11
Dryer Board Communication Error
Are environmental conditions are OK?
Do not run WM till enviromental conditions in product specifications are met
Check PCB socket connections. Is thee any loose socket/connector? Similarly check dryer board connectors. Is it loose?
Refit loose sockets/connectors, replace cable group if connectors/sockets are worn
Check the communication cable ports? Are there any non-conductive ports?
Replace Cable Group
Replace drying board. Does it still give E11 error?
Replace PCB
Environmental conditions:
-Voltage range should be in as specified in instruction book.
-Water pressure should be as specified in instruction book.
-WM should be grounded properly.
-There should be enough ventilation space from ground.
-Other environmental specifications and requirements should be met which are mentioned in instruction book of WM.
NO
YES


E14
Dryer Heater Thermostat Error
Are environmental conditions are OK?
Do not run WM till enviromental conditions in product specifications are met
Check PCB socket connections. Is thee any loose socket/connector? Similarly check dryer board connectors. Is it loose?
Refit loose sockets/connectors, replace cable group if connectors/sockets are worn
Check the communication cable ports? Are there any non-conductive ports?
Replace Cable Group
Replace drying board. Does it still give E11 error?
Replace PCB
Environmental conditions:
-Voltage range should be in as specified in instruction book.
-Water pressure should be as specified in instruction book.
-WM should be grounded properly.
-There should be enough ventilation space from ground.
-Other environmental specifications and requirements should be met which are mentioned in instruction book of WM.
NO
YES


E18
Dryer Heater Thermostat Error
Are environmental conditions are OK?
Do not run WM till enviromental conditions in product specifications are met
Check PCB socket connections. Is thee any loose socket/connector? Similarly check dryer board connectors. Is it loose?
Refit loose sockets/connectors, replace cable group if connectors/sockets are worn
Check the communication cable ports? Are there any non-conductive ports?
Replace Cable Group
Replace drying board. Does it still give E11 error?
Replace PCB
Environmental conditions:
-Voltage range should be in as specified in instruction book.
-Water pressure should be as specified in instruction book.
-WM should be grounded properly.
-There should be enough ventilation space from ground.
-Other environmental specifications and requirements should be met which are mentioned in instruction book of WM.
NO
YES

PCB REPAIR INSTRUCTION

1. Disconnection

1.1 Remove the plug

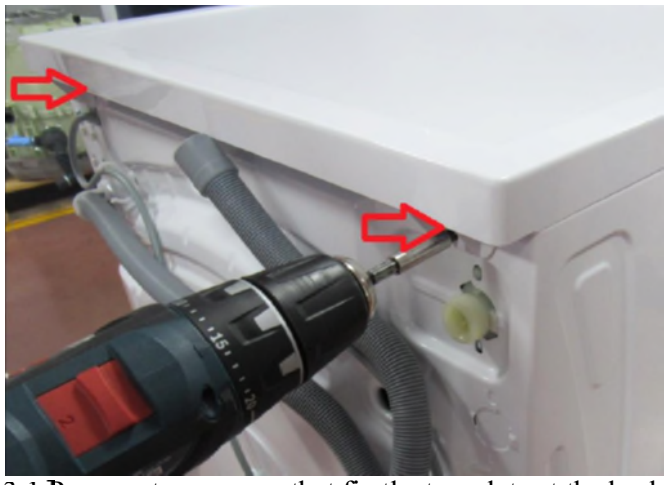
1.2 Turn off the tap and disconnect the hose from the valve

1.3 Disconnect the drain hose

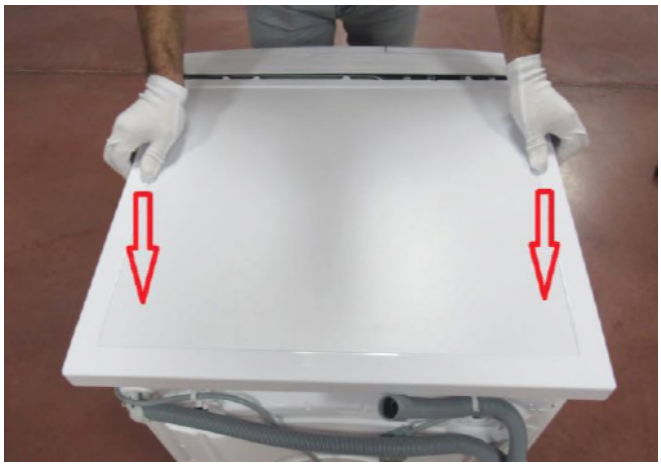
2. Necessary Tools

A. Cordless screwdriver with torx T20 head
B. or classic screwdriver with torx T20 head
C. Flat head thin screwdriver

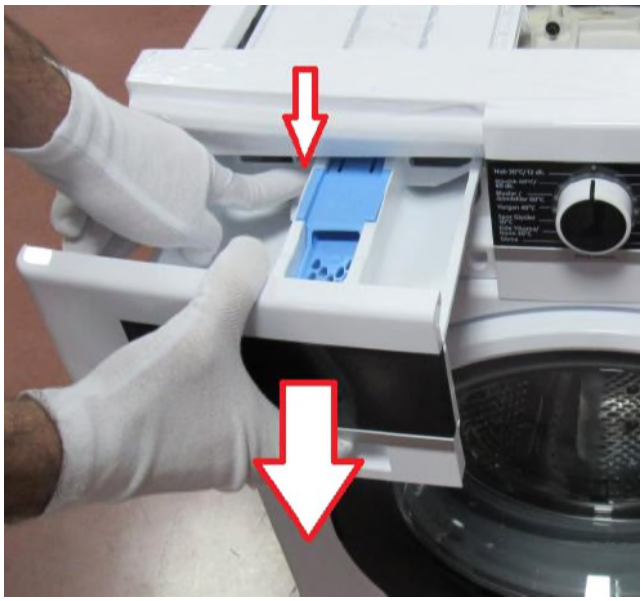
3. Disassembly Instructions



3.1 Remove two screws that fix the top-plate at the back.

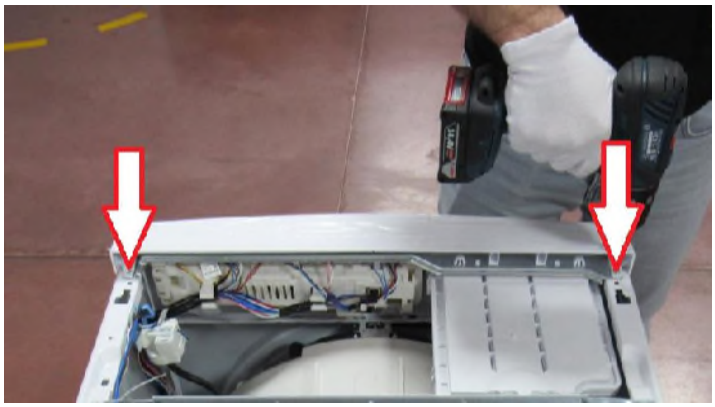


3.2 Push the top-plate back and pull it up.

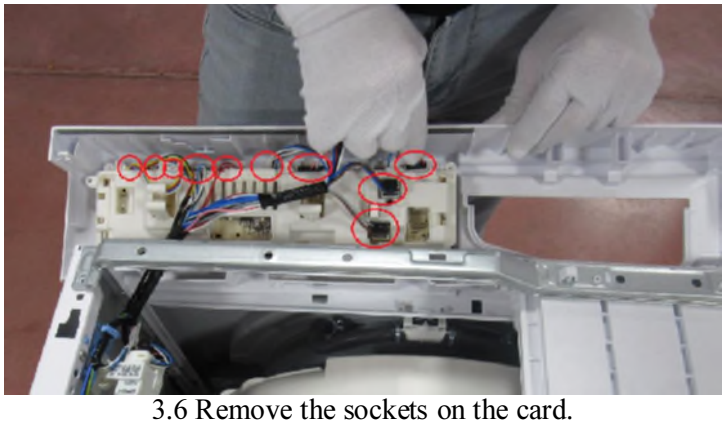


3.3 While pressing siphon cover keep pulling drawer to remove it.

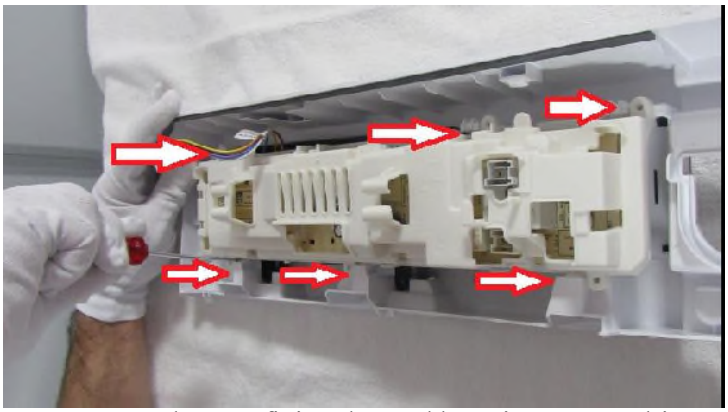
3.4 Remove the screw which fixes the control panel to the front panel.



3.5 Remove two screws fixing control panel.



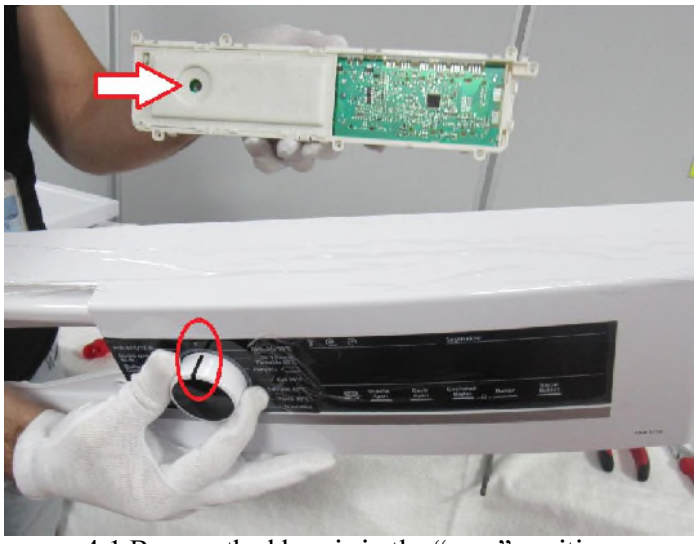
3.6 Remove the sockets on the card.



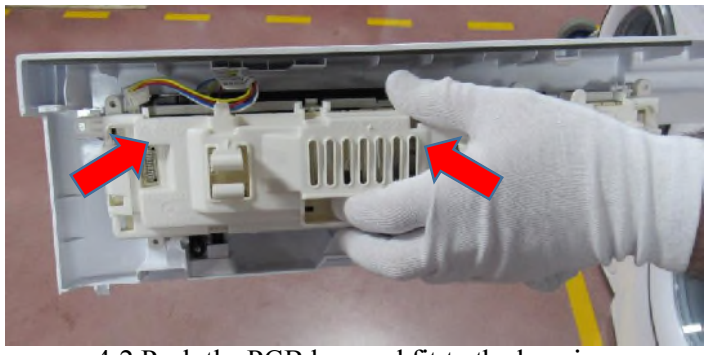
3.7 Depress the taps fixing the card by using a screwdriver

3.8 After releasing sockets, remove PCB box from its housing

4. Assembly Instructions

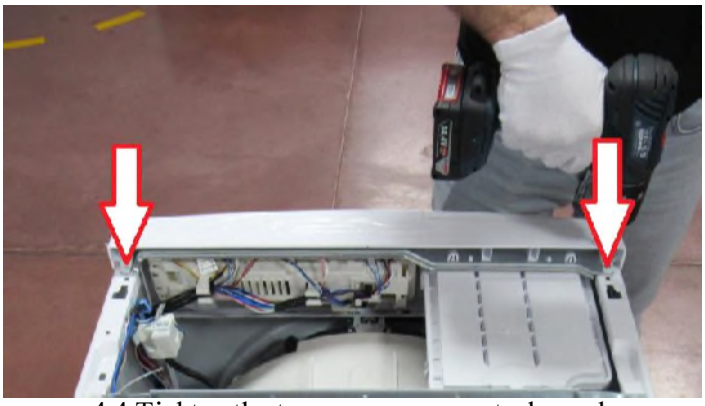


4.1 Be sure the kbon is in the “zero” position



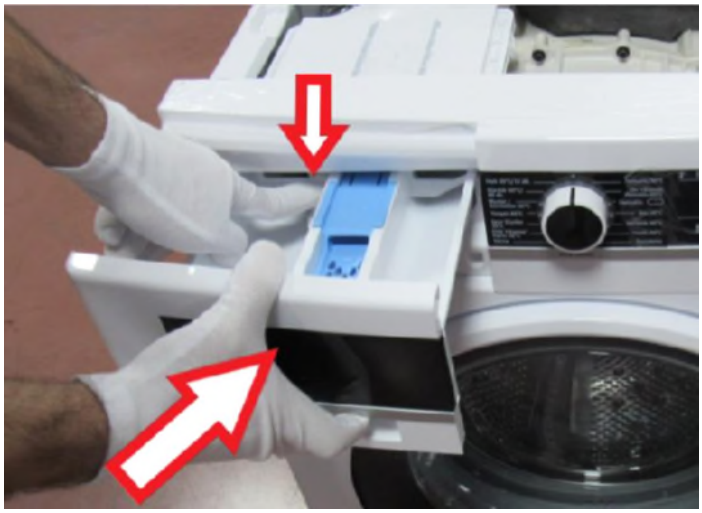
4.2 Push the PCB box and fit to the housing

4.3 Connect the all sockets on the card according to the wiring diagram.

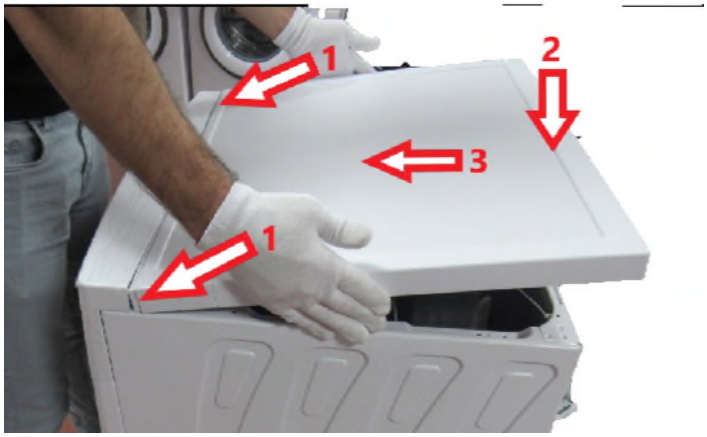


4.4 Tighten the two screws on control panel.

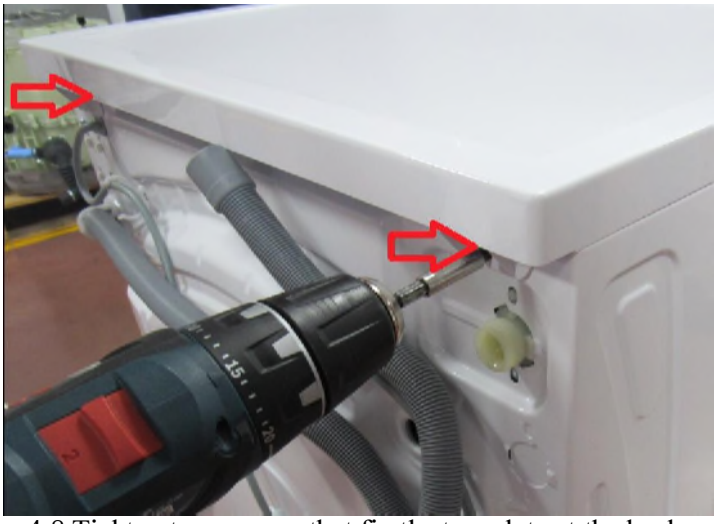
4.5 Tighten the screw which fixes the control panel to the front panel.



4.6 While pressing siphon cover keep pushing drawer to assemble it.



4.7 Fit the upper tray according to movement above



4.8 Tighten two screws that fix the top-plate at the back.

HEATER REPAIR INSTRUCTION

1、Disconnection

Remove the plug

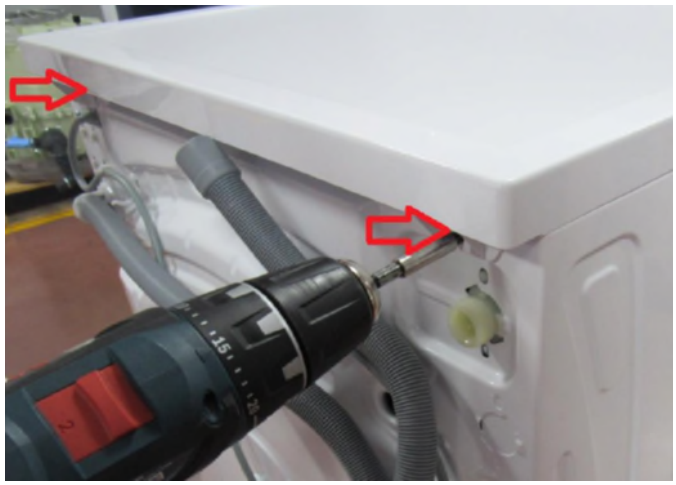
Turn off the tap and disconnect the hose from the valve

Disconnect the drain hose

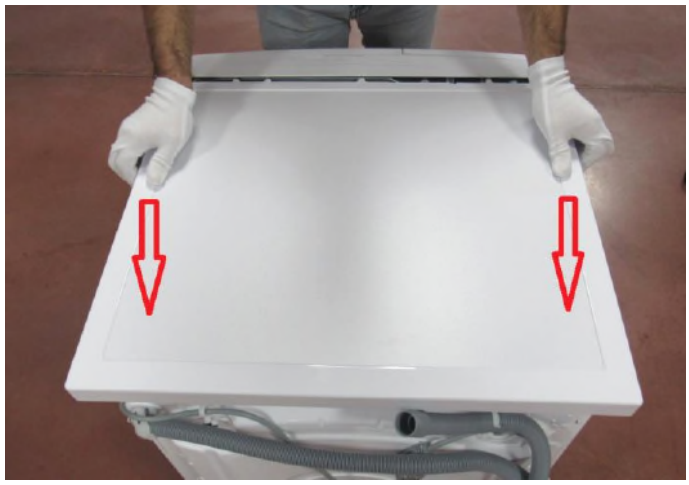
2、Necessary Tools

A、Plier
B、Flat head screwdriver
C、Ratchet Wrench with M8 head

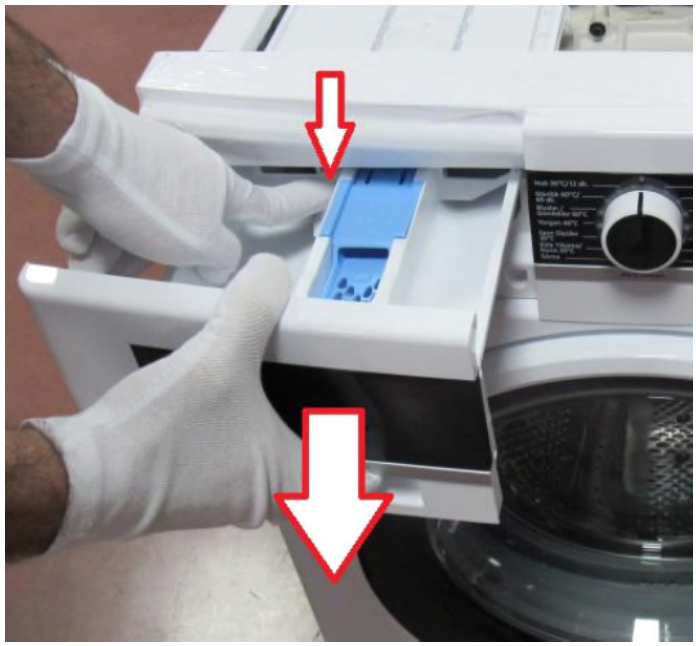
3、Disassembly Instructions



Remove two screws that fix the top-plate at the back.



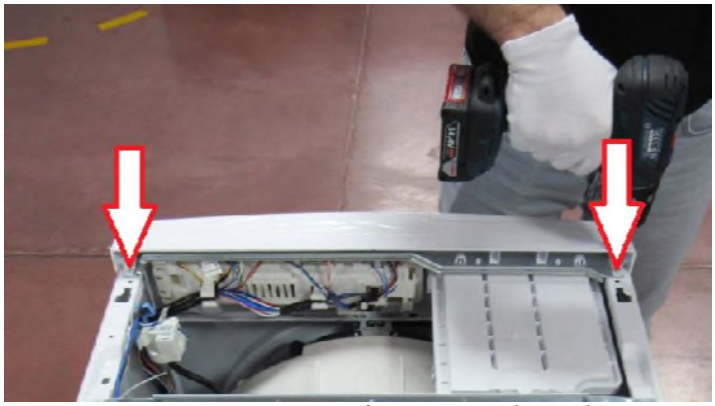
Push the top-plate back and pull it up.



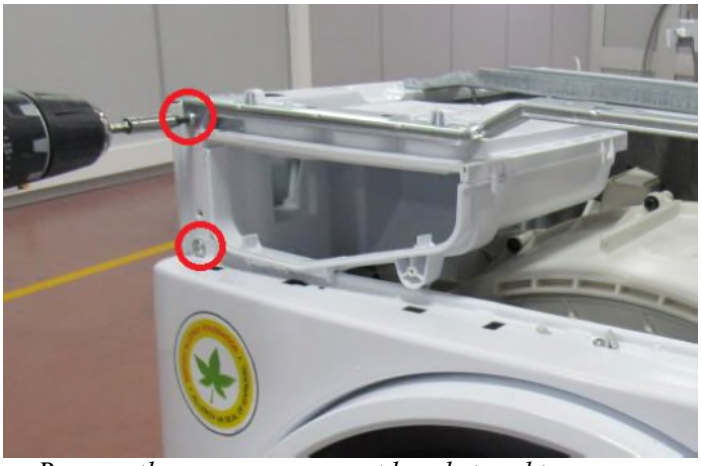
While pressing siphon cover keep pulling drawer to remove it.

HEATER REPAIR INSTRUCTION

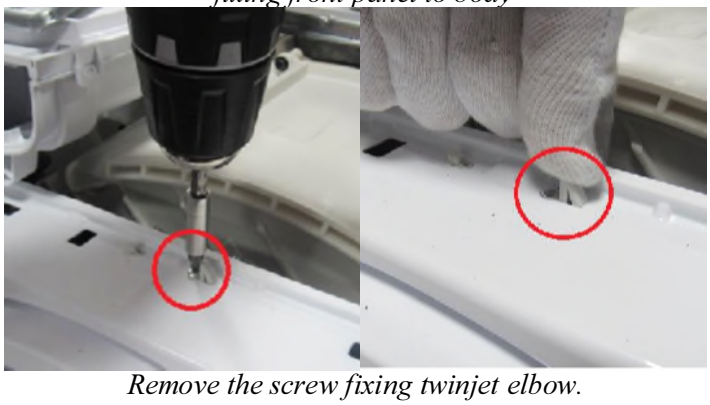
Remove the screw which fixes the control panel to the front panel.



Remove two screws fixing control panel.

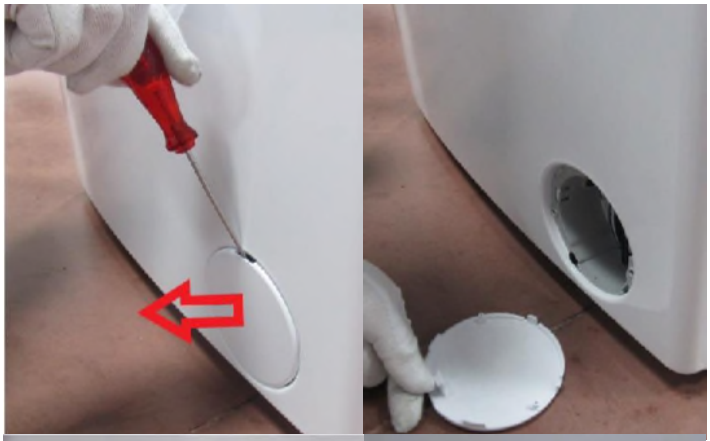


Remove the screw on support bracket and two screws fixing front panel to body



Remove the screw fixing twinjet elbow.

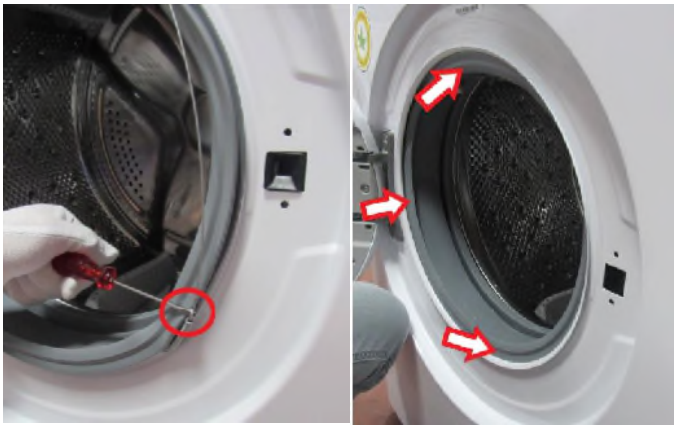
Remove the screws fixing the door lock.



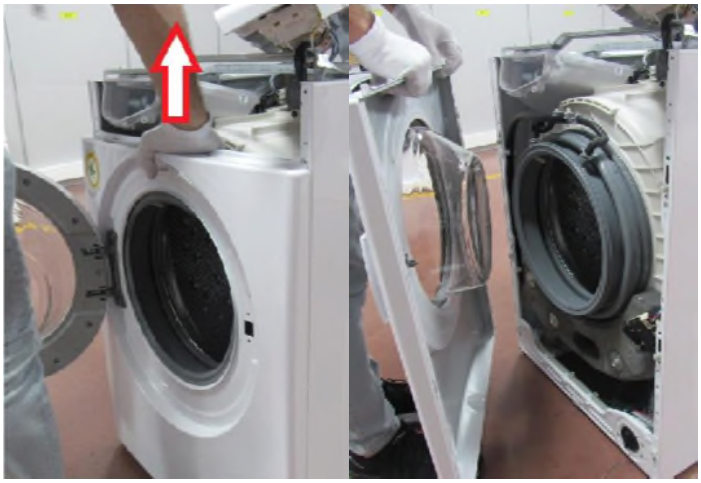
Remove the screw and plastic part located under the pump cover

HEATER REPAIR INSTRUCTION

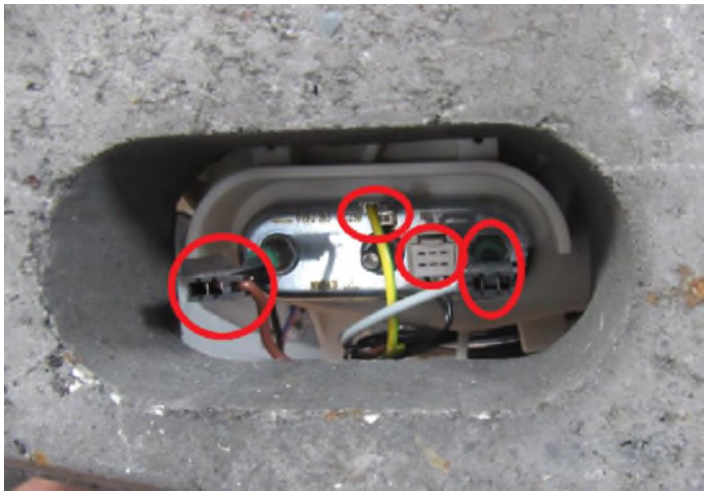
Remove the screw fixing the front panel at the bottom.



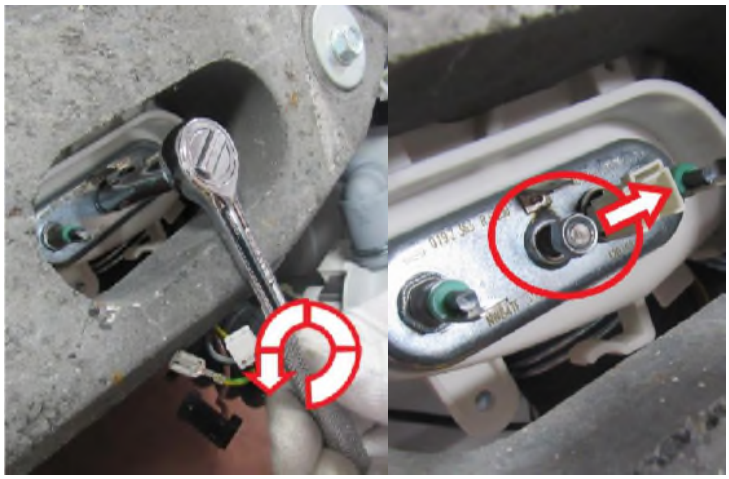
Remove the wire by using small screwdriver and push the seal to the inside



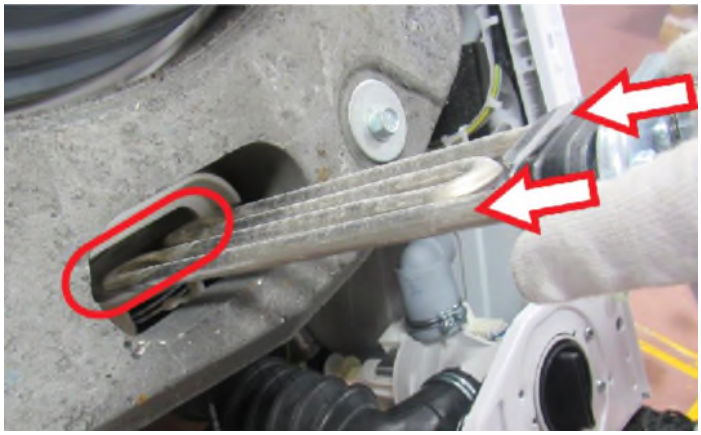
Pull up and remove the front panel.

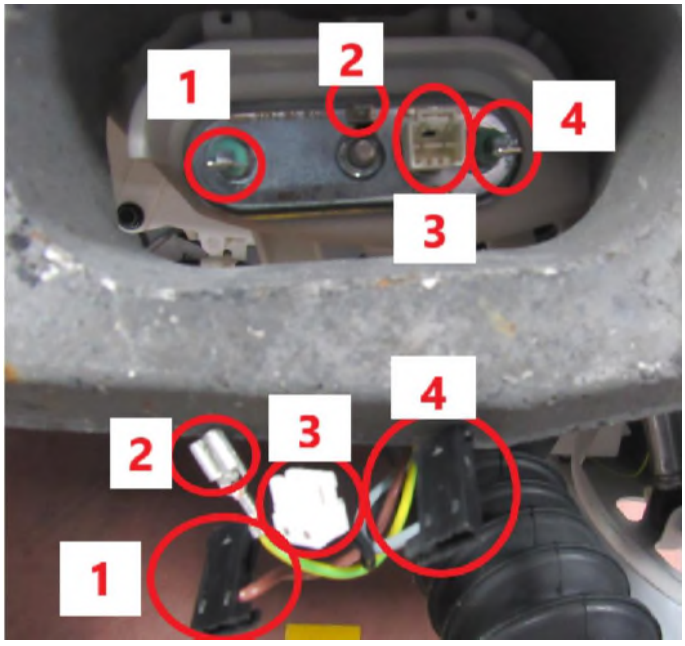


Remove the heater sockets

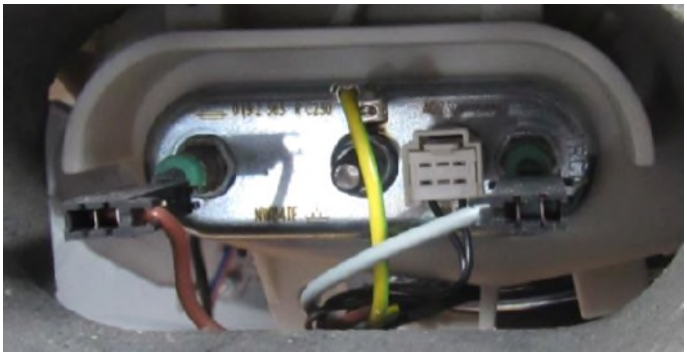


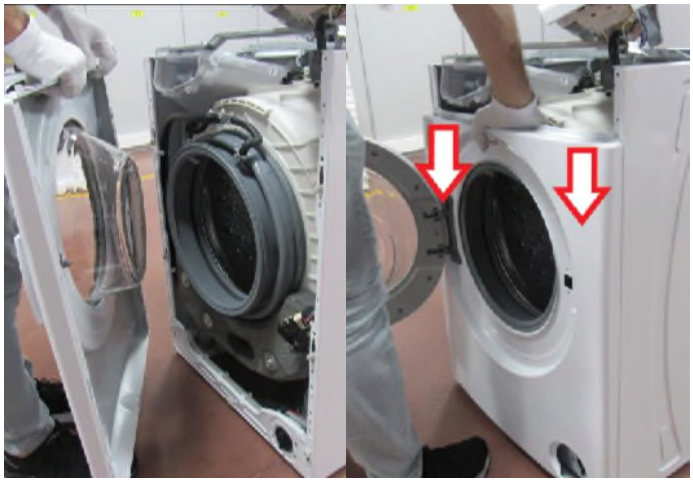
4. Assembly Instructions





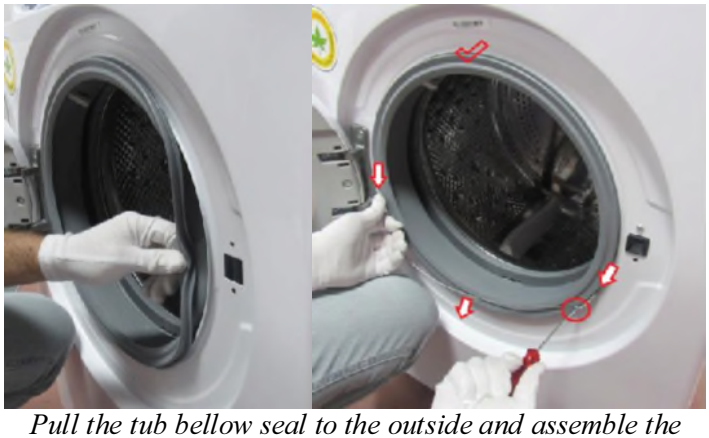
HEATER REPAIR INSTRUCTION





Put the front panel to the cabinet and push down to set it

Tighten the door lock screw



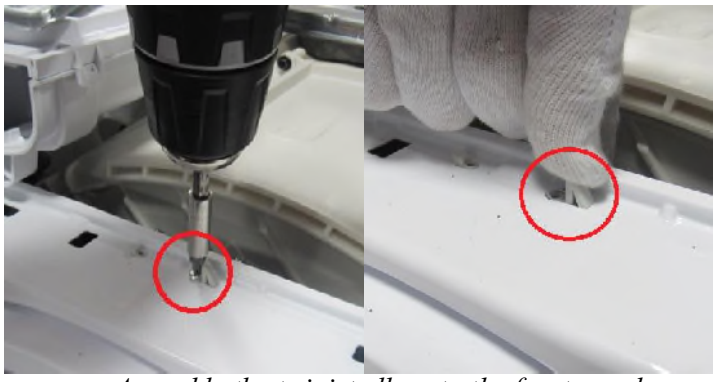
Pull the tub bellow seal to the outside and assemble the wire by using small screwdriver

Tighten the screw fixing the front panel at the bottom

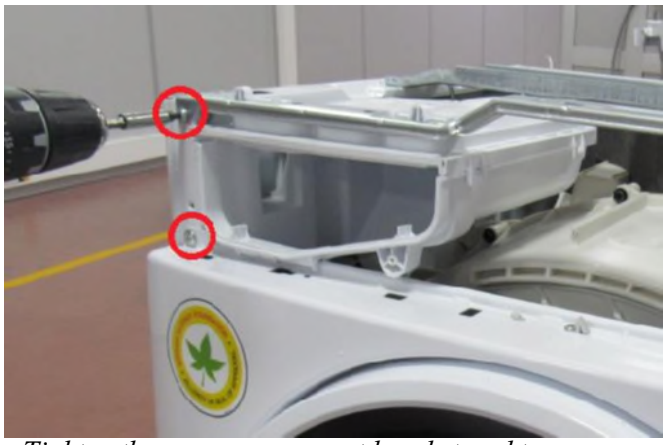
.

HEATER REPAIR INSTRUCTION

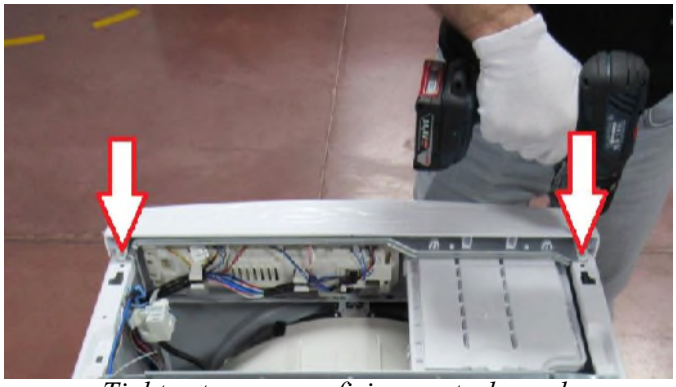
Tighten the screw and plastic part located under the pump cover



Assemble the twinjet elbow to the front panel

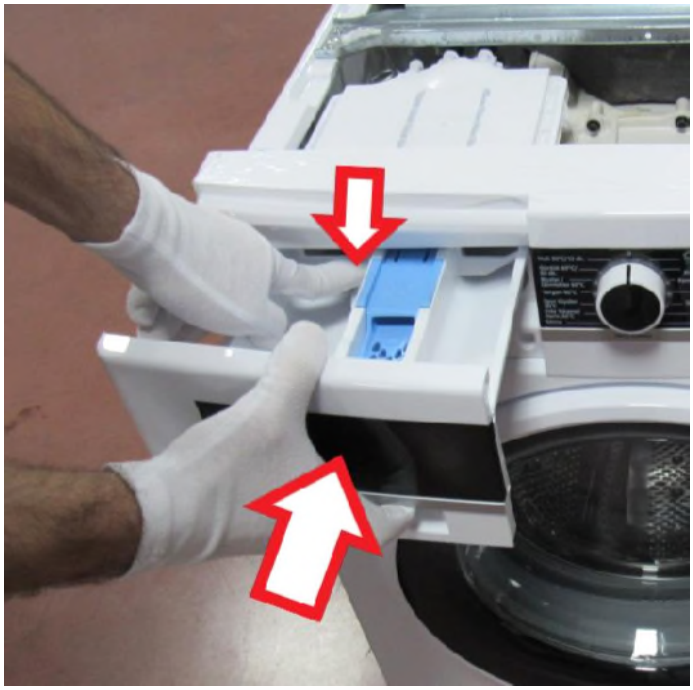


Tighten the screw on support bracket and two screws fixing front panel to body

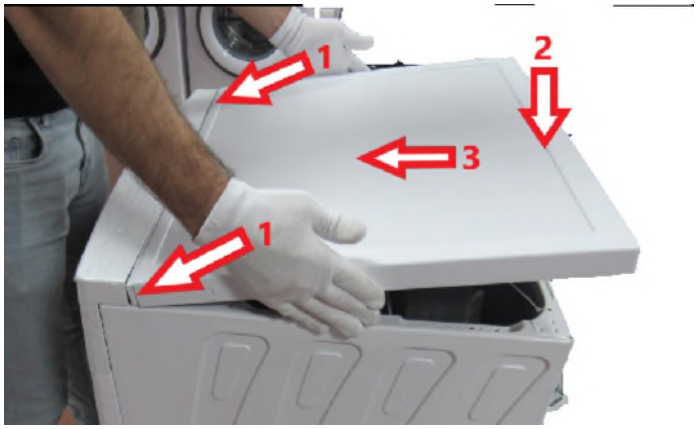


Tighten two screws fixing control panel.

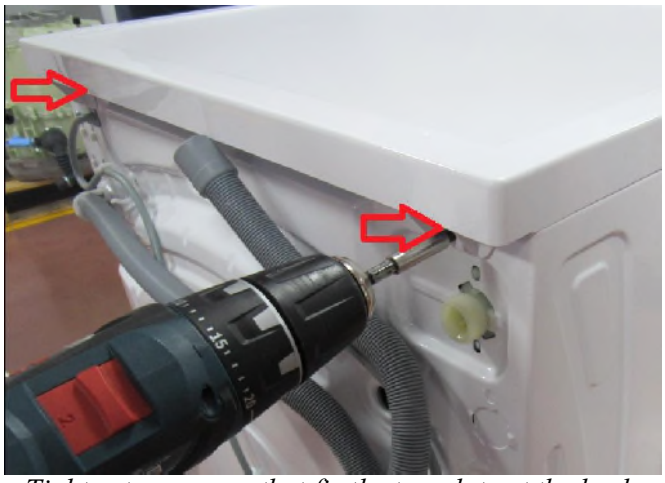
Tighten the screw which fixes the control panel to the front panel.



While pressing siphon cover keep pushing drawer to fit it



Fit the upper tray according to movement above



Tighten two screws that fix the top-plate at the back.

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Door, Hinge ve Handle	General	

SAFETY PRECAUTIONS	
 	Before any disassembly/repair operation make sure appliance is unplugged, water tap is closed and heating elements are cooled down. There is electrical shock, burning and flood risk.
	Please replace whole cable group even in case there is any minor failure with cables / terminals / sockets. Never try to repair nor to solder cable group. It may cause smoke, ignition and there is major risk of electrical shock.
	Straightly pull out or insert the terminals. Do not twist it. It may be the cause of damage or ignition.
	Always use insulator gloves to prevent injury by metal edges or to prevent electrical shock during electrical tests. Work with uniforms having long sleeves to protect your arms from metal edges.
	Always use original spare parts. You may harm appliance, end user, environment or yourself using untested and unapproved 3rd party spare parts.
	Use right tools to prevent any wear or damage tc components during assembly/disassembly.
	Do not touch any rotating object with hand unless it stops completely. Slow rotation may also roll in your hands and cause injury.

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Door, Hinge ve Handle	General	

Rebuilding is prohibited. Do not rebuild machine parts and components when repairing service. It may be the cause of damage or ignition.

Necessary Tools

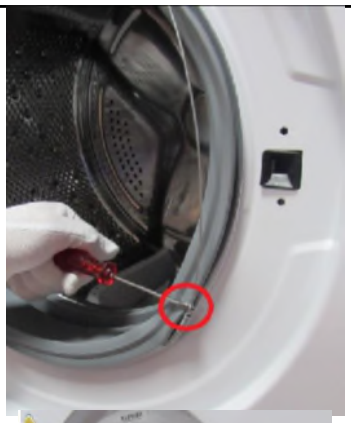
A) Plier
B) Flat head thin screwdriver
C) Cordless screwdriver or classic screwdriver with torx head (T25)

1. Disconnection

Remove the plug

2) **Disassembly Instructions**

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Door, Hinge ve Handle	General	



2.1. Remove the wire by using small screwdriver and push the seal to the inside

2.2. Remove the door hinge screws by using a Tx25 head screwdriver

2.3. Remove the door

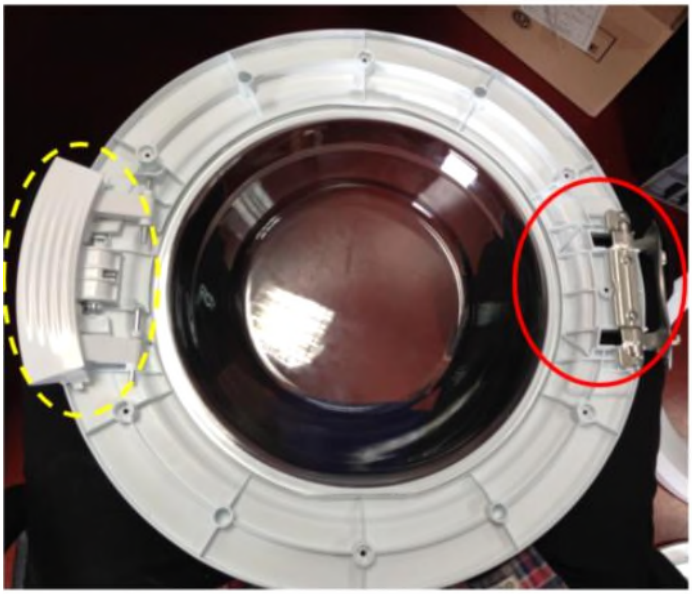
2.4. There is hinge support sheet behind the front panel. Please keep it stable while operation and do not forget to assemble it to the front panel.

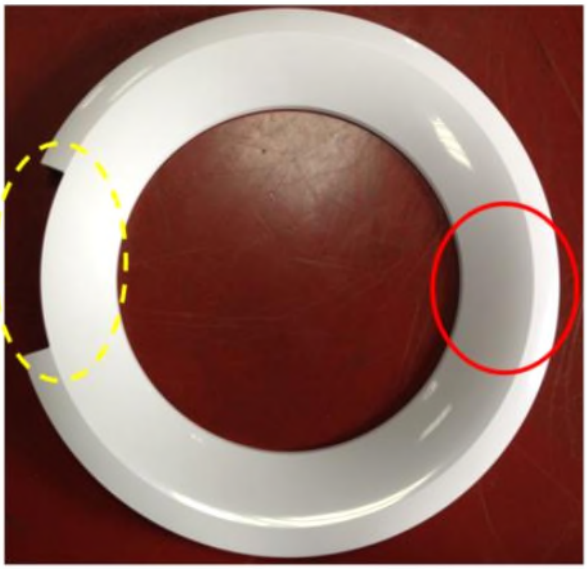
Follow the hinge and handle changing instructions if needed after this step. If not required to replace the hinge and handle, you can skip to the door assembly section.

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Door, Hinge ve Handle	General	

2.5. Remove the screws on the door, a number of the screws may change based on the door type.

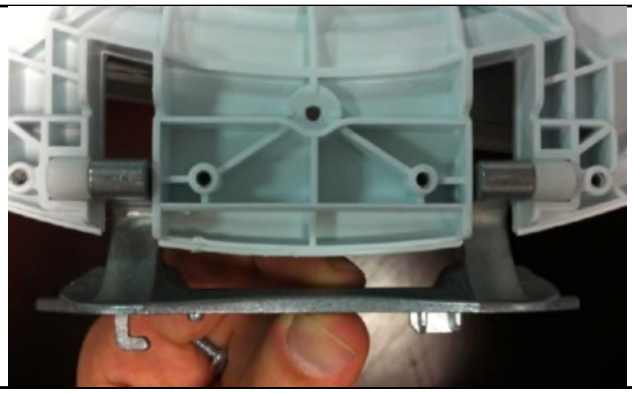
2.6. You can use a screwdriver to separate the front and back plastics from the area in the photo.





2.7. Remove the plastic parts as shown in the photo above.

2.8. Remove the hinge sheet by screwdriver

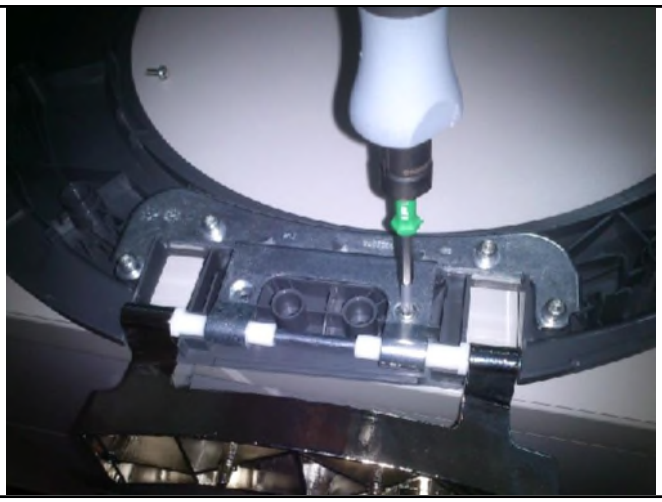


2.9. Remove the hinge

IF THE PRODUCT HAS PLASTIC HINGE PLEASE FOLLOW THE INSTRUCTIONS BELOW

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Door, Hinge ve Handle	General	

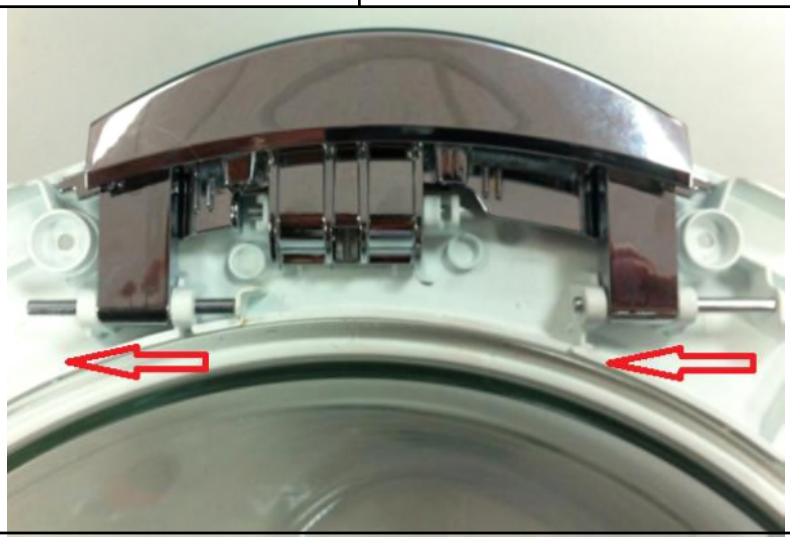
2.10. Hinge needs to be changed as a group for the door which has no handle.



2.11. Remove the screws and assemble the new part as a group.

DISASSEMBLY FOR THE OUTSIDE HANDLE

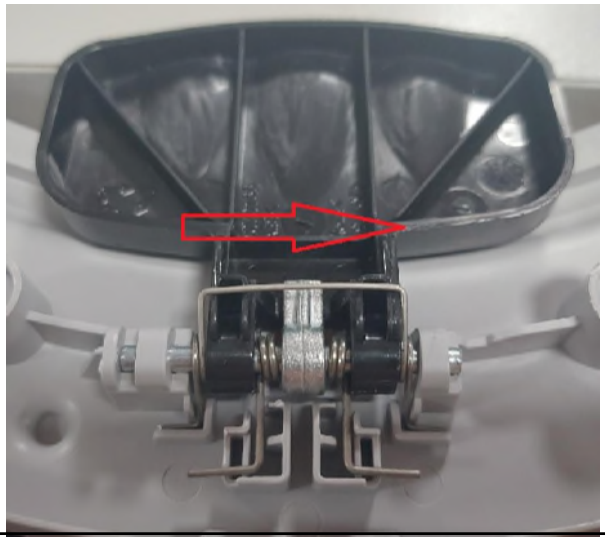
DISASSEMBLY FOR THE INSIDE HANDLE



2.12. Remove the pins in the direction of the arrows

2.13. Remove the spring from the hosue (depends on the model)

INSIDE HANDLE DISASSEMBLY



2.14. Remove the pin in the direction of the arrow.

2.15. Use the knife or thin flat head screwdriver to remove the pin.

2.16. Take the pin by a plier. Then please take off the door handle and assemble the new one.

3. Assembly Instructions

Please pay attention to intructions according to the door handle type. If you have not dropped the hinge support sheet to inside the machine, you can skip the tub bellow seal disassembly step.

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Door, Hinge ve Handle	General	

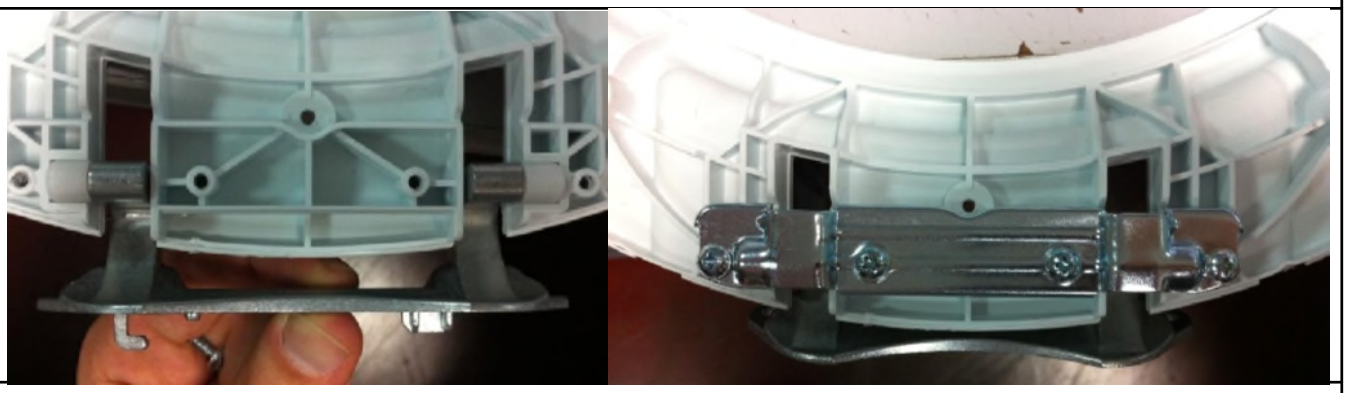
3.1 Remove the wire by using small screwdriver and push the seal to the inside

3.2 Push the seal to the inside

3.3 Take the hinge support sheet

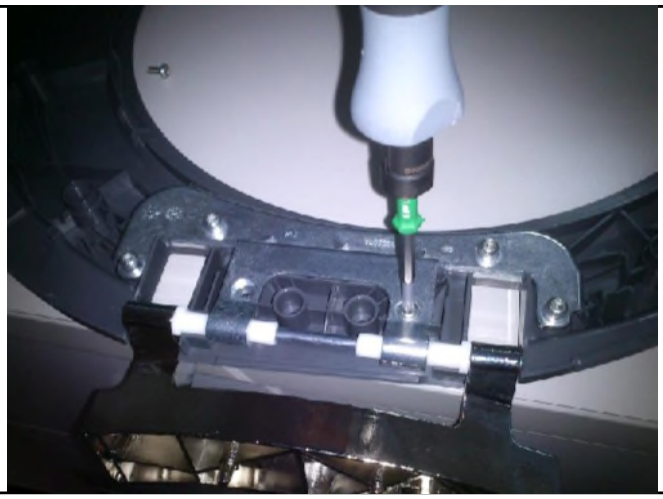
3.4 Fit the hinge support sheet to the housing on the front panel.

DOOR HINGE ASSEMBLY INSTRUCTIONS (Please follow the instructions which is realted to your type)



3.5 Fit the door hinge to the housing on the door and place the hinge sheet over it. The screw number may change depends on the door model.

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Door, Hinge ve Handle	General	

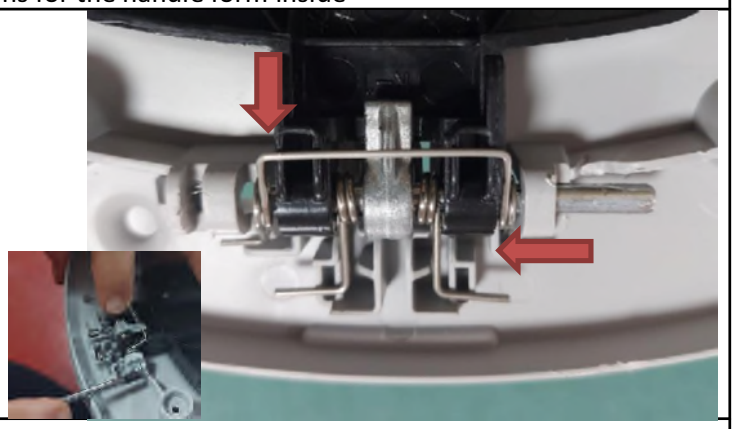


3.6 If the hinge on your product is the same as the photo above, you must change it as a group since it is not possible to remove the pin.

DOOR HANDLE ASSEMBLY (Please follow the instructions suitable for your models)

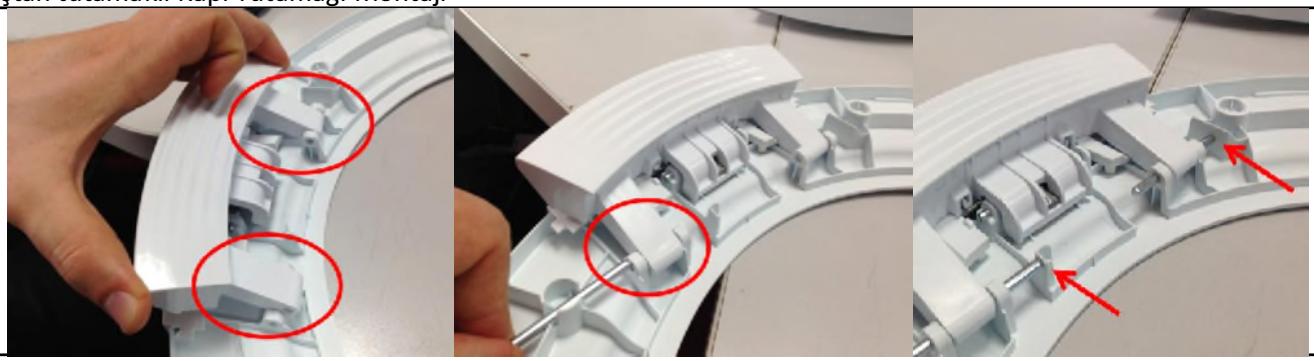
Assembly Instructions for the handle form inside

3.7 Place the parts as like photo above



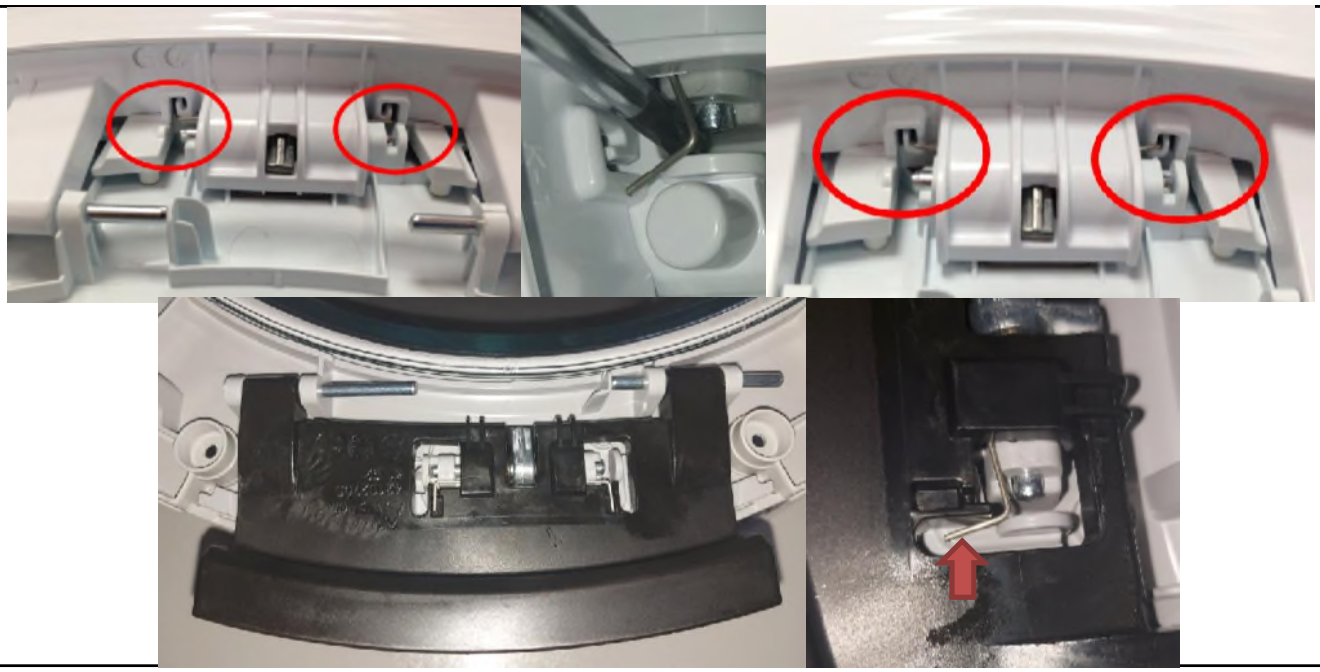
3.8 Fit the pin to the house and as shown in the photo above.

Dıştan tutamaklı Kapı Tutamağı Montajı

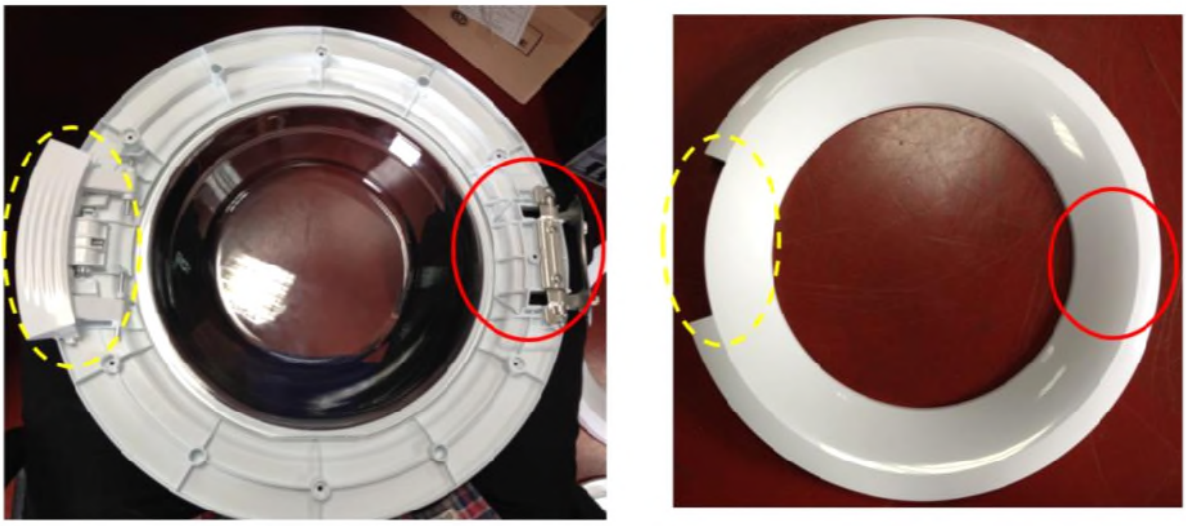


3.9 Please follow the instructions as like in the photos. Place the springs to the houses on the door frame.

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Door, Hinge ve Handle	General	



3.10 After fitting the handles, springs needs to be assemble to the handle as shown the photos above.

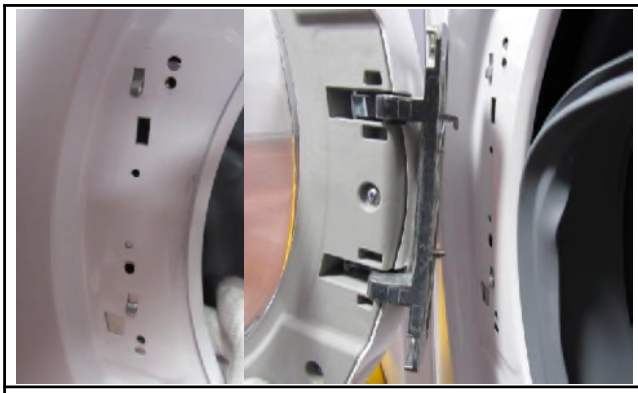


3.11 After the assembly of the handle or hinge, door outer plastic should be fitted. Please do not forget the assembly of the door glass too.

3.12 Be sure that all the parts have been fitted very well.

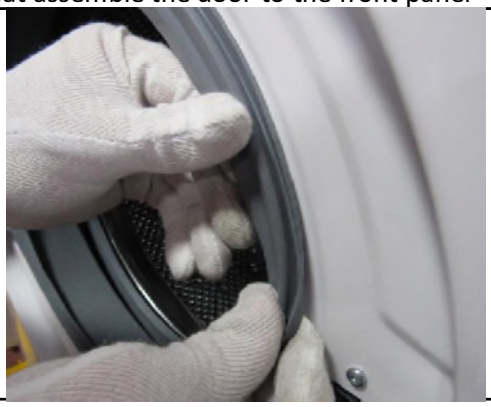
3.13 Assemble the all screws on the inside plastic part of the door.

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Door, Hinge ve Handle	General	



3.14 If the hinge support sheet had fallen inside to unit, please follow the related previous instructions to fit it to the front panel firstly. After that assemble the door to the front panel

3.15 Tighten the hinge screw by using a Tx25 screwdriver.



3.16 If the tub bellow seals had removed before, please assemble it again.

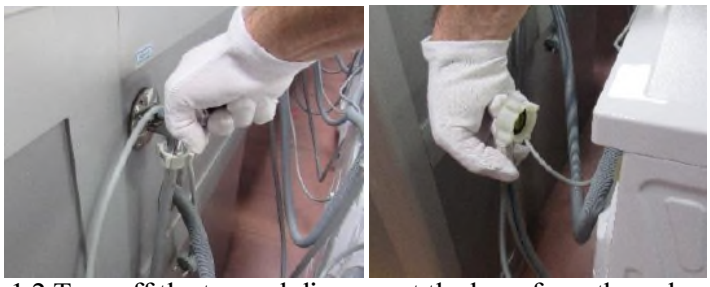
3.17 Place the seal spring and fit to the housing on the front panel.

3.18 Spring must be fitted very well as shown in the photo above.

TUB BELLOW SEAL REPAIR INSTRUCTION

1. Disconnection

1.1 Remove the plug



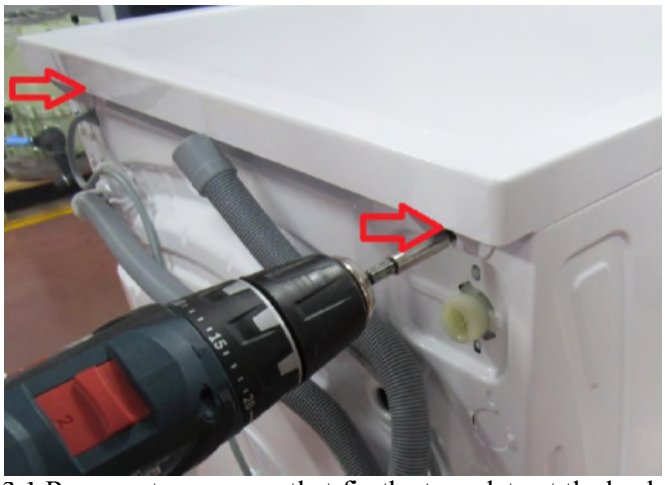
1.2 Turn off the tap and disconnect the hose from the valve

1.3 Disconnect the drain hose

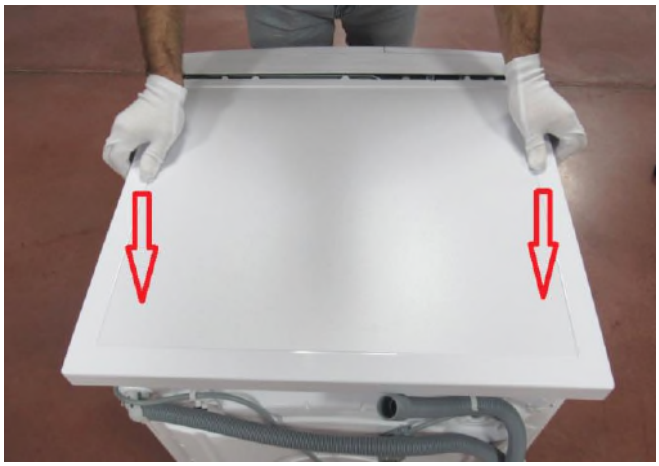
2. Necessary Tools

A.	Pliers
B.	Flat head thin screwdriver
C.	Cordless screwdriver or classic screwdriver with torx bits (T20)

3. Disassembly Instructions



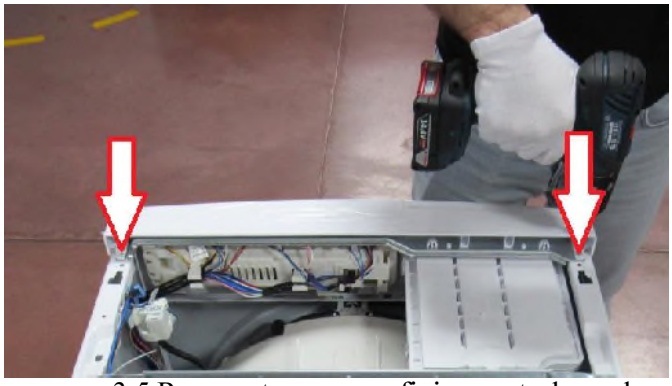
3.1 Remove two screws that fix the top-plate at the back.



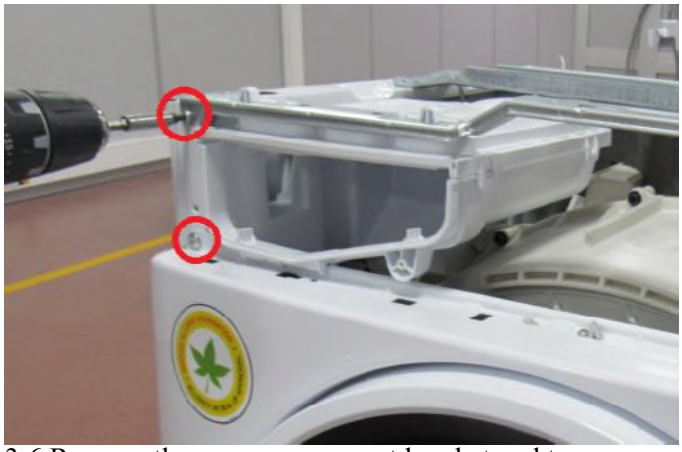
3.2 Push the top-plate back and pull it up.

3.3 While pressing siphon cover keep pulling drawer to remove it.

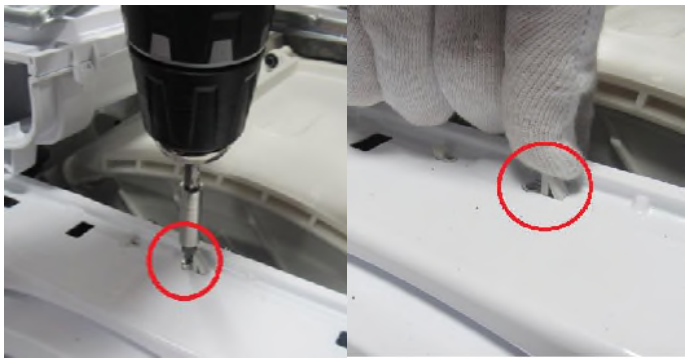
3.4 Remove the screw which fixes the control panel to the front panel.



3.5 Remove two screws fixing control panel.

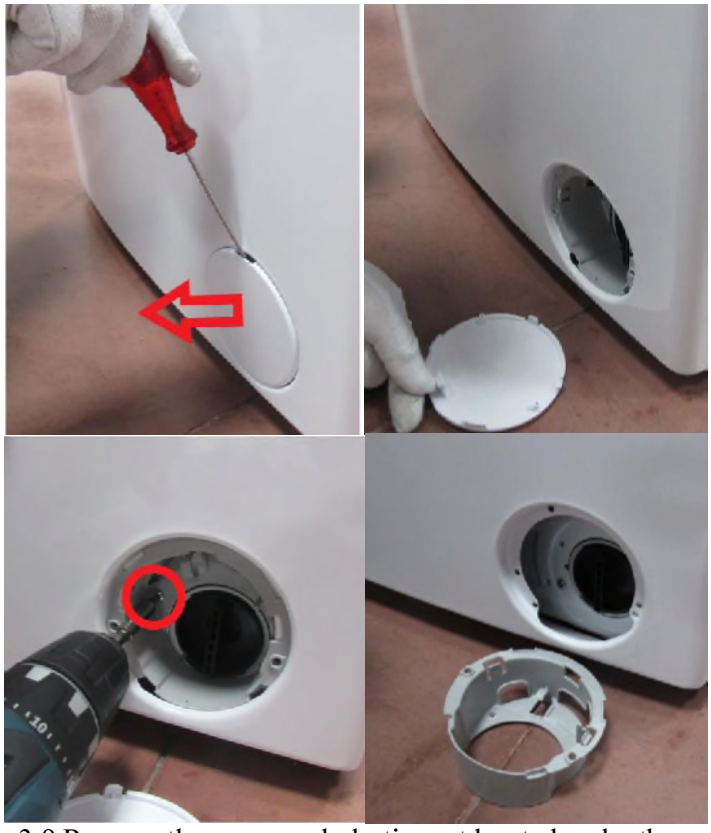


3.6 Remove the screw on support bracket and two screws fixing front panel to body



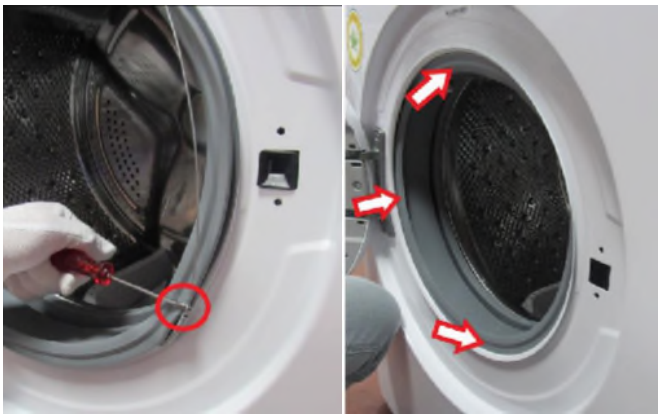
3.7 Remove the screw fixing twinjet elbow.

3.8 Remove the screws fixing the door lock.

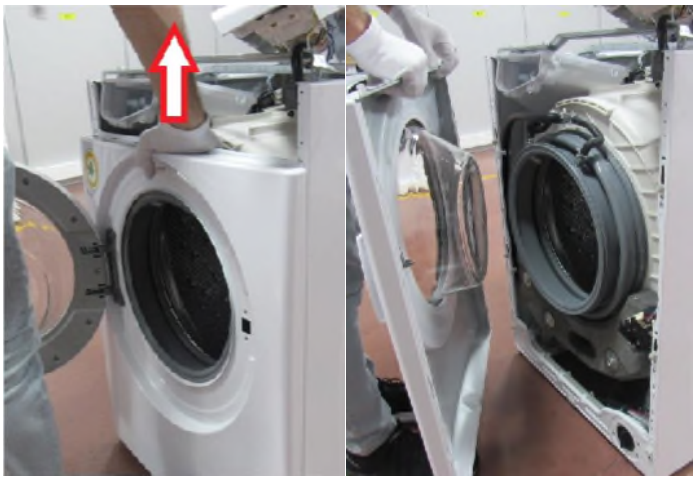


3.9 Remove the screw and plastic part located under the pump cover

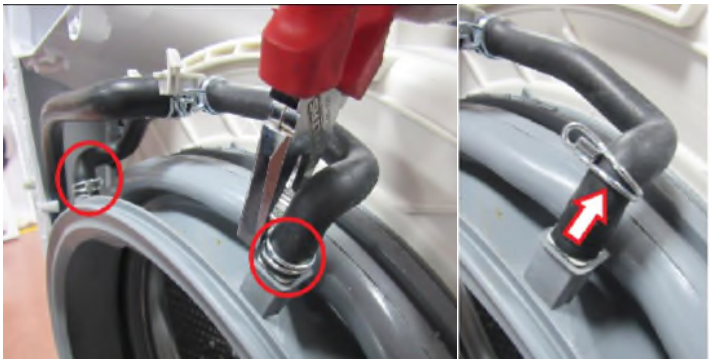
3.10 Remove the screw fixing the front panel at the bottom.



3.11 Remove the wire by using small screwdriver and push the seal to the inside



3.12 Pull up and remove the front panel.



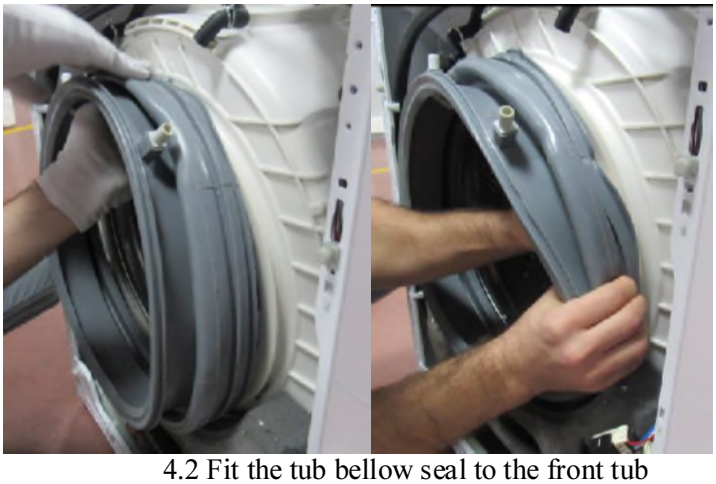
3.13 Remove twinjet hoses from tub bellow seal pulling them up.

3.14 Remove the tub gasket clip by using small screwdriver.

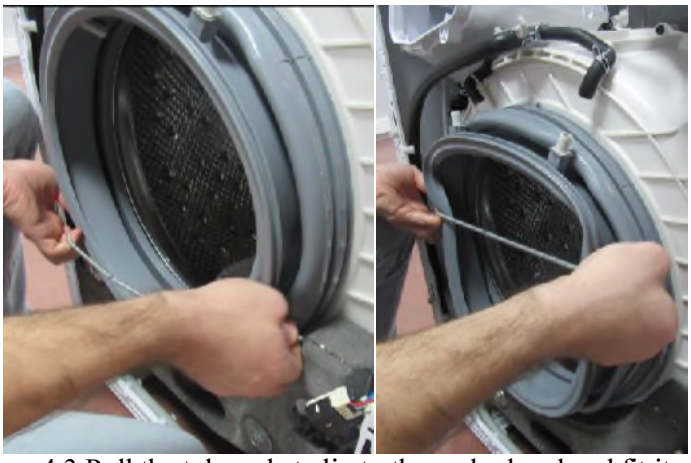
3.15 Hold the tub bellows seal and gasket-body fixing spring together, and pull them out.

4. Assembly Instructions

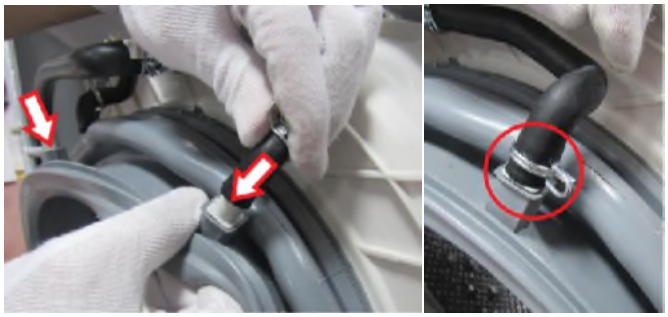
4.1 Guides must be matched



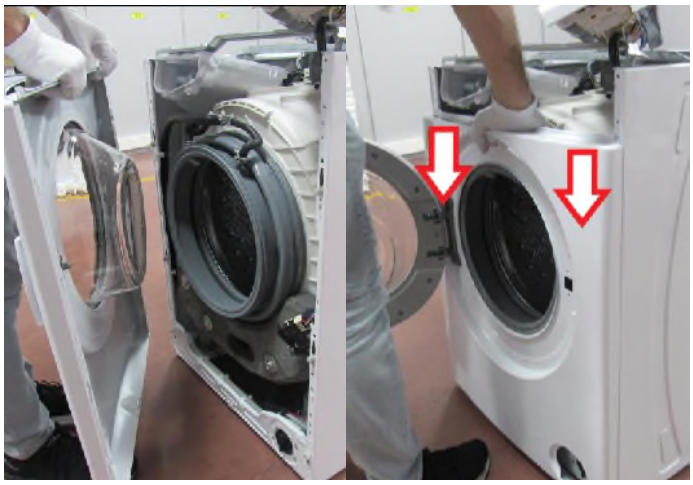
4.2 Fit the tub bellow seal to the front tub



4.3 Pull the tub gasket clip to the up by hand and fit it

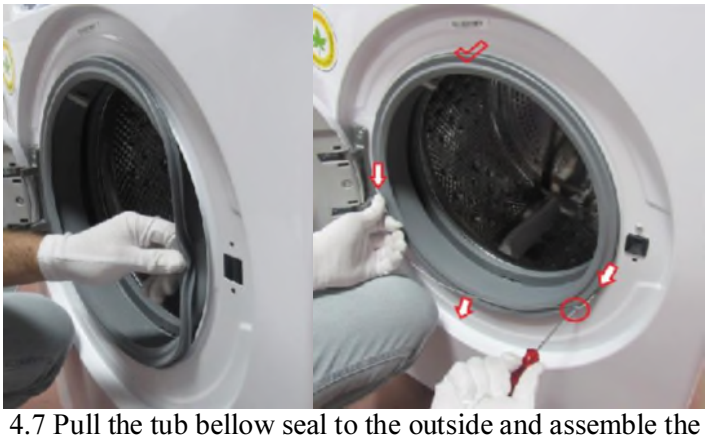


4.4 Assemble the twinjet nozes and tighten the clips



4.5 Put the front panel to the cabinet and push down to set it

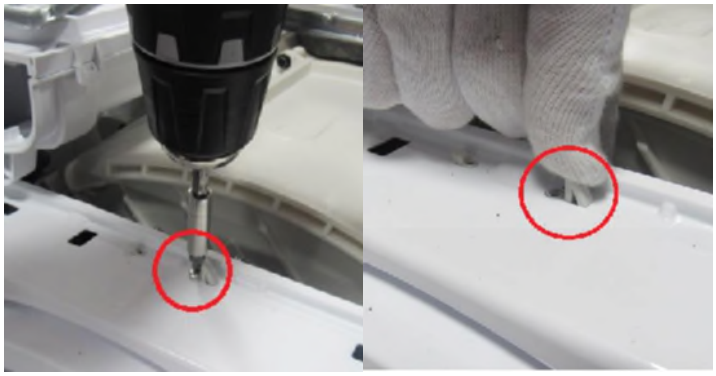
4.6 Tighten the door lock screw



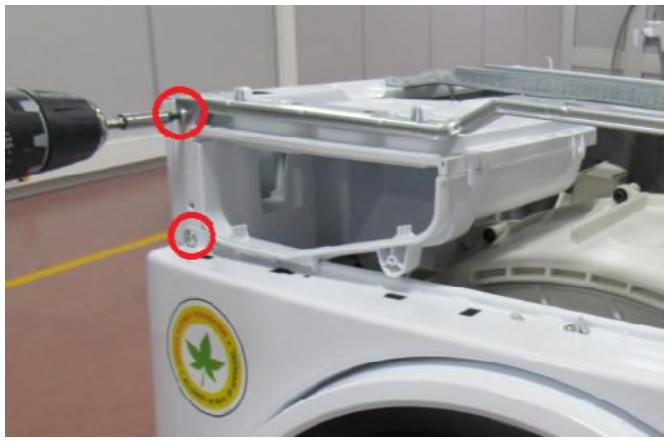
4.7 Pull the tub bellow seal to the outside and assemble the wire by using small screwdriver

4.8 Tighten the screw fixing the front panel at the bottom

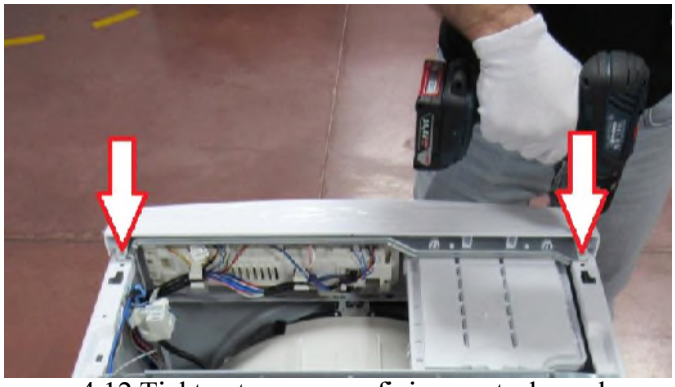
4.9 Fit the screw and plastic part located under the pump cover



4.10 Assemble the twinjet elbow to the front panel

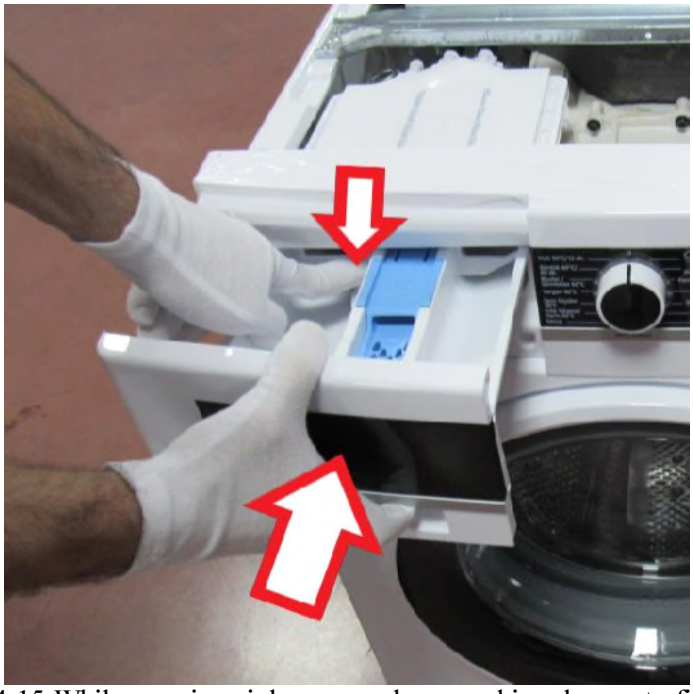


4.11 Tighten the screw on support bracket and two screws fixing front panel to body

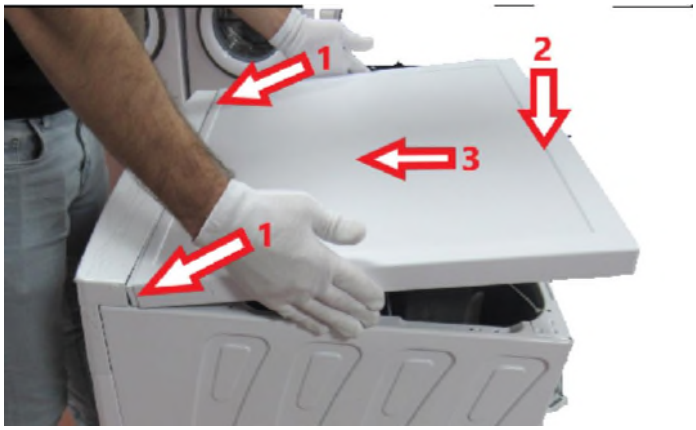


4.12 Tighten two screws fixing control panel.

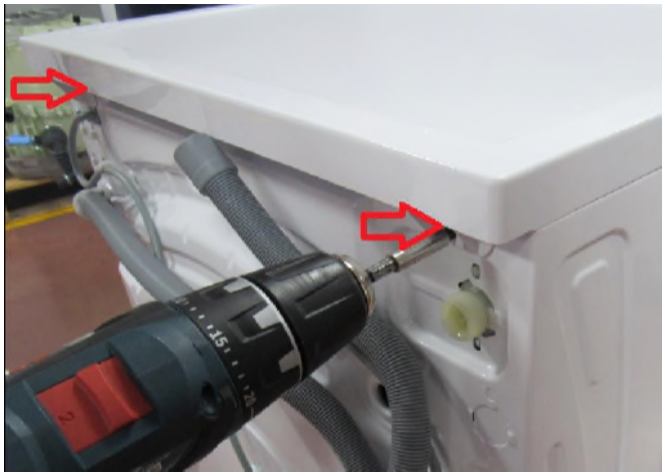
4.13 Tighten the screw which fixes the control panel to the front panel.



4.15 While pressing siphon cover keep pushing drawer to fit



4.16 Fit the upper tray according to movement above

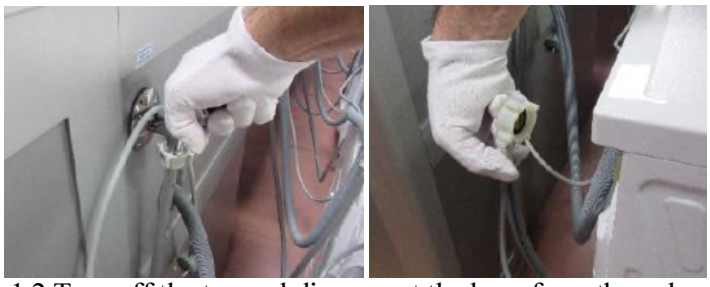


4.17 Tighten two screws that fix the top-plate at the back.

DOOR LOCK REPAIR INSTRUCTION

1. Disconnection

1.1 Remove the plug



1.2 Turn off the tap and disconnect the hose from the valve

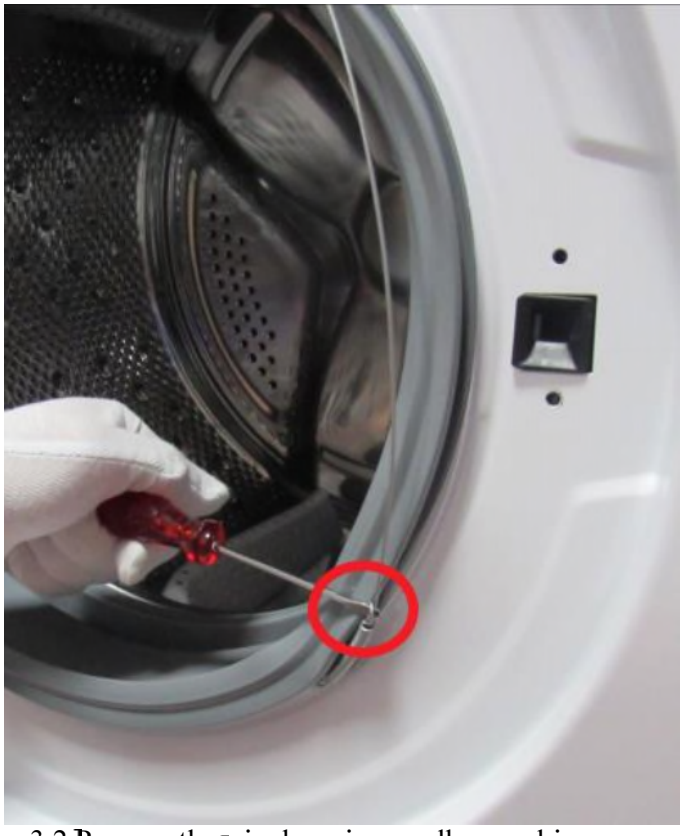
1.3 Disconnect the drain hose

2. Necessary Tools

A. Flat head thin screwdriver
B. Torx T20
C. Cordless screwdriver or classic screwdriver to use torx head (T20)

3. Disassembly Instructions

3.1 Remove the screws fixing the door lock.



3.2 Remove the wire by using small screwdriver

3.3 Remove the right side of the tub bellows seal and reach to door lock

4. Assembly Instructions

4.1 Unplug the connector and remove the door lock. Connect the new door lock to connector.

4.2 While supporting the door lock by hand, tighten the screws fixing the door lock.

4.3 Fix the tub bellow seal and fix the wire by using the small screwdriver

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Pump	General	

SAFETY PRECAUTIONS

Before any disassembly/repair operation make sure appliance is unplugged, water tap is closed and heating elements are cooled down. There is electrical shock, burning and flood risk.

Please replace whole cable group even in case there is any minor failure with cables / terminals / sockets. Never try to repair nor to solder cable group. It may cause smoke, ignition and there is major risk of electrical shock.

Straightly pull out or insert the terminals.

Do not twist it. It may be the cause of damage or ignition.

Always use insulator gloves to prevent injury by metal edges or to prevent electrical shock during electrical tests.

Work with uniforms having long sleeves to protect your arms from metal edges.

Always use original spare parts. You may harm appliance, end user, environment or yourself using untested and unapproved 3rd party spare parts.

Use right tools to prevent any wear or damage to components during assembly/disassembly.

Do not touch any rotating object with hand unless it stops completely. Slow rotation may also roll in your hands and cause injury.

Rebuilding is prohibited. Do not rebuild machine parts and components when repairing service. It may be the cause of damage or ignition.

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Pump	General	

Necessary Tools

A) Plier
B) Flat head thin screwdriver
C) Cordless screwdriver or classic screwdriver with torx head (T20)

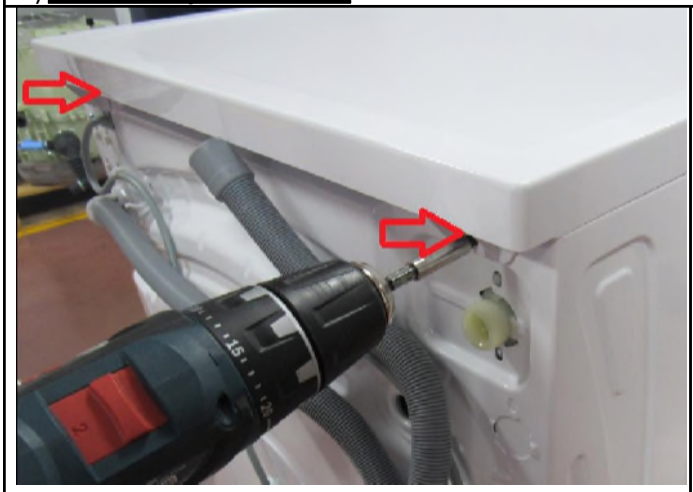
1. Disconnection

1.1. Remove the plug

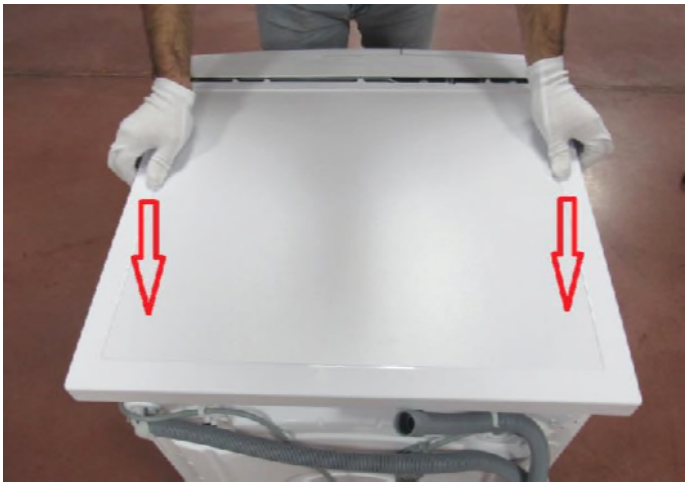
1.2. Turn off the tap and disconnect the hose from the valve

1.3. Disconnect the drain hose

2) **Disassembly Instructions**

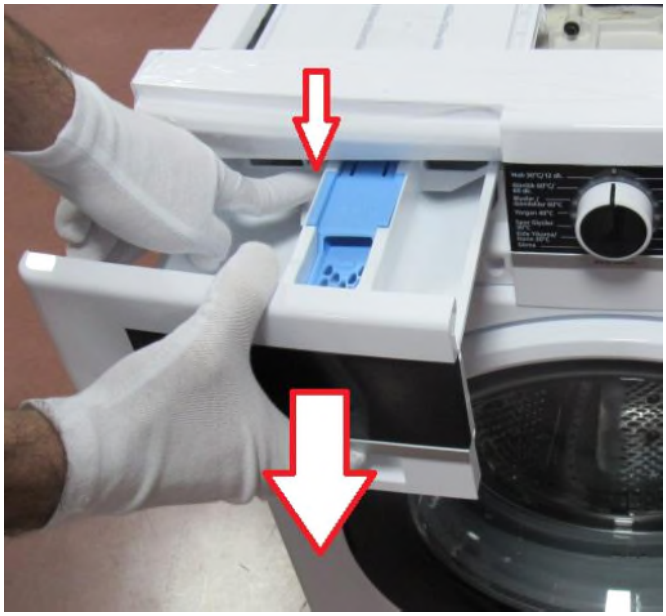


2.1. Remove two screws that fix the top-plate at the back.

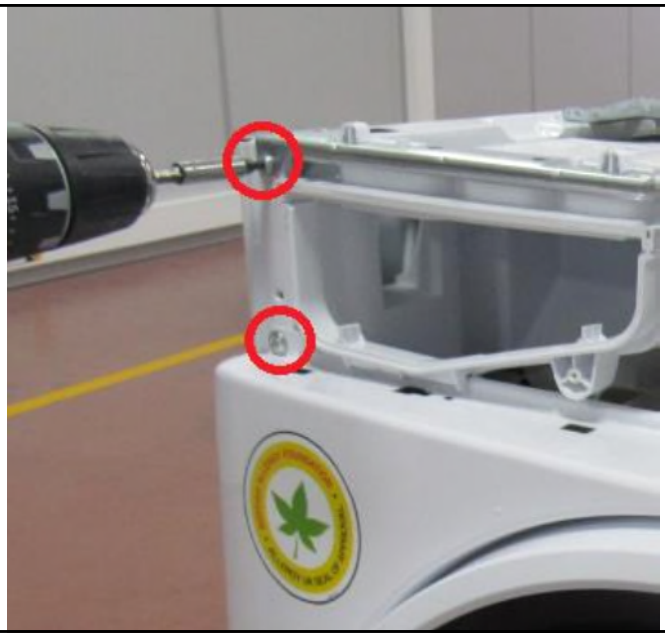


2.2. Push the top-plate back and pull it up.

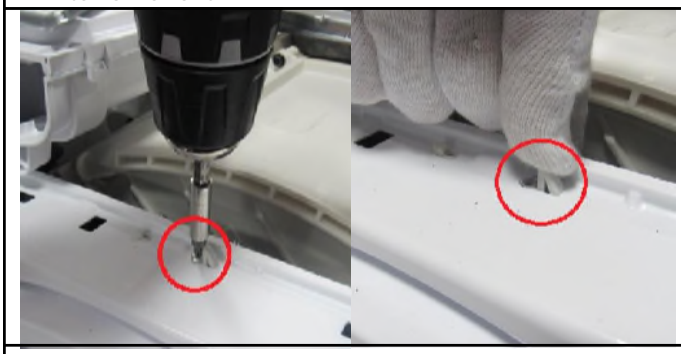
REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Pump	General	



2.3. While pressing siphon cover keep pulling drawer to remove it.

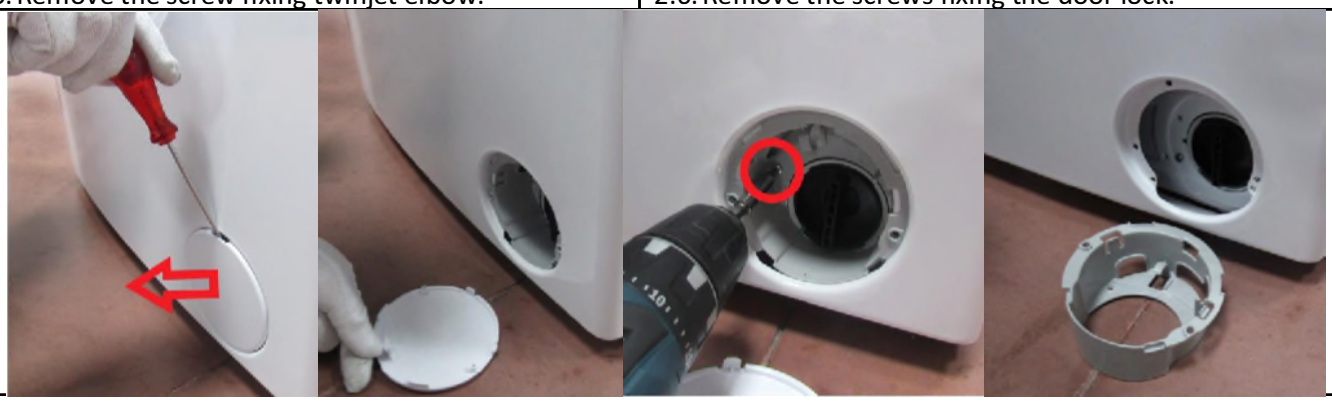


2.4. Remove the screw on support bracket and two screws fixing front panel to body



2.5. Remove the screw fixing twinjet elbow.

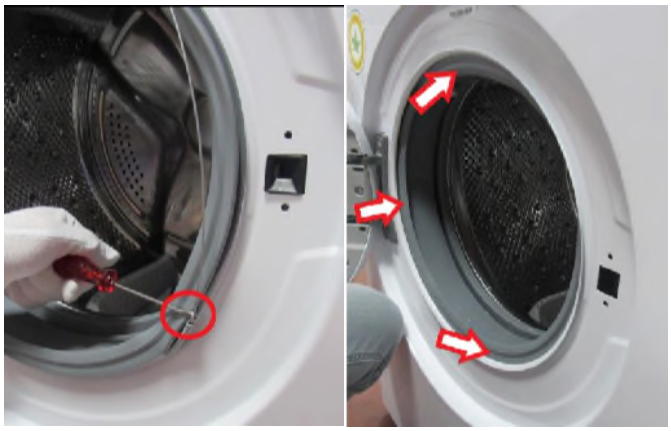
2.6. Remove the screws fixing the door lock.



2.7. Remove the screw and plastic part located under the pump cover

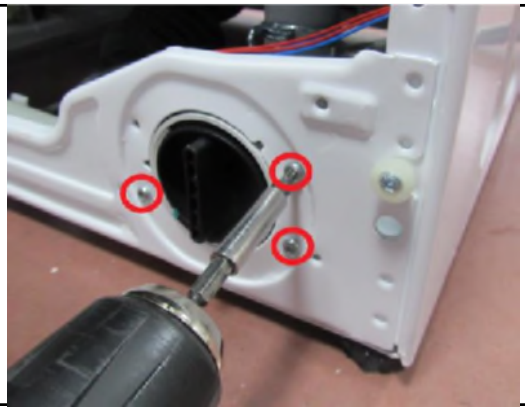
REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Pump	General	

2.8. Remove the screw fixing the front panel at the bottom.

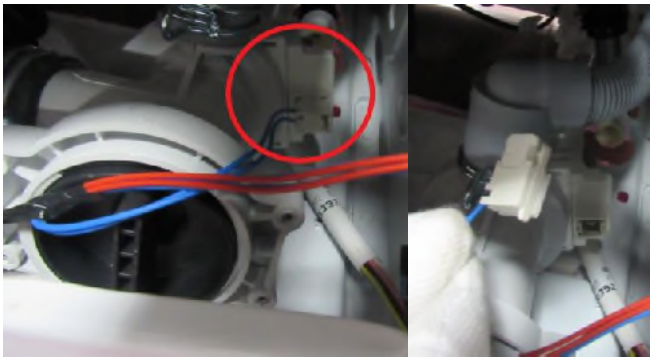


2.9. Remove the wire by using small screwdriver and push the seal to the inside

2.10. Pull up and remove the front panel.



2.11. Remove screws holding drain pump



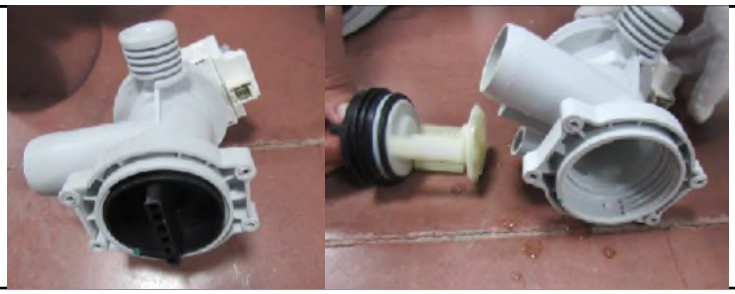
2.12. Remove the drain pump connector

2.13. Remove clamp fixing tub outlet hose by using a plier

2.14. Remove clamp holding drain hose by using a plier.

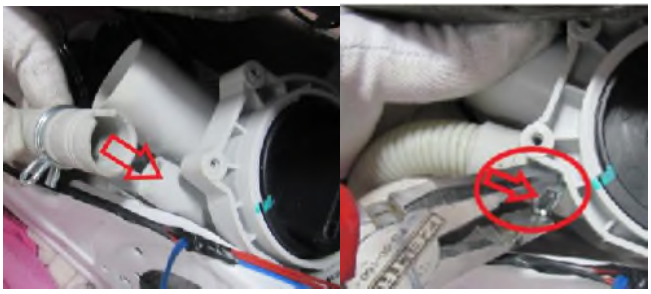
2.15. Remove clamp holding twinjet hose by using a plier.

REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Pump	General	

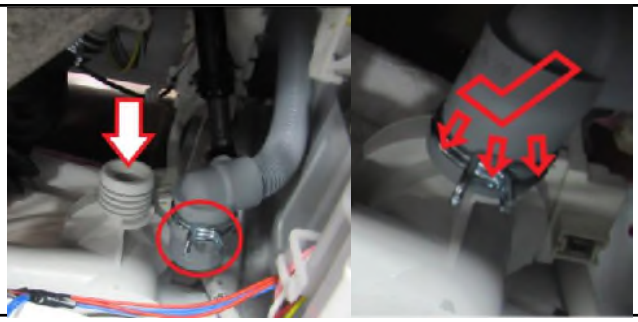


2.16. Remove the drain pump and change with the new one

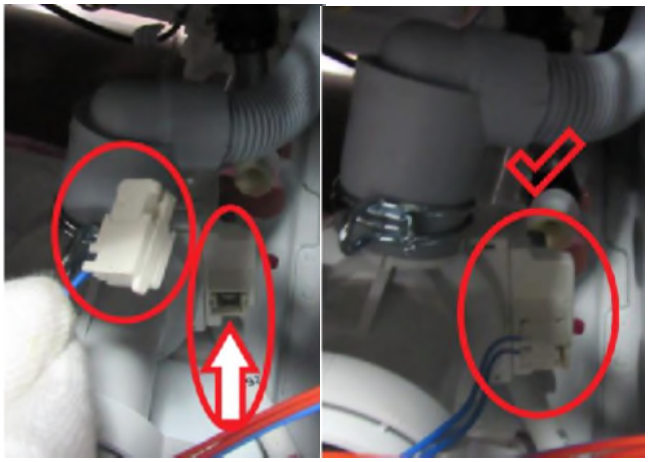
3. Assembly Instructions



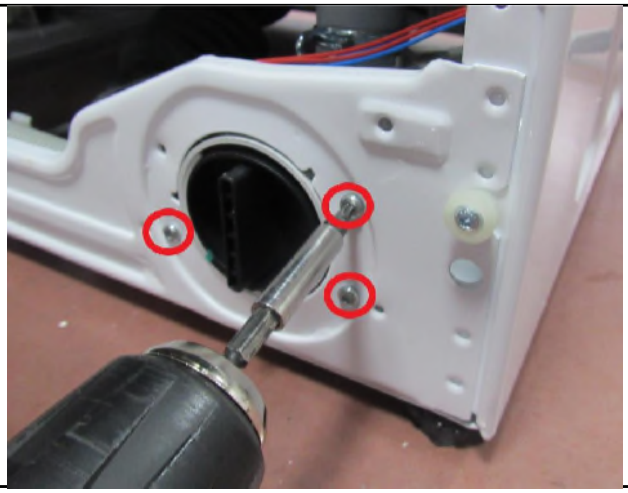
3.1. Connect the twinjet hose by using a plier to fix the clamp



3.2. Connect the drain hose by using a plier to fix the clamp



3.3. Connect the drain pump connector

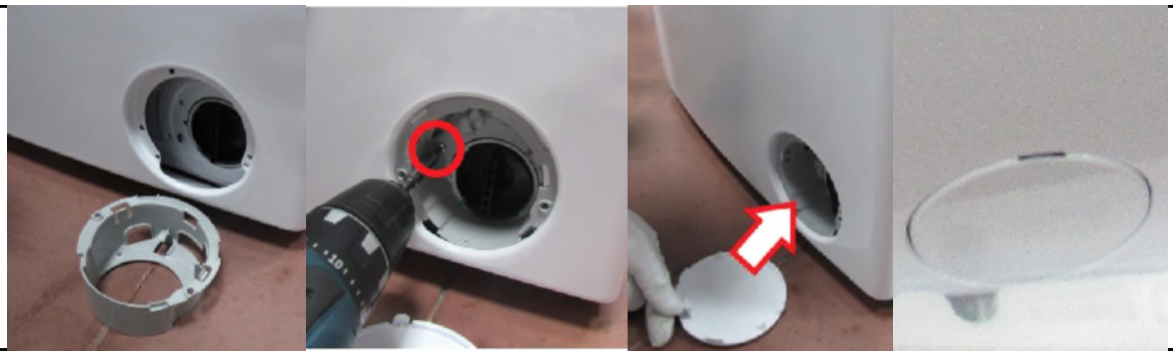


3.4. Tighten the screws holding drain pump

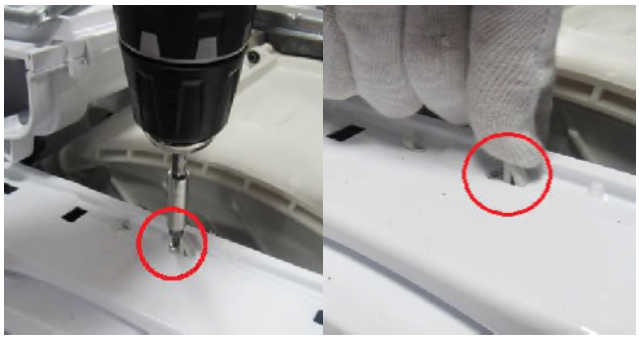
3.5. Pull the tub bellow seal to the outside and assemble the wire by using small screwdriver

3.6. Tighten the screw fixing the front panel at the bottom

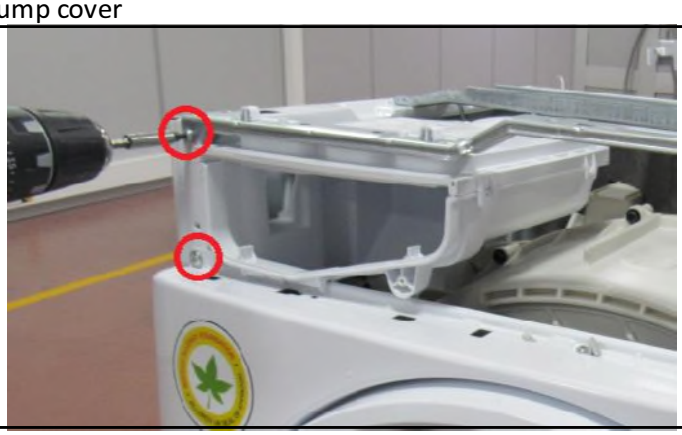
REPLACEMENT PROCEDURE		Applicable models	EN
Part name	Pump	General	



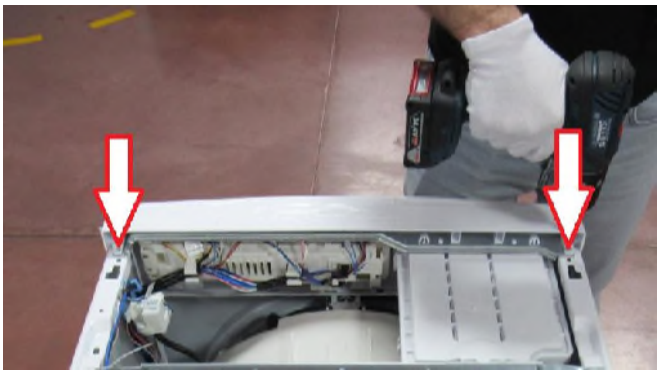
3.7. Tighten the screw and plastic part located under the pump cover



3.8. Assemble the twinjet elbow to the front panel

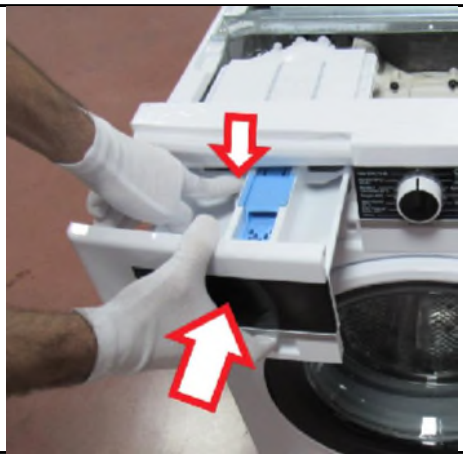


3.9. Tighten the screw on support bracket and two screws fixing front panel to body

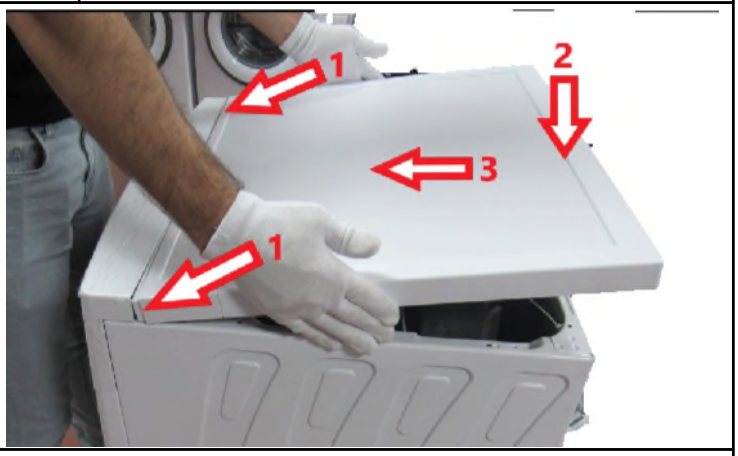


3.10. Tighten two screws fixing control panel.

3.11. Tighten the screw which fixes the control panel to the front panel.

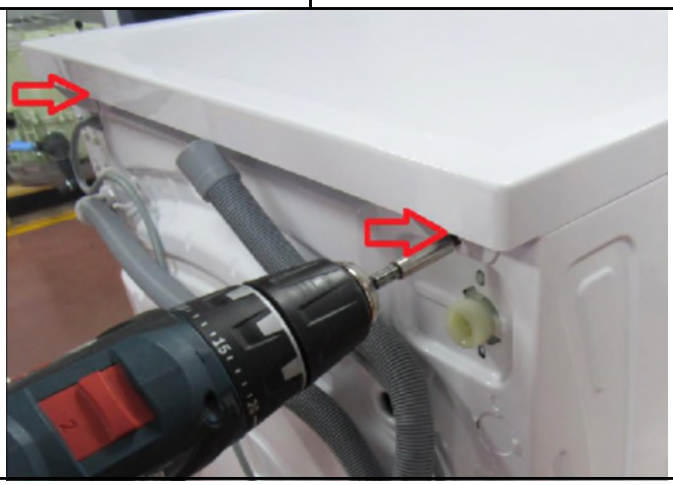


3.12. While pressing siphon cover keep pushing



3.13. Fit the upper tray according to movement above

drawer to fit it.



3.14. Tighten two screws that fix the top-plate at the back