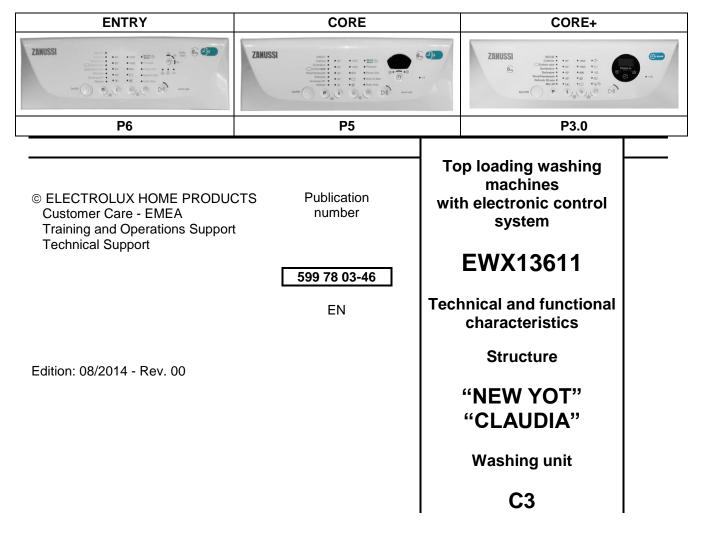
Electrolux

SERVICE MANUAL

WASHING





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1. PURPOSE OF THIS MANUAL

The purpose of this manual is to provide service engineers who are already familiar with the repair procedures for traditional washing machines with information regarding washing machines fitted with the EWX13611 (P6-P5) electronic control system.

Previous platforms (electronic/mechanical) used a safety pressure switch which controlled the minimum water level in the tub, beneath which the supply to the heating element was interrupted. The current electronic appliances manufactured use a heating element with thermal fuses (inside its branches) as safety, which interrupt if the water level drops below the minimum level permitted. The incorporated NTC probe contacts have a 2.5 mm pitch.

The manual deals with the following topics:

- 0. General characteristics
- 1. Control panel and compatibility between washing programs and options
- 2. Settings: Demo, Diagnostics
- 3. Alarms
- 4. Technical and functional characteristics
- 5. Access

Low consumption mode

In order to reduce electricity wastage when the cycle is not running, appliances in this platform offer two ways of enabling low consumption mode:

"Stand-Off" mode

When the appliance is switched off at the ON/OFF button, it is in the "Stand-Off" or "virtual" off status. The LEDs and the LCD screen are turned off and the buttons are disabled, although the main circuit board and certain electrical components are electrically powered.

You have to unplug the appliance to cut off the power supply

"Auto-off" mode

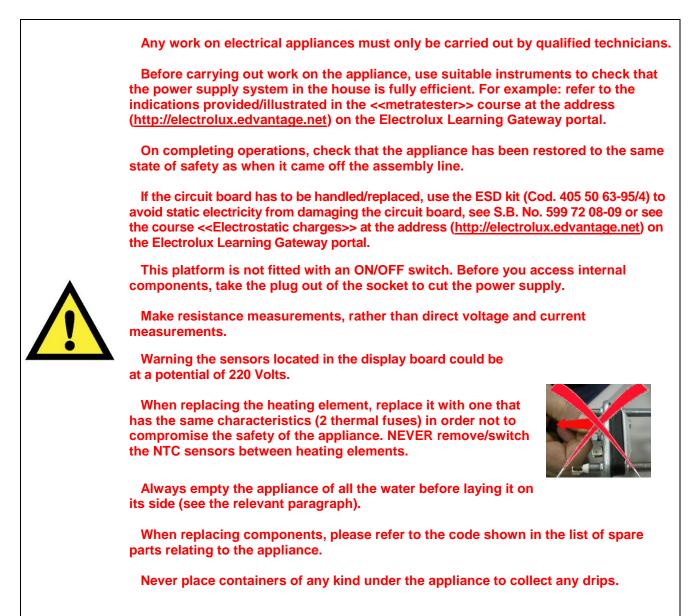
If, after 5 minutes, during the programme selecting phase or after the end of the cycle, the appliance receives no further instructions, it is automatically turned off (for energy savings in conformity with the standards on energy consumption).

All the settings are stored so that when the appliance is turned back on, the programme is ready or if the auto-off mode was triggered after the end of the cycle, the user can see that the cycle ended normally, and can restart it if necessary.

You have to unplug the appliance to cut off the power supply

If an alarm goes off when a wash programme is running, the automatic turn off is disabled showing the alarm.

2. WARNINGS



3. ENTRY STYLING P6

3.1. General characteristics EWX13611

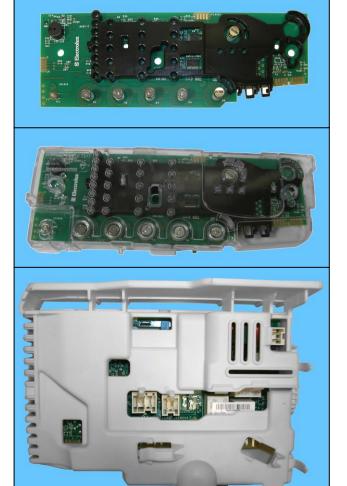
The electronic control system consists of two circuit boards.

In the event of problems with the touch sensors (difficulty selecting/adjusting them), clean and dry the display and do not wear gloves when setting the chosen programme.

The control/display board, which is inserted in a plastic container fixed to the control panel (the figure shows: the display board and the display board assembly).

Main board, positioned at the rear of the appliance. It powers the electrical components and receives commands from the display board.

No. buttons	Maximum 1
No. of touch-sensitive keys	 Maximum 6 (5 options + start/pause)
No. LEDs	 Maximum 30 yellow LEDs + 1 red LED
Power supply voltage	■ 220/240 V
Fower supply voltage	 50/60 Hz (configurable)
Washing type	 Traditional
Rinsing system	 Traditional
Motor	 Collector, with tachometric generator (Universal)
Spin speed	■ 1,000 – 1,400 rpm
Anti-unbalancing system	 AGS
Cold water fill	1 solenoid valve with 1 inlet – 2 outlets
Detergent dispenser	 2 compartments: wash, softener
Control of water level in the tub	 Electronic/analogue pressure switch
Door safety interlock	 Traditional (with PTC)
Heating element heat output	 1,750 W with thermal fuses incorporated
Temperature check	 NTC probe incorporated in the heating element
Buzzer	 Traditional incorporated in the PCB

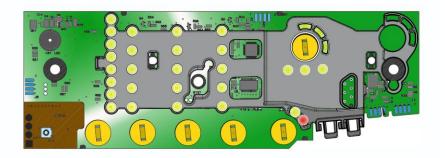


3.2. Control panel

Max. 1 Button Max. 6 touch sensors 30 yellow LEDs + 1 red LED

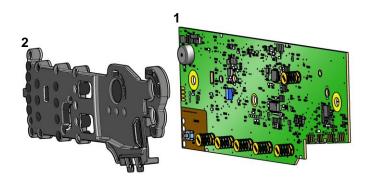


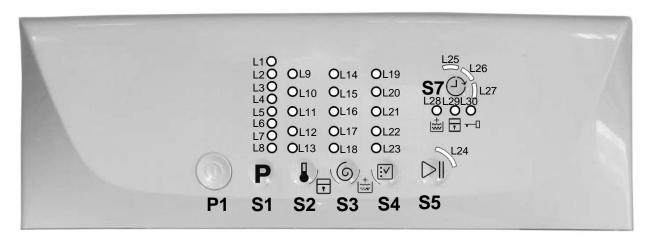
3.2.1. Display board



✤ Display board assembly, exploded view

- 1. Display board
- 2. Light divider





The washing programmes and the functions of the individual touch sensors vary according to the model, since these are determined by the configuration of the appliance.

3.2.2.1. Programme configuration

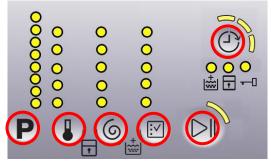
The table below lists the parameters that can be used to define the washing programmes.

Types of fabric	Cotton/linen, Synthetic fabrics, Delicates, Wool, Hand-wash,
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Shoes, Jeans, Duvet, Silk.
Special programmes	Cotton/linen + pre-wash, Soak, Miniprogramme, Easy-Iron,
opecial programmes	Conditioner, Rinse, Drain, Spin, Economy.
Temperature	Normal, Minimum, Maximum: The initial temperature is the one
Temperature	proposed for the washing programme.
Spin	Normal, Minimum, Maximum.
Options (Normal/Possible)	Rinse Hold, Pre-wash, Extra rinse, Easy-Iron, Economy
Options (Normal/Possible)	(energy label), Normal, Super quick, Reduced spin speed, No spin.
Programme phases Pre-wash, Wash, Rinses, Spin, Delayed start.	

3.2.2.2. Sensors – LEDs

The function of each touch sensor is defined via the configuration of the appliance (the data and images are for guidance only).

The touch sensors are positioned under the silk-screen printed symbols on the control panel (circled here in red).



A light touch on the centre of the symbol is enough to activate/deactivate the function linked to the sensor with the switching on/off of the relative Led confirming that the enabling/disabling has taken place.

At the same time as enabling/disabling of options, the cycle duration time is updated via the digits (P5 styling only).

You need to keep your finger pressed down for a longer period of time with the Start/Pause sensor to confirm both the cycle's start and pause, in order to avoid unwanted starts or accidental pauses.

Every time you touch a sensor, you need to lift your finger up by a centimetre and half a second needs to elapse before touching it again, otherwise the electronic system does not recognise that the sensor has been touched for a second time.

The sensors used for adjusting the: Temperature, Spin, delayed Start and Time Manager have a continued variation of values as long as your finger is in contact with the sensor.

3.2.2.3. Buttons – Sensors – LEDs

• Button No. 1: ON/OFF - ON

When it is pressed the appliance switches on, and at the same time the buzzer plays a tune (if enabled), the LEDs on the first four touch sensors (S1-S4) light up from bottom to top, the the LEDs relating to the following remain lit: main programme, temperature and recommended spin speed.

The operation of the ON/OFF button depends on the configuration of the main circuit board. It can cut the appliance off from the electricity mains completely (0 Watt circuit) or set the appliance to low energy consumption mode (without 0 Watt circuit) in which case you will need to take the plug out of the socket to cut off the electricity supply completely. Press the ON/OFF button to cancel the chosen programme.

To turn the appliance off, press and hold the button for 1 second. The buzzer will play a tune (if enabled), all the LEDs will turn off, and all the options selected and the programme selected will be reset.

Sensor No. 1: PROGRAMMES

The programmes are associated with the second sensor, which is combined with eight LEDs (L1-L8).

When the appliance is turned on the first LED at the top corresponding to the main programme lights up.

On the left of each LED is a description of the programme. Every time the sensor is touched the LED under it lights up, so that programmes are selected from the top downwards. Once the last programme has been reached, touching the sensor once more will make it start again from the programme at the top.

The selected programme is shown by turning on the LED near the silk-screen printed description on the control panel.

Press and hold the sensor with your finger for longer to scroll through the programmes more quickly.

Sensor No. 2: TEMPERATURE

The temperature is associated with the second sensor, combined with five LEDs (L9-L13).

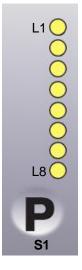
The initial temperature displayed is that set for the chosen programme. By touching the sensor you can lower the temperature. Once this has been reached the selection starts again from the highest available one for the selected programme. The selected temperature is shown by turning on the LEDs near the silk-screen printed value on the control panel.

The available temperatures are: 90°C, 60°C, 40°C, 30°C, cold cycle.

The initial temperature set for each programme is configurable.

Press and hold the sensor with your finger for longer to scroll through the programmes more quickly.







Sensor No. 3: SPIN SPEED (configurable)

The third sensor function is dedicated to the choice of spin speed, combined with five LEDs (L14-L18) above it. The relevant speed is silk-screen printed on the control panel alongside them.

The initial spin speed is that set for the chosen programme.

By touching the sensor the speed can be lowered, while at the same time the LED alongside the silk-screen printed speed on the control panel lights up to confirm the change. When the lowest speed is reached it is possible to select "Rinse hold" and the LED alongside the symbol silk-screen printed on the control panel will light up, The next selection will be the highest speed available for the selected programme.

Press and hold the sensor with your finger for longer to scroll through the programmes more quickly.

The speeds that can be combined with the five LEDs are shown in the following table.

Max. spin speed (rpm)	800	1,000	1,000	1,200	1,200- 1,400	1,200- 1,400	1,400- 1,600	1,400- 1,600	1,400- 1,600
Intermediate	600	800	800	800	1,000	1,000	1,200	1,200	1,200
Intermediate	400	400	600	400	800	800	800	800	1,000
Intermediate	0	0	400	0	0	400	0	400	800
Min. speed	Rinse hold	Rinse hold	0	Rinse hold	Rinse hold	0	Rinse hold	0	0

The recommended intermediate spin speeds are:

800 rpm for various programmes: Lingerie, Duvet, Shirts, Sport, 14 min., Silk, etc...

1,000 rpm for the option Easy Iron

1,200 rpm for synthetics, delicates, wool

If the option "Rinse hold" is selected, when the cycle ends the relevant LED flashes, to remind the user that the water must be drained before opening the door.

With the option "Easy Iron" the spin speed is reduced to 1,000 revs per minute, even if the speed selected is higher. When the option is disabled the speed will automatically return to the one that is selected.

Sensor No. 4: OPTIONS (configurable)

The fourth sensor function is dedicated to the choice of options to be used with the programme, combined with five LEDs (L19-L23) above it. The relevant option name is silk-screen printed on the control panel alongside them.

Touch the sensor when none of the options is enabled (all the LEDs switched off) to light the first LED relating to the most important option on the list.

When selection continues the next LED will light up (from the top down) and the previous one will turn off. When the bottom option has been reached, all the LEDs will turn off the next time the sensor is touched.

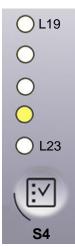
Only one option may be selected for each programme, combinations are not possible. Press and hold the sensor with your finger for longer to scroll through the options more quickly.

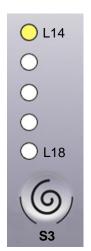
The first three LEDs (above) can be combined with the following options:

Super Quick Easy Iron Intensive Pre-wash Daily Half-load Soak

The two LEDs (below) are combined with:

- Rinse Only performs the last rinse for the programme selected. If "Extra Rinse" is selected, two or more rinses will be added (according to the configuration).
- Spin/Drain carries out the spin cycle for the programme selected. If the option "No Spin" is selected it will only drain.





Sensor No.5: START/PAUSE

This sensor has a START/PAUSE function. It is used to start a washing programme, after selecting the wash cycle and the options required, or to pause a cycle that has already started: to allow the chosen options to be changed or to open the door (if the temperature and water level allow this).

The cycle re-starts if you touch the sensor again.

The LED (L24) associated with this sensor flashes slowly: during setting, during the pause and at the end of a cycle with water in the tub.

It stays lit when a cycle is running and turns off when the cycle has ended and the door is unlocked.

While the other sensors when touched immediately change from selected to de-selected, in the case of this sensor, more time is needed to avoid unwanted cycle start ups or pauses.

In the event of the user making a wrong selection: for example an option that is not compatible with the selected programme or after the programme has been started, this is indicated by three rapid flashes of the red light. The same LED is also used to warn the user of particular problems in the appliance. The buzzer does not play any tune.

Sensor No.6:- DELAYED START (configurable)

This sensor has a DELAYED START function and is combined with the three LEDs (L25-L27) surrounding it.

By touching it in sequence, one of three possible delayed start options can be selected: 3h-6h-9h with the related LED coming on.

To cancel the delayed start, once the maximum delay has been reached simply press the sensor again. The delay time will be cancelled and none of the LEDs will be lit. If the delayed start has already been set, PAUSE the appliance and reset the time as described above.

Indicator LEDs

As well as lighting up when their functions are enabled, in combination with the red LED on the START/PAUSE sensor they inform the user of specific problems in the appliance that can be solved without having to contact technical assistance (see page 26).

Section 4 Padlock:

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When the relevant LED (L28) is lit, it indicates that all the sensors are disabled to prevent children from altering, starting or pausing the cycle.

When it is enabled, the LED will flash three times whenever a sensor is touched, to remind the user that the appliance is locked.

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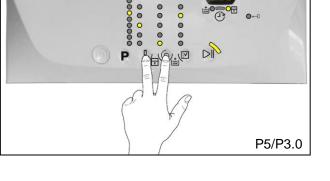
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It is enabled/disabled using a combination of two sensors (touch and hold for approximately 5 seconds), see figure below.

P6









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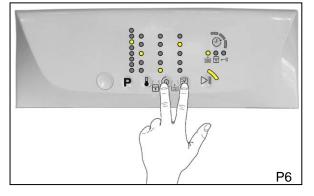
Extra-rinse:

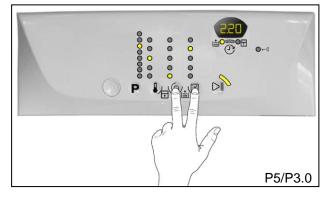
When the relevant LED (L29) is lit, it indicates that the option is enabled (it lights up during washing and rinsing, but is off during draining and spinning). The option remains enabled even after the appliance has been turned off (for subsequent programmes).



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It is enabled/disabled using a combination of two sensors, see figure below.





Solution Door interlock:

When the relevant LED (L30) is lit, the safety interlock is stopping the door from opening. When the LED is off the door can be opened.

When the LED is off the door can be opened. Flashes when the device is about to unlock the door (with door interlock with PTC, which needs one/two minutes to open).

3.2.2.4. Buzzer

This comprises a multi-tone buzzer and sounds in the following cases:

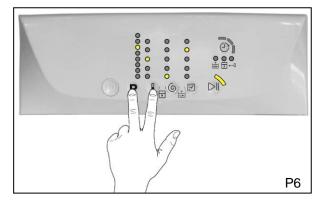
- When the appliance is turned on and off, it plays two different musical tunes.
- When a sensor is pressed, it emits a short "click"
- When the cycle ends this is indicated by a special sequence of "three long beeps" repeated at intervals of 15" for a total of 2 minutes. The sequence can only be stopped by opening the door in appliances where the instant door safety device with micro-switch is fitted.
- In the event of a malfunction in the machine this is indicated by a special sequence of "three short beeps" repeated 3 times at intervals of 15" for a total of 5 minutes.

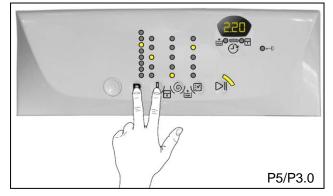
All appliances are fitted with the buzzer, and leave the factory with the option enabled. To disable it use the combination of sensors.

The volume has a factory setting which cannot be adjusted by the user.

When the buzzer is disabled (using the combination of sensors) it only emits the short "**click**" and the sequence of "**three short beeps**" when an alarm is triggered.

During the programme selection phase, the buzzer can be enabled/disabled with a sensor combination (which may be silk-screen printed on the control panel or described in the instruction manual), but the alarm signalling remains enabled.P5





To enable it, touch the sensors simultaneously for 3 seconds. A short beep will confirm that it has been enabled, whereas two short beeps will confirm that it has been disabled.

4. CORE STYLING P5

4.1. General characteristics EWX13611

The electronic control system consists of two circuit boards.

In the event of problems with the touch sensors (difficulty selecting/adjusting them), clean and dry the display and do not wear gloves when setting the chosen programme.

The control/display board, which is inserted in a plastic container fixed to the control panel (the figure shows: the display board and the display board assembly).

Main board, positioned at the rear of the appliance. It powers the electrical components and receives commands from the display board.

No. of buttons	Maximum 1		
No. of touch-sensitive keys	Maximum 6 (5 options + start/pause)		
No. LEDs	 Maximum 24 yellow + 1 red LED + Digit (made up of 22 LEDs) 		
Power supply voltage	 220/240 V 		
	 50/60 Hz (configurable) 		
Washing type	Traditional		
Rinsing system	Traditional		
Motor	Collector, with tachometric generator (Universal)		
Spin speed	1,200 rpm		
Anti-unbalancing system	AGS		
Cold water fill	1 solenoid valve with 1 inlet – 2 outlets		
Detergent dispenser	2 compartments: wash, softener		
Control of water level in the tub	Electronic/analogue pressure switch		
Door safety interlock	Traditional (with PTC)		
Heating element heat output	1,750 W with thermal fuses incorporated		
Temperature check	NTC probe incorporated in the heating element		
Buzzer	Traditional incorporated in the PCB		

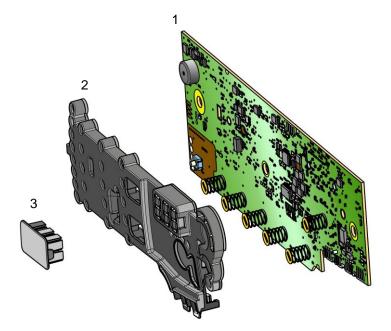
4.2. Control panel

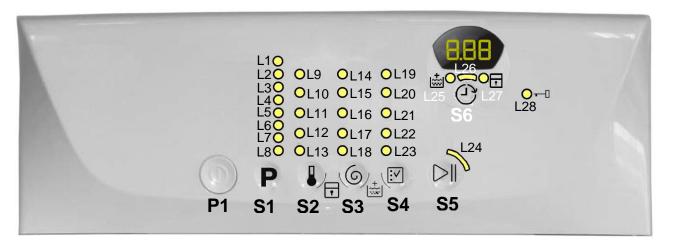
Max. 1 Button Max. 6 sensors 25 LEDs 1 LCD



4.2.1. Display board

- ✤ Display board assembly, exploded view
- 1. Display board
- 2. Light divider
- 3. Light diffuser





The washing programmes and the functions and the various touch sensors vary according to the model, since these are determined by the configuration of the appliance.

4.2.2.1. Programme configuration (see page 10).

4.2.2.2. Buttons – Sensors – LEDs

All the functions of button P1 and sensors S1 to S5 are the same as those described for styling P6 (see page 11).

Sensor No.6: FINISH IN

This sensor allows the user to programme in how many hours the wash cycle is to terminate.

More specifically, the start of the cycle can be delayed so that the cycle ends at the time required.

It is possible to select from a minimum of 3 hours o a maximum of 20. When this sensor is pressed for the first time the display will show 3 hours and the relevant LED (26) will light up to indicate that the option is enabled. Each time it is pressed the value will increase by 1 hour, up to 10 hours. From 10 hours to 20 hours the increases are by 2 hours at a time.

If the display shows 20 hours, "Finish In" will be disabled the next time the sensor is pressed, the wash cycle time will appear and the LED (26) will go out.

Press and hold the sensor with your finger for longer to scroll through the options more quickly.

Setting an option after selecting "Finish In"

"Finish In" must be enabled after selecting an option (if necessary) and before starting the cycle. If the user changes the programme settings after enabling "Finish In", then "Finish In" will be disabled, the LED (26) will flash once and the display will once again show the wash cycle time.

✤ "Finish In" after touching the START sensor

After selecting the programme, the option (if required) and setting "Finish In" the wash cycle is started by touching the START sensor; the door will lock and the countdown begins, shown on the display in intervals of one hour until the start of the wash cycle. Once the "Finish In" time has ended the display will show the time required to perform the wash cycle, starting the cycle countdown in intervals of one minute, until the end of the cycle.

If the appliance is set to pause during the "Finish In" countdown in order to change the option, and "Finish In" is enabled, the delay time will be cancelled and "Finish In" disabled. When the sensor is touched the display will show "error".



4.2.2.3. Display

Padlock (see page 13).

✤ Extra-rinse

(see page 14).

The display also shows the following information:

✤ Washing programme time

This appears after a washing programme has been selected. This time corresponds to the time required for the maximum wash load for each type of programme. After the programme has started, the time decreases (and is updated) minute by minute.

When the time is less than one hour the initial zeros are not displayed.

End of cycle
End of programme is indicated by a fixed zero (when the door can be opened).





✤ Selection incorrect

Displayed by a flashing "**Err**" message, lasting one second. Appears on selecting option that is incompatible with the programme selected, or when the selector is turned while a cycle is running.

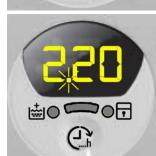
✤ Alarm code

Indicates an anomaly during operation of the machine. Simultaneously to the displaying of the code on the LCD display, the LED above the START/PAUSE sensor flashes.

Solution Calculate amount of washing

Only for appliances with PROPORTIONAL programmes. After starting the washing programme the dot starts to flash. At this point the washing machine calculates the amount of washing inside the drum. When this phase ends the dot lights up fixed and the three digits display the programme time.

4.2.2.4.Buzzer (see paragraph 3.2.2.4 page 14).



5. CORE+ Styling (P3.0)

5.1. EWX13611 General characteristics

The electronic control system consists of two circuit boards.

In the event of problems with the touch sensors (difficulty selecting/adjusting them), clean and dry the display and do not wear gloves when setting the chosen programme.

- The control/display circuit board, inserted in a plastic box, secured to the control panel (the figure illustrates: the display board and the display board assembly).
- <image>
- Main board, positioned at the rear of the appliance. It powers the electrical components and receives commands from the display board.

No. of buttons	 maximum 1 		
No. of touch-sensitive keys	 maximum 6 (5 options + start/pause) 		
No. LEDs	maximum 24 yellow + 1 red LED + Digit (made up of 22 LEDs)		
Power supply voltage	■ 220/240V		
Power supply voltage	 50/60 Hz (configurable) 		
Washing type	 Traditional with "Eco-IDB" 		
Rinsing system	 Traditional with "Eco-IDB" 		
Motor	 Collector, with tachometric generator (Universal) 		
spin speed	■ 1000 ÷ 1600 rpm		
Anti-unbalancing system	 AGS 		
Cold water fill	1 solenoid valve with 1 inlet – 2 outlets		
Detergent dispenser (Claudia)	 3 compartments: pre-wash/stains, wash, conditioner 		
Detergent dispenser (New Yot)	 2 compartments: wash, conditioner 		
Control of water level in the tub	 Electronic/analogue pressure switch 		
Door safety interlock	 Traditional (with PTC) 		
Heating element heat output	 1750W with thermal fuses incorporated 		
Temperature check	 NTC probe incorporated in the heating element 		
Buzzer	 Traditional incorporated in the PCB 		

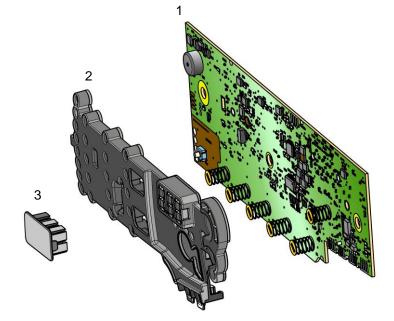
5.2. Control panel

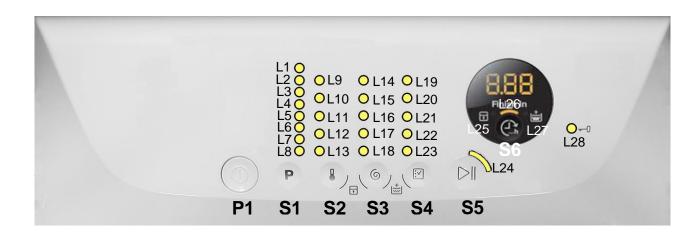
Max. 1 Button Max. 6 sensors 25 LEDs 1 LCD



5.2.1. Display board

- ✤ Display board assembly, exploded view
- 1 Display board 2 Light divider
- 3 Light diffuser





The washing programmes and the functions and the various touch sensors vary according to the model, since these are determined by the configuration of the appliance.

5.2.2.1. Programme configuration (See para. 3.2.2.1 page 10).

5.2.2.2. Buttons – Sensors – LEDs

All the functions: of button P1, of sensors S1 to S5 are the same as those described for Entry styling P6 (see para. 3.2.2.3 page 11).

Sensor no.6: THE CYCLE FINISHES IN (Finish In)

(See page 17).

5.2.2.3. Display

See page 13).

Padlock(See page 14)

The following information also appears on the display:

✤ Washing programme time

This appears after a washing programme has been selected. This time corresponds to the time required for the maximum wash load for each type of programme. After the programme has started, the time decreases (and is updated) minute by minute.

When the time is less than an hour, the initial zeros are not displayed.

Section 5 Section 4 Sectio

End of the programme is indicated by a permanently lit zero (when the door can be opened).



Selection incorrect

Displays the flashing message "**Err**", for one second. Appears on selecting option that is incompatible with the programme selected, or when the selector is turned while a cycle is running.

Solution Alarm code

Indicates an anomaly during operation of the machine. Simultaneously to the displaying of the code on the LCD display, the LED above the START/PAUSE sensor flashes

✤ Calculate amount of washing

Only for appliances with PROPORTIONAL programmes After starting the washing programme the dot starts to flash. At this point the washing machine calculates the amount of washing inside the drum. When this phase ends the dot lights up fixed and the three digits display the programme time.

5.2.2.4.Buzzer (See paragraph. 3.2.2.4 page 14).





6. DEMO MODE

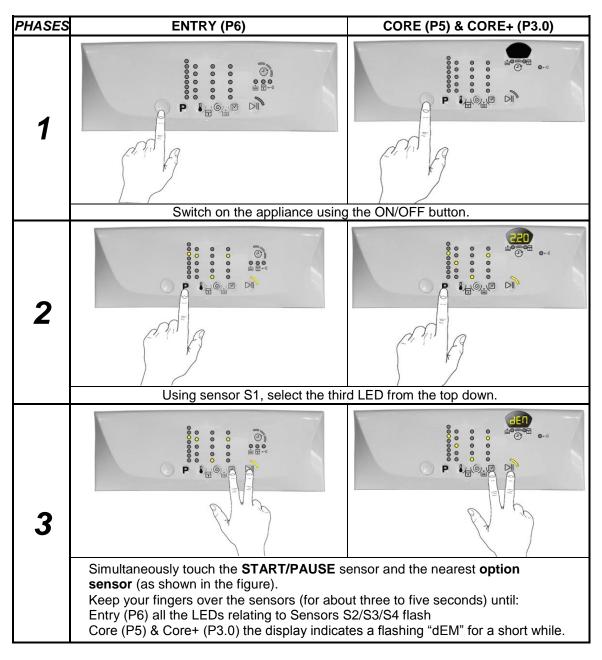
A special cycle is designed to demonstrate the operation of these appliances in shops, without connecting them to the water mains. This way, any one of the programmes can be selected and, once the start button/sensor has been pressed/touched (START/PAUSE), the appliance will only perform some of the phases of the programme, skipping those which cannot be performed (water fill, drain, heating).

The cycle takes place as follows:

- The door lock is enabled regularly (door locked during operation, possibility of opening it at the end of the cycle or when paused)
- All low speed movements are enabled, the pulses and spin are disabled
- ✤ The water fill solenoid valves and the drain pump are disabled
- Display: as the cycle phases are very fast (one second in the demo cycle corresponds to approximately one minute in the actual cycle) the end time decreases by 1 unit per second. Bear in mind that the end time does not always correspond to the actual cycle time

6.1. Access to DEMO settings

The operations listed below must be carried out within 7 seconds.



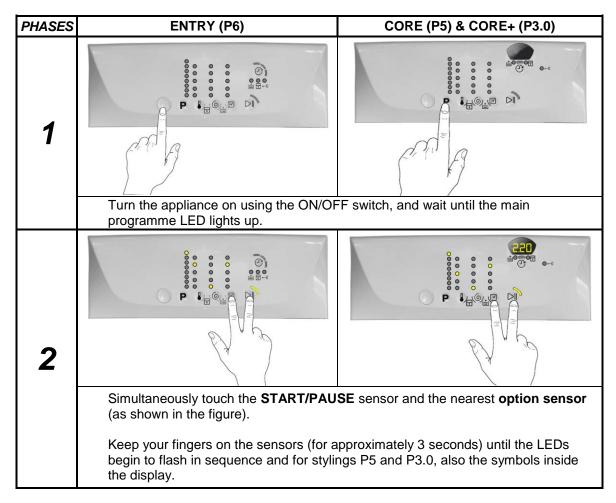
6.2. Exiting DEMO mode

Disconnect the power supply to exit demo mode.

7. DIAGNOSTICS SYSTEM

7.1. Accessing diagnostics

The operations listed below must be carried out within 7 seconds.



7.2. Quitting the diagnostics system

In order to exit the diagnostic system turn the appliance off and on again using the ON/OFF button.

If "ELE" appears on the display - if there is one - when you turn the appliance on, repeat the operation of switching it on and off.

7.3. Phases of the diagnostics test

Regardless of the type of PCB and the configuration, after the diagnostics system has been enabled it is possible, by touching sensor S1, to diagnose operation of the various components and read the alarms (touch sensor S1 (**P**rogramme) to advance in sequence from top to bottom, or touch sensor S2 (**T**emperature) to go back).

When the Display is present (P5) the indications given in the last column of the table below will be displayed. (All alarms are enabled in the diagnostic cycle.)

LED Lamp lighted	Components activated	Working conditions	Function tested	Display
	 Door safety interlock Wash solenoid valve 	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to wash compartment	Water level in the tub is displayed (mm)
	 Door safety interlock Pre-wash solenoid valve 	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to pre-wash compartment	Water level in the tub is displayed (mm)
	 Door safety interlock Pre-wash and wash solenoid valve 	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to conditioner compartment	Water level in the tub is displayed (mm)
	 Door safety interlock Third Solenoid valve 	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to Third solenoid valve compartment	Water level in the tub is displayed (mm)
	 Door safety interlock Fourth solenoid (hot water, if present) 	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to Fourth solenoid valve compartment	Water level in the tub is displayed (mm)

LED Lamp lighted	Components activated	Working conditions	Function tested	Display
	 Door safety interlock Wash solenoid, if the water in the tub is not enough to cover the heating element Heating element Recirculation pump 	Door closed Water level above the heating element. Maximum time of 10 min. or up to 90°C (*)	Warming up Circulation	Temperature in °C measured using the NTC probe
	 Door safety interlock Wash solenoid, if the water in the tub is not enough to cover the heating element Motor (55 rpm clockwise, 55 rpm anti-clockwise, 250 rpm pulse) 	Door closed Water level above the heating element	Check for leaks from the tub	Drum speed in rpm/10
	 Door safety interlock Drainage pump Motor up to 650 rpm then at maximum spin speed (**) 	Door closed Water level lower than anti-boiling level for spinning	Drain, calibration of analogue pressure switch and spin	Drum speed in rpm/10
	 Drum rotation motor Door fastening device Drum position sensor DSP 	Door closed	Check the correct position of the drum via DSP	
	Reading/Deleting the last alarm			
	 The LEDs light up in sequence, the symbols on the LCD display light up in in groups and the backlighting comes on, Touch a sensor to turn on the group of icons in the LCD screen or the corresponding LED and the buzzer sounds at the same time. 	Always active	User interface functioning	

(*) In the majority of cases this time is sufficient to control heating. It is possible to increase the time, repeating the phase without draining the water: move briefly to another phase in the diagnostics and then return to the heating control (if the temperature exceeds 80°C heating is not carried out).

(**) The control at maximum speed takes place without controlling the A.G.S. and no laundry must be inserted in the appliance.

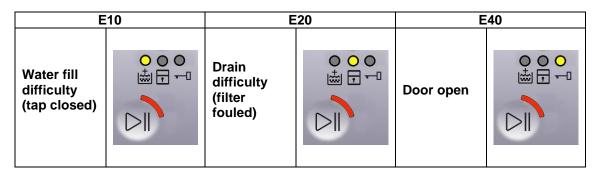
8. ALARMS

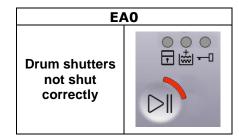
8.1. Displaying user alarms

8.1.1. ENTRY Styling P6

Alarms are displayed by flashing of the red LED on the START/PAUSE button: the three codes E10, E20, E40 are also shown in combination with one of the three LEDs above the START/PAUSE sensor. Alarms E9x and EHx show the full code with red LED + yellow LED, only the alarm EHx is not accompanied by sounding of the buzzer.

The table below illustrates the various combinations of LED lightings.





The aforementioned alarms (for both versions) can be remedied directly by the end user.

Once the problem has been solved the red LED will turn off, and normal operation will resume with lighting of the yellow LED.

On the other hand, the alarms listed below (for both versions):

✤ EF0 – Water leakage (Aqua Control System)

It is displayed to the user, but technical assistance is required to resolve it.

EH0 – Voltage or frequency outside the normal values
 It is necessary to wait for power supply voltage and/or frequency to restore nominal conditions.

The alarms are enabled during the execution of the washing programme. With the exception of alarms associated with the configuration and the power supply voltage/frequency, which are also displayed during the programme selection phase.

The door can normally be opened (except where specified) when an alarm condition has occurred, on the condition that:

- The level of the water in the tub is below a certain level
- The water temperature is below 55°C
- The motor has stopped

Certain alarm conditions require a drain phase to be performed before the door can be opened for safety reasons:

- Cooling water fill if the temperature is higher than 65°C
- Drain until the analogue pressure switch is on empty, during a max. 3-minute interval

8.1.2. CORE (P5) & CORE+ (P3.0) Styling

When a problem arises with the appliance, "WARNING" appears on the LCD screen, represented by a code (three digits, indicating the time required for the cycle to end). At the same time the buzzer gives off three short "beeps" every 20" for a period of 5 minutes.

Once the fault has been repaired the buzzer does not give off any "beeps" and the selected programme appears on the LCD screen.

Alarms E9x and EHx show the full code with red LED + yellow LED, only the alarm EHx is not accompanied by sounding of the buzzer.



The alarms displayed to the user are listed below and can also be eliminated by the user:

E10 – Water fill difficulty (tap closed)
E20 – Drain difficulty (filter dirty)
E40 – Door open
EF0 – Detergent overload (if displayed)
E91 – No communication between display board and main PCB. Switching on/Switching off
E92/E93/E94 – Main PCB not properly configured
EA0 - Drum shutters not shut correctly

✤ EH0 – Voltage or frequency outside the normal values

It is necessary to wait for power supply voltage and/or frequency to restore nominal conditions.

The alarms are enabled during the execution of the washing programme. With the exception of alarms associated with the configuration and the power supply voltage/frequency, which are also displayed during the programme selection phase.

The door can normally be opened (except where specified) when an alarm condition has occurred, on the condition that:

- The level of the water in the tub is below a certain level
- The water temperature is below 55°C
- The motor has stopped

Certain alarm conditions require a drain phase to be performed before the door can be opened for safety reasons:

- Cooling water fill if the temperature is higher than 65°C
- Drain until the analogue pressure switch is on empty, during a max. 3-minute interval

8.2. Reading/displaying the alarms

8.2.1. Displaying the alarm (CORE P5 & CORE+ P3.0)

The last three alarms stored in the FLASH memory of the PCB can be displayed:

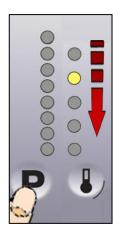
Enter the diagnostic mode (para. 7.1)

Regardless of the type of PCB and the configuration, select the LED using sensor S1 (figure alongside) and the display will show the last alarm.

To display previous alarms, touch the sensor closest to the START/PAUSE sensor in sequence (as shown in the figure).

To return to the last alarm, touch the START/PAUSE sensor.





8.2.2. Displaying the alarm (ENTRY P6)

The alarm is displayed by a repeated flashing sequence of the START/PAUSE button red and green lights (0.5 seconds on, 0.5 seconds off with a 2.5 second pause between sequences).

- START/PAUSE button indicator with red light → indicates the first digit of the alarm code (family)
- START/PAUSE button indicator with yellow light → indicates the second digit of the alarm code (number within the family)

These two LEDs can be found on all models.

Notes:

The first letter of the alarm code "**E**" (Error) is not displayed, since this letter is common to all alarm codes. Alarm code families are expressed in hexadecimals; and therefore the letter:

A is shown by 10 flashes

B/H is shown by 11 flashes

- F is shown by 15 flashes
- Configuration errors are displayed by all LEDs flashing (user interface not configured).

8.2.3. Example of alarm display

If we take alarm E43 (problem with the door safety TRIAC) as an example; the following will be displayed:

- \rightarrow the sequence of four flashes of the START/PAUSE button with the red light indicates the first number E43;
- → the sequence of three flashes of the START/PAUSE button with the yellow light indicates the second number E43;

START/PAUSE button with red light			START/PAUSE button with yellow light		
On/off	Time (Sec.)	Value	On/off	Time (Sec.)	Value
	0.5	1		0.5	1
	0.5			0.5	Ι
	0.5	2		0.5	2
	0.5	2		0.5	۷
	0.5	3		0.5	3
	0.5	5		0.5	3
	0.5	Λ			
	0.5	4		2.5	Pause
	1.5	Pause			

8.2.4. Behaviour of the alarms during diagnostic testing

All alarms are enabled during diagnostic testing of the components.

8.2.5. Rapid reading of alarms

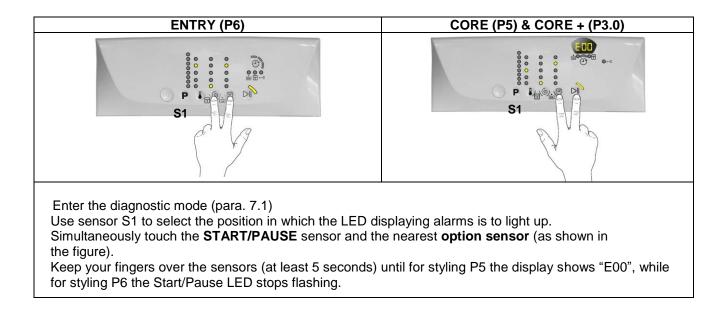
It is possible to display the last alarm even if the selector is not in the eleventh diagnostics position or the machine is in normal operation (e.g. while a washing programme is in progress):

- → Simultaneously touch the START/PAUSE sensor and the nearest option sensor (just as if you were accessing DIAGNOSTICS), for at least 2 seconds: the LCD will display the last alarm.
- \rightarrow The alarm will continue to be displayed until a sensor is touched.
- \rightarrow The reading system is the same as the one indicated in paragraph 7.2.
- → During the time the alarm is displayed the appliance will continue to carry out the cycle or, if the selection phase is in progress, it will store the options selected to that point.

8.2.6. Deleting the last alarm

It is good practice to cancel the alarms stored:

- \rightarrow After reading the alarm codes, to check whether the alarm re-occurs during the diagnostic cycle
- \rightarrow After repairing the appliance, to check whether it re-occurs during testing



N.B. With this operation all the alarms stored are deleted.

9. ALARM SUMMARY TABLE

Alarm	Description	Possible fault	Machine status/action	Reset
E00				
E11		Tap closed or water pressure too low; Drain pipe improperly positioned; Water fill solenoid valve faulty; Leaks from water circuit on pressure switch; Pressure switch faulty; Wiring faulty; Main PCB faulty.	Cycle is paused with door locked	START/RESET
E13	Water leaks	Drain pipe improperly positioned; water pressure too low Water fill solenoid valve faulty; Water circuit on pressure switch is leaking/clogged; Pressure switch faulty.	Cycle is paused with door locked	START/RESET
E21	Drain difficulty during washing	Drain pipe kinked/clogged/improperly positioned; Drain filter clogged/dirty; Wiring faulty; Pressure switch faulty; Drain pump rotor blocked; Drain pump faulty; Main PCB faulty.	Cycle is paused (after 2 attempts)	START ON/OFF RESET
		Wiring faulty; Drain pump faulty; Main PCB faulty.	Safety drain cycle - Cycle stops with door open	RESET
		Main circuit board faulty.	Safety drain cycle - Cycle stops with door unlocked	RESET
E25	Fault in the Aqua Control "sensing" circuit	Main circuit board faulty.	Safety drain cycle - Cycle stops with door unlocked	RESET
	Electronic pressure switch circuit faulty	Wiring; Electronic pressure switch; Main PCB;	Cycle stops with door locked	RESET
E32		Drain tube kinked/clogged/improperly positioned; Faulty solenoid; Drain filter clogged/dirty; Drain pump faulty; Leaks in the pressure switch hydraulic circuit; Pressure switch faulty; Wiring; main PCB;	Cycle is paused	START/RESET
E35		Water fill solenoid valve faulty; Leaks from water circuit on pressure switch; Wiring faulty; Pressure switch faulty; Main PCB faulty.	Cycle blocked. Safety drain cycle. Drain pump continues to operate (5 min. on, then 5 min. off. etc.)	RESET
E38	Internal pressure chamber is clogged (water level does not change for at least 30 sec. of drum rotation)	Motor belt broken; Water circuit on pressure switch clogged.	Heating phase is skipped	RESET
E41	Door open	Check whether the door is closed properly; Wiring faulty; Door safety interlock faulty; Main circuit board faulty.	Cycle is paused	START/RESET
	Problems with door lock	Wiring faulty; door safety interlock faulty; Electrical current leak between heating element and ground; Main PCB faulty.	Cycle is paused	START/RESET
		Wiring faulty; door safety interlock faulty; Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET
E44	Faulty sensing by door delay system	Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET

Alarm	Description	Possible fault	Machine status/action	Reset
E45	Faulty sensing by door delay system Triac	Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET
E51	Motor power Triac short-circuited	Current leakage from motor or from wiring; Main PCB faulty;	Cycle stops with door open (after 5 attempts)	ON/OFF
E52	No signal from motor tachometric generator	Wiring faulty; Motor faulty;	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET
E53	Faulty sensing by motor Triac	Main circuit board faulty.	Cycle blocked	RESET
E54	Motor relay contacts sticking	Current leakage from motor or from wiring; Main PCB faulty;	Cycle blocked (after 5 attempts)	RESET
E61	Insufficient heating during washing	Wiring faulty; NTC probe for wash cycle faulty; Heating element faulty; Main PCB faulty.	The heating phase is skipped	START/RESET
E62	Overheating during washing (temperature higher than 88°C for more than 5 min.)	Wiring faulty; NTC probe for wash cycle faulty; Heating element faulty; Main PCB faulty.	Safety drain cycle Cycle stops with door open	RESET
E66	Heating element power relay faulty (inconsistency between sensing and relay status)	Earth leakage between heating element and earth. Main PCB faulty;	Safety water fill Cycle stops with door closed	ON/OFF RESET
E68	Earth leakage	Earth leakage between heating element and earth.	The heating phase is skipped	START/RESET
E69	Heating element interrupted	Wiring faulty; Heating element for washing interrupted (thermal fuse open); Main PCB faulty.		START ON/OFF RESET
E6A	Heating relay sensing faulty	Main circuit board faulty.	Cycle stops with door locked	RESET
E6B / E6H	Heating element power relay faulty (inconsistency between sensing and relay status)	Wiring faulty; Earth leakage between heating element and earth; Main PCB faulty.	Safety water fill Cycle stops with door closed	ON/OFF RESET
E71	NTC probe for wash cycle faulty (short-circuited or open)	Wiring faulty; NTC probe for wash cycle faulty; Main circuit board faulty.	The heating phase is skipped	START/RESET
E74	NTC probe for wash cycle improperly positioned	Wiring faulty; NTC probe for wash cycle improperly positioned; NTC probe faulty; Main PCB faulty.	The heating phase is skipped	RESET
E83				
E84	Recirculation pump TRIAC "sensing" circuit faulty	Main circuit board faulty.	Safety drain cycle - Cycle stops with door open	RESET
E85	Faulty Triac for recirculation pump	Wiring faulty; Recirculation pump faulty; Main PCB faulty.	Safety drain cycle - Cycle stops with door open	RESET
E86	Selector configuration error	Incorrect configuration of display board.		START ON/OFF RESET
E87	Display board microprocessor faulty	If this continues, replace the display board.	No action to be taken	START ON/OFF RESET

Alarm	Description	Possible fault	Machine status/action	Reset
E91	PCB and display	Wiring faulty; Control/display circuit board faulty, Inverter Board faulty, Main circuit board faulty.		RESET
		Incorrect control/display PCB Incorrect PCB (does not correspond to the model).	Cycle blocked	ON/OFF
E93		Main PCB faulty (incorrect configuration data);	Cycle blocked	ON/OFF
	washing cycle	Main PCB faulty (incorrect configuration data);	Cycle blocked	ON/OFF
E97	selector and cycle configuration	Main PCB faulty (incorrect configuration data).	Cycle blocked	RESET
	Communication error between main PCB - Inverter	Incompatibility between main PCB and Inverter.	Cycle blocked	ON/OFF
E9C	Display board configuration error	Display board faulty.		START ON/OFF RESET
E9E	Display board sensor/touch key faulty	Display board faulty.		ON/OFF
EA1	No drum position signal made	DSP sensor faulty. Transmission belt broken. Main circuit board faulty. Faulty wiring.	Drum positioning cycle cancelled	START/RESET
EA6	Motor does not turn at start of cycle	Faulty wiring. Motor board. Main circuit board faulty.	Cycle paused	START RESET
EC1	Electronically controlled valve blocked with operating flow meter	Faulty wiring; Faulty/blocked solenoid, PCB faulty,	Cycle stops with door locked Drain pump continues to operate (5 min. on, then 5 min. off. etc.)	RESET
EC4	AGS current sensor faulty	Main board faulty.	Spin speed reduced to safety speed of 150 rpm	RESET
EF1		Drain filter clogged/dirty. Drain hose blocked/kinked/too high.	Warning displayed at the end of cycle	START/RESET
	phases)	Excessive detergent dosing; Drain hose kinked/blocked; Drain filter clogged/dirty.	Warning displayed after 5 attempts or by the specific LED	RESET
	Aqua control system intervention	Water leaks onto base frame; Aqua control system faulty; Drain pump coil overheating/broken.	Appliance drains	ON/OFF RESET
EF4	Water fill pressure too low, no signal from flow meter and electronically controlled valve is open	Tap closed, water fill pressure too low.		RESET
EF5	Unbalanced load	Final spin phases skipped.		START/RESET
EF6	Reset	If it continues, replace the main board.	No action to be taken	

Alarm	Description Possible fault		Machine status/action	Reset
	Supply frequency of appliance outside the limits	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal frequency conditions	ON/OFF
EB2 / EH2	Supply voltage too high	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions	ON/OFF
EB3 / EH3	Supply voltage too low	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions	ON/OFF

10. OPERATING TIME COUNTER (CORE P5&CORE+ P3.0)

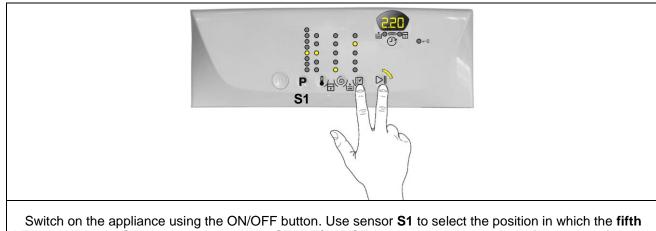
Using a specific procedure, the operator can display the total operating time for the appliance, which is counted from the moment it is first switched on.

The maximum storage capacity is 6,550 hours operation.

- only the time needed to carry out normal programmes is stored (not diagnostic cycles)
- the actual operating time for the cycle is counted (which does not include pauses, delayed start time, rinse hold time and soaking phases)
- the precision of the counter is 30 seconds per programme
- only <u>whole hours of operation</u> are counted (1 h and 59 min = 1 h)

10.1. Reading the operating time

The operations listed below must be carried out within 7 seconds.



Switch on the appliance using the ON/OFF button. Use sensor S1 to select the position in which the fifth LED is to light up. Simultaneously touch the START/PAUSE sensor and the nearest option sensor (as shown in the figure). Keep your fingers over the sensors until the hours of operation appear on the display (at least 5 seconds).

10.2. Display of total operating time

The time is displayed in a sequence of two figures at a time: the first group indicates the thousands and hundreds, the second the tens and units.

For example, if the operating time is 6,550 hours, the display will show the following sequence:

	Phase 1	Phase 2	Phase 3
	For <u>two seconds</u> It displays: Hr	For <u>two seconds</u> it displays: ∜ the thousands (6) ∜ the hundreds (5)	For the next <u>two seconds</u> it displays: ∜ the tens (5) ∜ the units (0)
<u>Core</u>			
<u>Core+</u>	Hr	65	50

At the end of phase three (after the tens and units are displayed), the cycle is repeated. To return to normal operation you can: turn the appliance off, or press a button.

11. OPTIONS

11.1. Compatibility between options

			OPTIONS							
		Rinse hold	Pre-wash	Extra-rinse	Easy-iron	Economy	Cupboard Dry	Super Quick	Reduced spin speed	No Spin
	Rinse hold		Х	Х	Х	Х	Х	Х		-
÷	Pre-wash	Х		Х	Х	Х	Х	Х	Х	Χ
Ň	Extra-rinse	Х	Χ		Х	Х	Х	Х	Х	Χ
NS NS	Easy Iron	Х	Χ	Х		Х	Х	Х	Х	Χ
lid li	Economy	Х	Χ	Х	Х			Х	Х	Χ
PT	Cupboard Dry	Х	Χ	Х	Х				Х	Х
d C O	Super Quick	Х	Χ	Х	X	Х			X	Χ
Compatibility with OPTIONS	Reduced spin speed		Χ	Х	X	Х	Х	Х		
	No Spin		Χ	Х	X	Х	Х	Х		
Phases where selection/ modification is possible	Selection	Х	Х	Х	Х	Х	Х	Х	Х	Χ
	Pre-wash	Х		Х	Х				Х	Χ
	Wash	х		Х	Х				Х	Χ
	Rinses	Х								
	Spin									

• The delayed start is compatible with all programmes except for Drain; the maximum time selectable is 20 hours.

• The selection of the spin cycle is available for all programmes, except for Drain/Extra Silent.

11.2. Description of options

Rinse hold

- \rightarrow During the cycle the intermediate rinses and spins are performed.
- \rightarrow Stops the appliance with water in the tub before the final spin cycle.
- → On terminating the cycle with water in the tub, the appliance will turn the drum every two minutes for a maximum of 18 hours, after which it stops.
- \rightarrow To drain the water, simply press the START/PAUSE button to run the drain and spin cycles.

• Pre-wash

- \rightarrow Adds a pre-wash phase at the start of the cycle with water heating to 30°C (or cold, if selected).
- \rightarrow In COTTON and SYNTHETICS cycles, performs a short spin before passing on to the washing phase.
- \rightarrow This option cannot be selected for WOOL and HAND WASH cycles.

• EXTRA-rinse

- \rightarrow Adds **two** rinses in cycles where this is foreseen.
- \rightarrow Eliminates the spin at the end of washing.

• No spin

- \rightarrow Eliminates <u>all</u> the spin phases.
- \rightarrow It adds three rinses to the COTTON cycle and one to the SYNTHETIC FABRICS cycle.

Stains

- \rightarrow Adds a 5-minute motor movement phase after heating to 40°C.
- \rightarrow Water flow to the pre-wash/stains compartment to introduce the special stain-removal product.
- \rightarrow This option cannot be selected for WOOL and HAND WASH cycles.

• No spin

- \rightarrow Eliminates <u>all</u> the spin phases.
- \rightarrow It adds three rinses to the COTTON cycle and one to the synthetic fabrics cycle.

• Daily

Modifies the structure of the COTTONS - SYNTHETICS - DELICATES cycles to obtain good washing performance in a short space of time.

• Super quick

→ Modifies the structure of the wash phase of the COTTONS - SYNTHETICS - DELICATES cycles by half a load.

• Delayed start time

- \rightarrow Inserts a pause before the start of the programme:
- \rightarrow Styling P6 the delay time is indicated by the three LEDs, see page 13.
- \rightarrow Styling P5, see the description on page 17, "Finish In".
- → To start the cycle immediately after the countdown to the delayed start has already begun: press the Start/Pause button, cancel the delay time by pressing the relevant button, then press Start/Pause again.

• Easy-iron

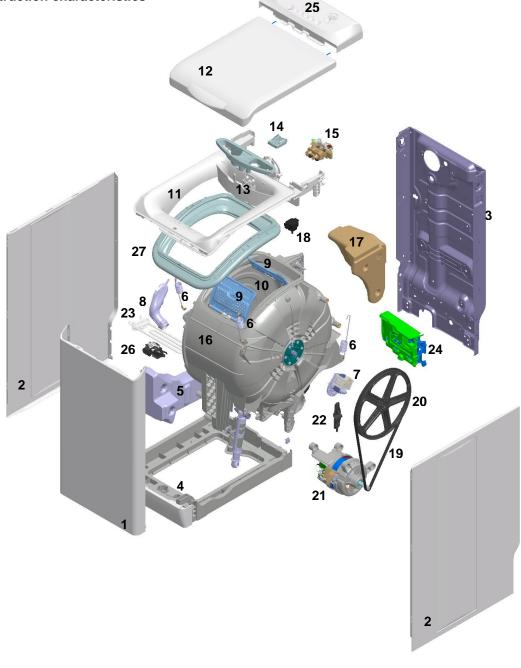
- \rightarrow In COTTON programmes:
- \rightarrow adds three rinses
- \rightarrow eliminates intermediate spin cycles
- \rightarrow performs a pulse spin phase before the final spin
- \rightarrow adds an "untangling" phase after the spin cycle
- \rightarrow In SYNTHETIC FABRICS programmes:
- \rightarrow it reduces the heating temperature in 50/60°C cycles to 40°C
- \rightarrow increases the wash time
- \rightarrow prolongs the cooling phase at the end of the wash phase
- \rightarrow adds one rinse
- $\rightarrow~$ adds an "untangling" phase after the pulse spin cycle

12. TECHNICAL CHARACTERISTICS

There are two structures: "Claudia" and "New YOT" which differ in their inlet and detergent dispenser. Claudia uses a detergent dispenser with three compartments whereas New YOT uses one with two compartments, integrated into the inlet.

12.1. "Claudia" structure

12.1.1. Construction characteristics



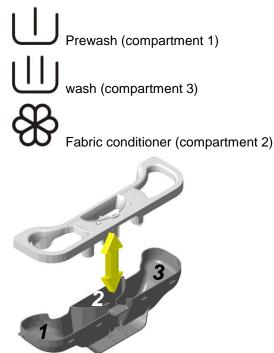
- 1. Front panel.
- 2. Sides.
- 3. Back panel.
- 4. Base.
- 5. Right counterweight
- 6. Unit suspension springs.
- 7. Drain pump.
- 8. Pressure chamber.
- 9. Lids.

- 10. Drum.
- 11. Inlet
- 12. Upper cover.
- 13. Detergent dispenser.
- 14. Conveyor.
- 15. Solenoid valves.
- 16. Washing unit.
- 17. Left counterweight
- 18. Electronic pressure switch
- 19. Transmission belt.
- 20. Pulley.
- 21. Drum rotation motor.
- 22.DSP.
- 23. Heating element.
- 24. Main electronic circuit board
- 25. Control panel.
- 26. Lock
- 27. Seal

12.1.2. Detergent dispenser

Before entering the tub, the cold water passes through the detergent dispenser picking up the detergent inside it.

This dispenser is split into 3 compartments marked with the symbols:





- 1. Detergent dispenser.
- 2. Fabric softener dispenser.
- 3. Pre-wash detergent dispenser.

12.1.3. Detergent dispenser for Powder/Liquid detergents (if there is one)

In some washing machines the detergent tray configured to use both liquid and powder detergent can be used; the tray can be configured to the kind of detergent by moving the lever (1) in the centre of the tray.

Lever position when the appliance leaves the factory and for use with powder detergent.





Move the lever to the right to use liquid detergent

For further details, read the instruction manual.

12.1.4. Working principle of water dispenser.

- Pre-wash

During the pre-wash phase the right solenoid valve is activated, the water coming from the load pipe passes through the pressure reducer and then to the water dispenser, which then sends the water into the left dispenser picking up, if there, the detergent needed for the prewash.

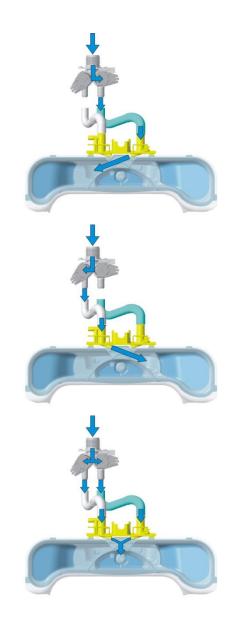
-Wash

During the washing phase the left solenoid valve is activated, the water coming from the load pipe passes through the pressure reducer and then to the water dispenser, which then sends the water into the right dispenser picking up the detergent needed for washing.

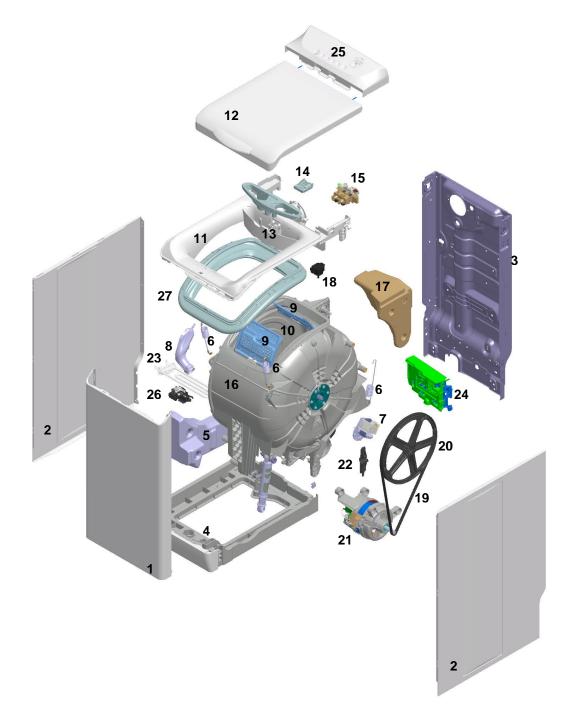
- Fabric softener

In some programmes the fabric softener in the central dispenser is picked up.

In order to do this both solenoid valves are put into action, the water coming simultaneously out of the right and left side of the distributor is directed into the central dispenser containing the fabric softener.



12.2.1. Construction characteristics



- 1. Front panel.
- 2. Sides.
- 3. Back panel.
- 4. Base.
- 5. Right counterweight
- 6. Unit suspension springs.
- 7. Drain pump.
- 8. Pressure chamber.
- 9. Lids.

- 10. Drum.
- 11. Inlet
- 12. Upper cover.
- 13. Detergent dispenser.
- 14. Conveyor.
- 15. Solenoid valves.
- 16. Washing unit.
- 17. Left counterweight
- Electronic pressure switch

- 19. Transmission belt.
- 20. Pulley.
- 21. Drum rotation motor.
- 22. DSP.
- 23. Heating element.
- 24. Main electronic circuit board
- 25. Control panel.
- 26. Lock
- 27. Seal

12.2.2. Detergent dispenser

Before entering the tub, the cold water passes through the detergent dispenser picking up the detergent inside it.

This dispenser is split into 3 compartments marked with the symbols:





Wash (dispenser 2)

Softener (dispenser 3)





12.2.3. Working principle of water dispenser

- Pre-wash

There is no pre-wash compartment. If necessary, the detergent must be introduced directly into the drum.

During this phase the left solenoid valve is activated, the water coming from the load pipe passes through the pressure reducer and the conveyor and flows directly into the tub.

-Wash

During the washing phase the right solenoid valve is activated, the water coming from the load pipe passes through the pressure reducer and the conveyor and flows into the left dispenser picking up the detergent needed for washing cycle.

Fabric softener

During the last rinse phase the two solenoid valves are activated, the two jets of water cross each other, changing direction and forming a single jet that sends the water into the right dispenser, where it picks up the fabric softener







12.3. Washing unit

WASHING UNIT					
Туре	Load capacity (cottons)	Drum volume			
	max.				
C3	6 Kg	42 litres			

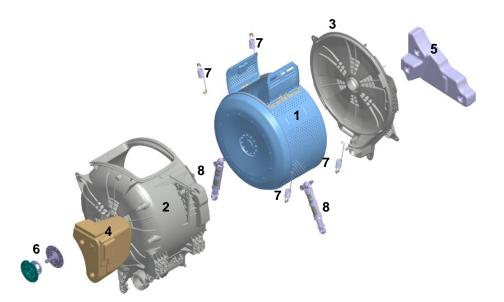
The washing unit is made up of:

A stainless steel drum (1) inserted inside a carboran tub (2) with a welded cover (3).

2 counterweights are positioned to the sides (4 and 5) needed to reduce the swinging caused by the clothes during washing.

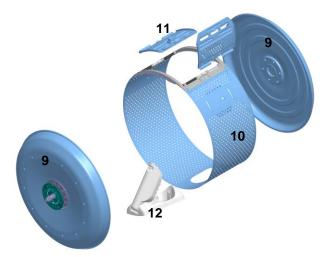
The drum is held in position by bearings fitted to the tub and held by a support (6).

The washing unit is held suspended by spiral springs (7) fitted two to the back and two to the front panel, the swinging is muffled by two shock absorbers (8) one to the front and one at the back of the tub and fitted to the base frame.



The drum inserted in the washing unit is made up of 2 flanges (9) clamped to a perforated cylinder (10) with an open part (inlet) and in correspondence with the inlet there are 2 tilted lids (11) fitted to this cylinder using 2 pivots.

Inside the drum there is a blade (12) with a mobile central portion, which can be lifted to access the fluff filter.



12.4. Water circuit

12.4.1. Drain circuit with pump in the tub

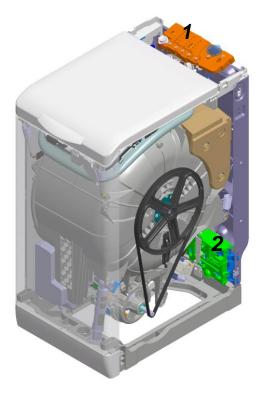
- 1. Drain pump.
- 2. Drain pipe.
- 3. Pressure chamber.
- 4. Fluff filter (inside the tub).
- 5. Blade.



12.5. Electronic control

The electronic control is made up of:

- 1. Control/display circuit board.
- 2. Main electronic circuit board.

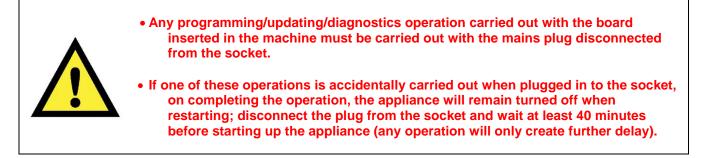


The control/display PCB contains: the selector used to select the washing programme, the LCD display to show information on the programme, but buttons used to adjust the temperature, the spin speed and optionally to select an option, the Start/PAUSE button and finally the ON/OFF button.

The commands acquired by the display board (by turning the selector, selecting an option, etc...) are sent to the main circuit board, which powers all the electrical components (cold water solenoid valve, drain pump, heating element, door safety interlock.

- It controls the level of water via the analogue pressure switch
- It controls the state of the door
- It controls the speed of the motor
- It controls the temperature of the wash water via the NTC probe inserted in the heating element
- It controls the voltage and frequency of the power supply and ensures they are close to the rated ones
- It controls the position of the drum, via the DSP sensor
- It controls the flow of water through the solenoid valve

It simultaneously controls their functioning to guarantee the correct performance of the washing cycle.



In the Service Notes the main circuit board (587) is identified with two spare parts codes:

- ${\bf f}$ Code 973 913... identifies the pre-programmed board.
- ₿ Code 132... identifies the unprogrammed board.

The circuit board can be programmed/updated using the **Sidekick** application. For example: refer to the indications provided/illustrated in the << Guida al Sidekick >> course at the address (http://electrolux.edvantage.net) on the Electrolux Learning Gateway portal.

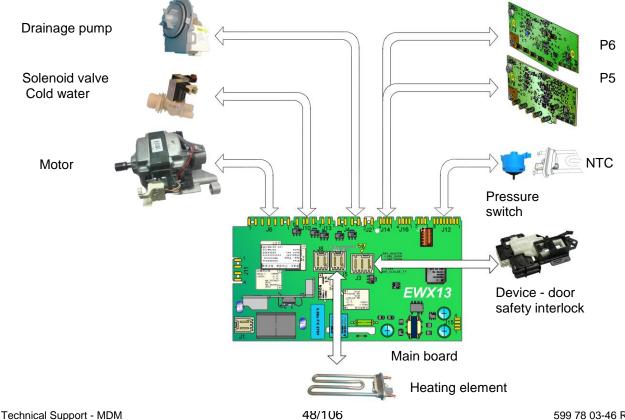
To update/program the main board, insert the Sidekick connector in the position shown by the yellow arrow.

12.5.2. Connecting electric parts



Display board

587



13. ELECTRICAL COMPONENTS



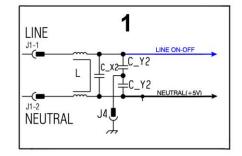
When replacing any of the components, please refer to the code shown in the list of spare parts relating to the appliance being repaired.

13.1. Noise filter

13.1.1. General characteristics

This device is connected to the electricity power line input of the appliance and avoids the emission of radio frequency disturbances in the power network. It is incorporated into the main board.

1. Main electronic circuit board



13.2. Display board

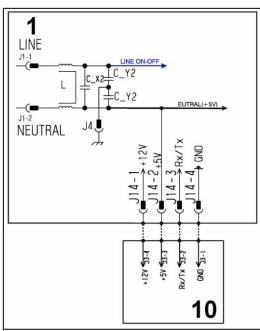


Warning the sensors located in the display boards could be at a potential of 220 Volts.

The main circuit board (1) supplies the power supply voltage to the control-display board (10). The programmes can be selected by touching the relevant touch sensor. This also applies to: selecting options, starting or pausing the appliance.

The buzzer - where featured - is powered by the display board.

- 1. Main electronic circuit board
- 10. Display board



13.3. Drainage pump



When replacing the pump, please refer to the code shown in the list of spare parts relating to the appliance.

13.3.1. General characteristics

- 1. Wheel
- 2. Rotor
- 3. Stator



The pump, which drains the water at the end of the various washing cycle phases, is centrifugal and is activated by a synchronous motor.

The rotor consists of a permanent magnet and the direction of rotation can be either clockwise or anticlockwise. It can turn by approximately a quarter of a revolution without turning the wheel. Consequently, if a foreign body is stuck in the wheel, the rotor can perform small movements clockwise and anticlockwise until the foreign body is released.

The flow rate of these pumps is approximately 18÷20 l/min, and the maximum head is 90 cm. above ground level.

Fitted with overload cut-out.

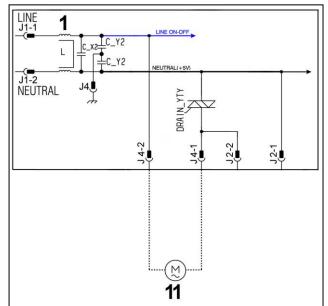
Important

Synchronous pumps, when powered on empty (disconnected from the water circuit), may not start in some cases because their very construction makes them need an antagonist torque on the wheel to allow the rotor to move in one of the two directions.

The pumps should therefore only be tested once fitted to the appliance, after a little water has been filled.

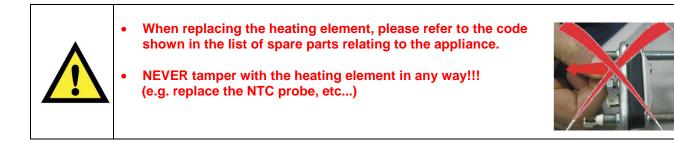
The drain pump is powered by the main circuit board through a triac, as follows:

- ✤ For a pre-determined period (and an alarm might be displayed see table of alarms).
- Until the electronic pressure switch closes on empty, after which the pump is activated for a brief period or moves on to the next phase.



- 1. Main electronic circuit board
- 11. Drainage pump

13.4. Heating element



13.4.1. General characteristics

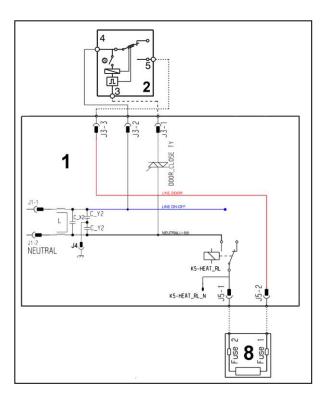
- 1. NTC probe
- 2. Heating element



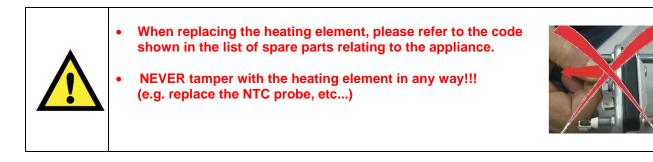
The heating element of the washing water is armoured, i.e. it is inserted in sealed tubular stainless steel casing.

It is powered by relays located in the PCB. It is provided with two thermal fuses which trip if the temperature of the heating element exceeds the values for which it has been set. (In the event of a fault an alarm will be displayed - see table of alarms).

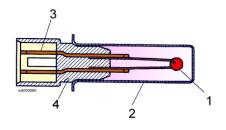
- 1. Main electronic circuit board
- 2. Door safety interlock
- 8. Heating element



13.5. Temperature probe



13.5.1. General characteristics

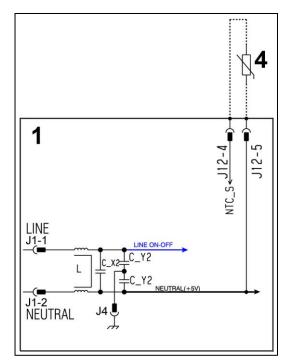


- 1. NTC heating element
- 2. Metal capsule
- 3. Terminals
- 4. Plastic casing

An NTC type probe is used to control the washing temperature: it is built in such a way that its internal resistance decreases as the temperature rises. This drop in resistance is detected by the electronic control which, when the desired temperature is reached, disconnects the heating element.

The temperature of the water is controlled by the circuit board by means of an NTC temperature probe incorporated in the heating element.

- 1. Main electronic circuit board
- 4. NTC probe

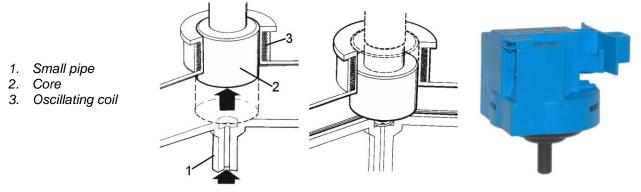


In the event of a fault (short-circuit or stoppage) an alarm will be displayed - see table of alarms.

13.6. Analogue pressure switch

13.6.1. General characteristics

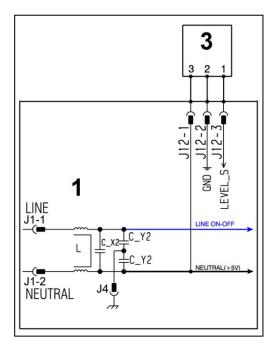
The electronic pressure switch is an analogue device that controls the water level in the tub, used in models with electronic control system, and it is directly connected to the main PCB.



The pressure switch is connected via a pipe to the pressure chamber.

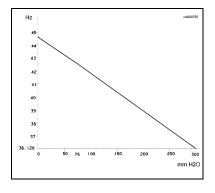
When water is introduced into the tub, this creates a pressure inside the hydraulic circuit that causes the membrane to change position. This in turn modifies the position of the core inside the coil, thus changing the inductance and the frequency of the oscillating circuit.

The PCB recognizes how much water has been introduced into the tub according to the frequency.



- 1. Main electronic circuit board
- 3. Analogue pressure switch

Operating frequency variation according to the quantity of water in the tub.



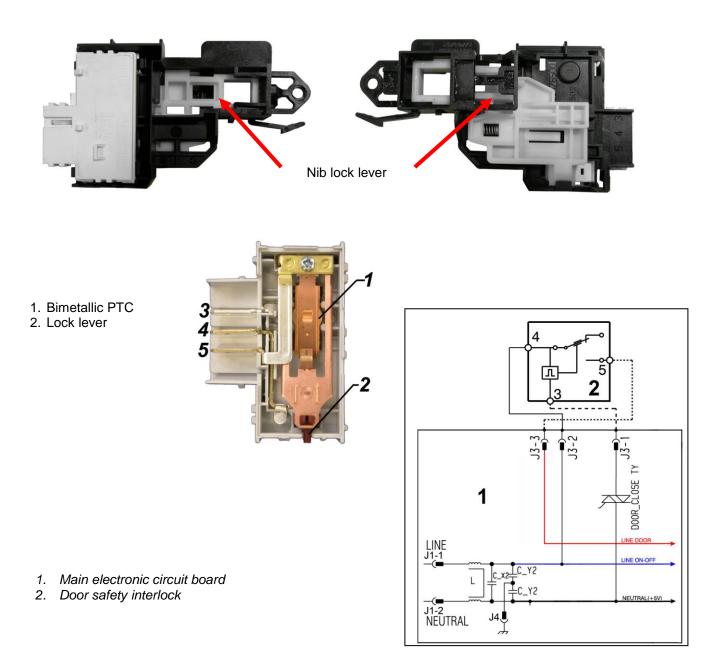
In the event of a fault an alarm will be displayed - see table of alarms.

13.7. Safety interlock

13.7.1. General characteristics

13.7.2. Delayed opening safety device.

The door delay safety device ensures that while the appliance is working normally, it is impossible to open the door for safety reasons and ensures that at the end of the wash cycle the door can only be opened after a set time.



After pressing the START/PAUSE key a pre-established current passes through the bimetallic PTC (1) which becoming misshapen causes the lock lever (2) to move, stopping the nib lock runner from moving.

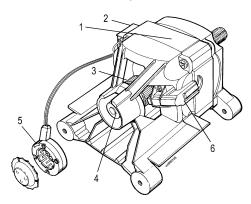
At the end of the programme when the power supply to the bimetallic PTC (1) is disconnected a certain amount of time is needed to allow it, previously misshapen, to return to its initial rest position thus unlocking the nib lock runner.

13.8. Universal motor

13.8.1. General characteristics

Collector motors are fitted on appliances with a spin speed of between 600 and 1600 rpm.

- 1. Stator
- 2. Terminal board
- 3. Collector
- 4. Tachometric generator magnet
- 5. Tachometric generator coil
- 6. Brush



13.8.2. Operating principle

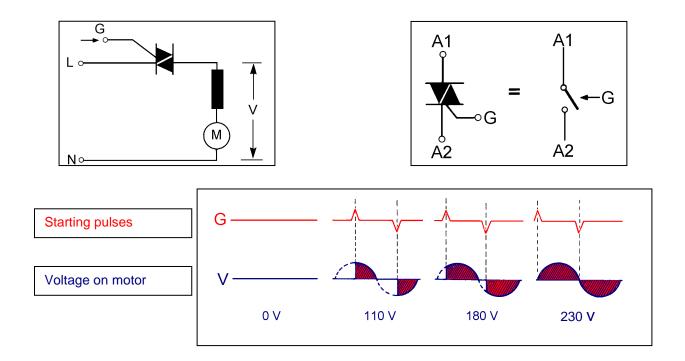
The stator winding is connected in series to the rotor winding (serial excitation).

Every section of the rotor winding is connected to a pair of collector blades (also referred to as a switching device). The electrical contact between the collector and the fixed circuit is made by two static brushes on the collector blades.

The speed of rotation of the motor is proportional to the supply voltage, supplied by an electronic control. This type of motor is also referred to as "universal" because it can be powered by either alternating or direct current.

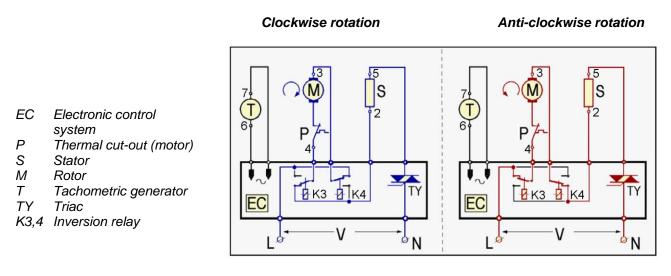
13.8.2.1. Motor speed control

- This is achieved by an electronic control, by varying the voltage (V) applied to the motor.
- The method adopted is the "phase partialisation" command of the TRIAC. The TRIAC is an electronic bidirectional switch. Closing of the circuit between A1-A2 (anodes) takes place in the presence of appropriate starting pulses on gate (G).



13.8.2.2. Direction of rotation of the motor

The direction of rotation of the motor depends on how the windings of the stator and rotor are connected to one another. This connection is made by the relay contacts of the circuit board.



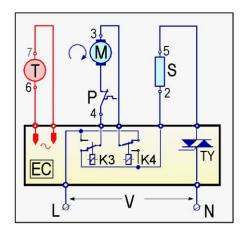
13.8.2.3. Tachometric generator

The speed of the collector motor, like all motors with serial excitation, depends on the load; so the speed decreases as the load increases. This makes it necessary for the power supply voltage to the motor, and therefore its speed, to be constantly controlled by an electronic speed control.

A tachometric generator, consisting of a magnet secured to the shaft and a coil, generates a voltage depending on the speed of the rotor, which is sent to the electronic control.

All the electronic controls have a protection system, which is more or less sophisticated, to avoid the operation of the motor in the event of a failure in the tachometric generator.

- EC Electronic control
- system
- P Thermal cut-out (motor)
- S Stator
- M Rotor
- T Tachometric generator
- TY Triac
- K3,4 Inversion relay



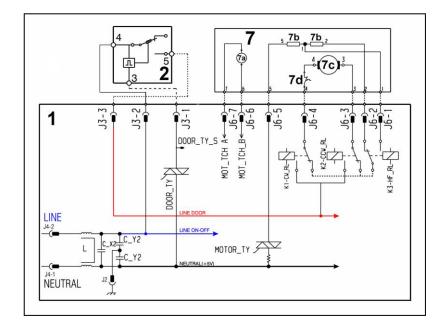
13.8.3. Power supply to motor



The PCB powers the motor via a TRIAC switch; the direction of rotation is reversed by switching the contacts on the two relays (K1-K2), which modify the connection between the rotor and the stator.

In certain models, a third relay (K3) is used to power the stator (full or half field) according to the spin speed. The motor speed is controlled by the signal from the tachometric generator.

During the spin phases, the micro-processor performs the <u>anti-foam</u> and the <u>anti-balancing</u> check procedure.



- 1. Main electronic circuit board
- Door safety interlock
- 7. Universal motor
- 7a. Tachometric generator (motor)
- 7b. Stator (motor)
- 7c. Rotor (motor)
- 7d. Thermal cut-out (motor)

13.9. Anti-foam control system

The anti-foam control procedure is performed using the electronic pressure switch.

- Spin with little foam: if the contact of the electronic pressure switch closes on "full", the spin phase is interrupted; the drain pump continues to operate and, when the contact returns to "empty", the spin phase is resumed.
- Spin with excess foam in the tub (critical situation): the control system detects whether the electronic pressure switch switches 5 times to full (five spin interruptions). If this occurs, the spin phase is skipped, and a one-minute drain cycle is performed with the motor stationary and, in the case of a washing phase, a supplementary rinse is added.

13.10. AGS operating principles

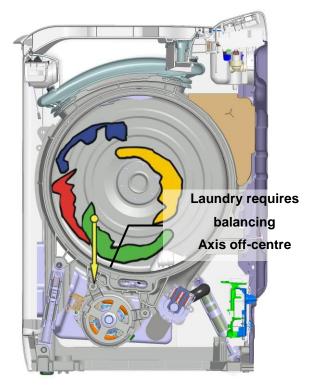
AGS is an abbreviation of the Italian words "Algoritmo di Gestione dello Sbilanciamento" ("Balancing Management Algorithm").

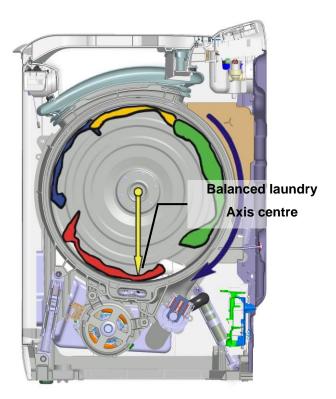
This is a complete procedure that allows the laundry to be distributed evenly within the drum, limiting any residual imbalance and guaranteeing an effective spin phase with reduced vibrations and noise.

Residual imbalance is estimated using repeated measurements carried out on the motor during the balancing phase: any fluctuations in these measurements will be higher in the case of imbalance and lower if the laundry is evenly distributed.

Low speed: Laundry arrangement

High speed: Spin phase





The AGS control is carried out before each spin.

It has the following aims:

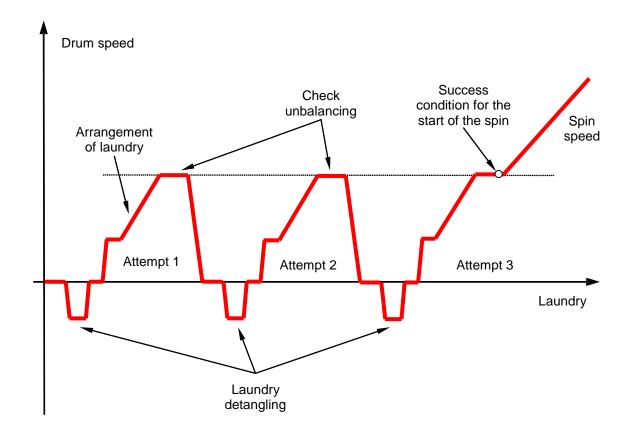
- To estimate the amount of laundry
- To measure the balance of laundry
- To check distribution of the load of laundry so that imbalance is below a given threshold
- To reduce movements of the washing unit to avoid hitting the cabinet

When the above conditions are all met (low imbalance, limited movements and drum speed sufficient to keep the laundry still inside the drum), the spin can start.

AGS can carry out a certain number of attempts (for a limited period of time) to try and distribute the laundry properly: if one attempt fails, a short detangling phase will be carried out before the next attempt is made.

In the case of laundry that is difficult to balance, a number of attempts will be made, and in the end an attempt will be made to spin the laundry in any case, accepting a higher imbalance (provided it is less than the maximum allowed) and reducing the maximum drum speed.

The following graph shows a typical series of drum speeds during the spin preparation phase: it is possible to note the detangling phases inserted between the three attempts (example) used by AGS to position the laundry in a balanced manner.

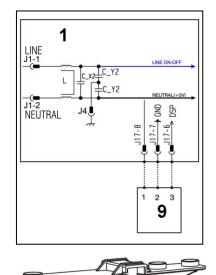


13.11.Drum Self Position device (where foreseen)



The DSP or **D**rum **S**elf **P**osition combined with the metal band on the inside of the pulley; this is an electronic device used to place the drum in the correct position, so that once the wash cycle has ended the 2 doors of the drum automatically position themselves at the top to make removal of the laundry from the drum easier, without the user having to turn the drum manually.

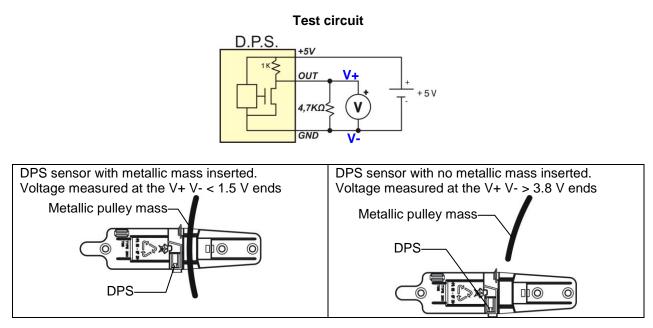
- 1. Main electronic circuit board.
- 9. DSP internal circuit.D.S.P.



OUT

13.11.1. DPS operating control

- Power the DPS circuit between the points +5 V and Mass (GND) with a voltage of 5 V.
- Position a 4.7 KΩ element between the OUT points and the mass (GND).
- Use the voltmeter to measure the voltage in the element ends (V+ V- points).



13.12.Solenoid valves

13.12.1. General characteristics



10

This component introduces water into the detergent dispenser and is controlled electrically by the main circuit board via Triac. The level of water in the tub is controlled by the analogue pressure switch.

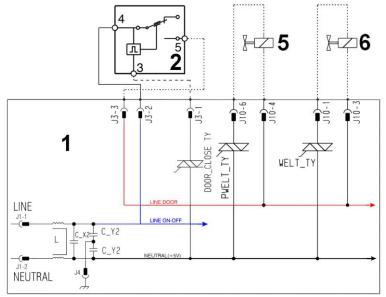
- 1. Water inlet
- 2. Solenoid valve body
- 3. Filter
- 4. Flow reducer
- 5. Coil
- 6. Spring
- 7. Moving core
- 8. Rubber
- 9. Membrane
- 10. Water outlet

13.12.2. Operating principle

When idle, the core, pushed by a spring, keeps the central hole of the membrane closed and so the latter hermetically seals access to the water inlet duct.

When the coil is powered, the core is attracted, releasing the central hole of the membrane. Consequently the valve opens.

- 1. Main electronic circuit board
- 2. Door safety interlock
- 5. Pre-wash solenoid valve
- 6. Wash solenoid valve



13.12.3. Mechanical jamming of the solenoid valve

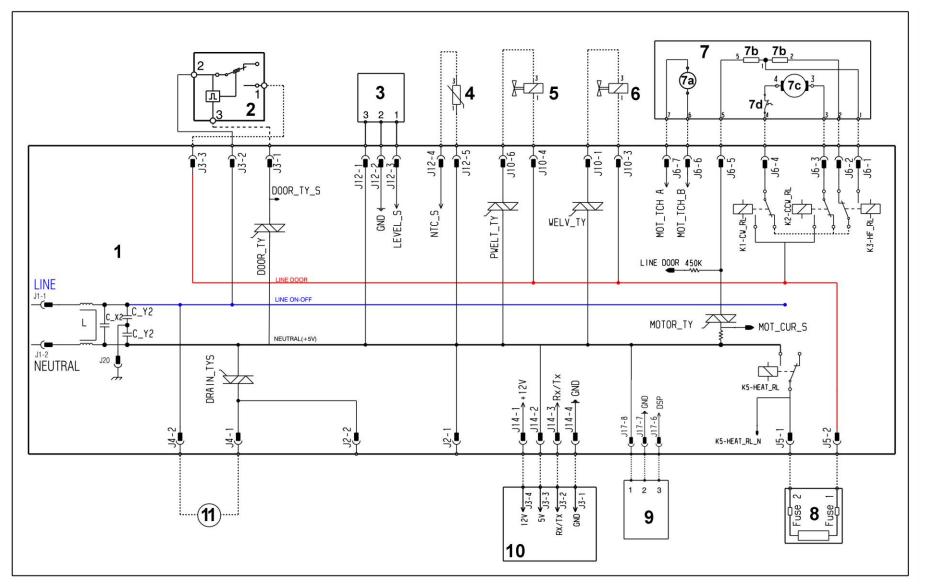
The solenoid valve may jam open without being actuated (which will cause flooding if the pressure switch controlling the water level does not trip). If this occurs, the electronic control system (which continuously monitors the flow sensor) will lock the door, start the drain pump and display an ALARM simultaneously.

13.12.4. Low water pressure

If the flow sensor does not generate a signal during the water fill phases, even though power is being supplied to the solenoid valve, the cause of this condition may be a closed water tap or clogged filter on the solenoid valve (with ensuing low water pressure). If this occurs, only a WARNING will be displayed and the cycle will continue for five minutes, after which time an ALARM will be signaled.

14. DIAGRAMS

14.1. Operating Circuit Diagram EWX13611



14.2. Key to Operating Circuit Diagram

Appliance electrical componer	ts PCB components
 Main electronic circuit board Door safety interlock Electronic pressure switch NTC Pre-wash solenoid valve Wash solenoid valve Universal motor Tachometric (motor) Stator (motor) Stator (motor) Thermal cut-out (motor) Heating element DSP Display board Drainage pump 	DRAIN_TYSDrain pump TRIACDOOR_TYDoor interlock TRIACPWELT_TYPre-wash solenoid TRIACWELV_TYWash solenoid TRIACMOTOR TYMotor TRIACK1Motor relay, clockwise rotationK2Motor relay, anti-clockwise rotationK3Motor relay, spin speedK5Heating element relay

15. ACCESSIBILITY

15.1. "NEW YOT" structure



Before intervening on the equipment place a protection above the drum in order to prevent small parts falling inside the tub.

15.1.1. Control panel

Insert a screwdriver into the side slots as indicated in the figure, first on one side and then on the other, always taking care to insert a protection between the cabinet and the screwdriver to avoid scratching the paint.

Lever downwards to widen the control panel slightly and unfasten the clips fixing it in place.

Lift the front part of the control panel slightly. Move it towards the back.

15.1.1.1 Assembly

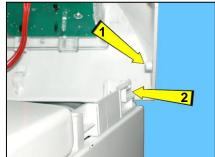
Introduce the runner pivots (1) located on the control panel into the rails (2) found on the sides of the washing machine.

Rotate it forwards.

Press the control panel forwards until it is completely hooked on. Assieme scheda visualizzazione









15.1.2. Display board assembly

Remove the control panel (see relevant paragraph).

Put on the Anti-static Kit Code 405 50 63-95/4.

Unfasten the connector which connects the control/display PCB.

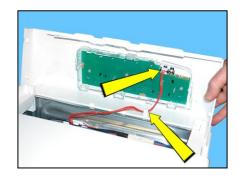
Remove the wiring from the hook that keeps the wiring fastened to the control panel.

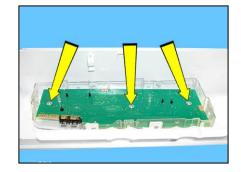
Unscrew the three screws holding the PCB to the control panel.

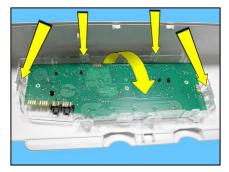
Release the tabs which secure the display board assembly to the control panel.

Lift it up to extract it.

Display/Control PCB assembly extracted from the control panel.









15.1.3. Water dispenser

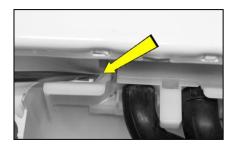
Remove the control panel (see relevant paragraph).

Using a screwdriver, push the tab fastening the water dispenser

on one side,

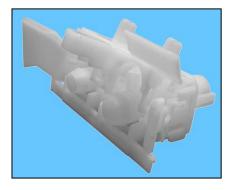
then on the other.

Remove the water dispenser.









15.1.4. Solenoid valve

Remove the control panel (see relevant paragraph). Remove the water dispenser (see relevant paragraph).

Remove the connectors.

Push the two stops (1) towards the inside of the appliance and simultaneously turn the solenoid valve in an anti-clockwise direction (2).

Remove the whole assembly: solenoid valve/pipes/water dispenser.

To extract the solenoid valve from the pipes, break/open the clamps.

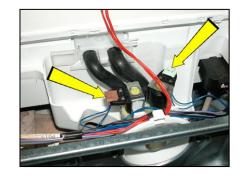
When reassembling, repeat these steps in the reverse order. Replace the clamps with new ones of the same type.

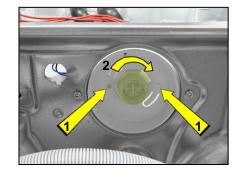
The clamp diameters are as follows: Ø 15.7 mm for the narrower pipe and Ø 17.5 for the other one.

15.1.5. Solenoid valve/water dispenser pipes

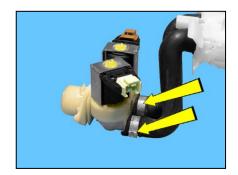
Remove the control panel (see relevant paragraph). Remove the water dispenser (see relevant paragraph). Remove the solenoid valve (see relevant paragraph).

When reassembling, repeat these steps in the reverse order.









15.1.6. Electronic pressure switch

Remove the control panel (see relevant paragraph).

Slide off the connector.

Press the tabs which secure it to the cabinet and remove it.

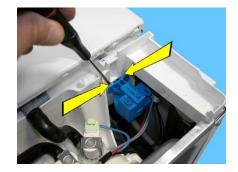
Pull out the small tube which connects it to the pressure chamber.

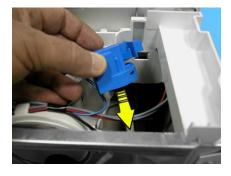
When reassembling, repeat these steps in the reverse order.



When replacing anything, please refer to the code shown in the list of spare parts relating to the appliance being repaired.







Lift up the handle to raise the cover.

Remove the two hinge pins towards the inside.

When reassembling, repeat these steps in the reverse order.

15.1.8. Handle

Lift up the cover and remove.

Lift the cover.

Unfasten the two screws securing it.

Remove it.











Remove it from its housing.

15.1.10. Louver and protection

Lift the lid

The louver is situated in the lower part of the detergent dispenser

arrows), and it is screwed into the front (as shown by the large arrow), to prevent it from coming away from its position.

It is secured by clicking into place to the rear (as shown by the small

Place a protection over the drum to avoid the screw accidentally falling into the welded tub.

Loosen the screw (with a miniature cross-tipped screwdriver), lowering the washing unit if necessary.

Remove the detergent dispenser lid.











Note that the louver is also hooked into place at the front

Push it towards the inside

Pull it out towards the bottom

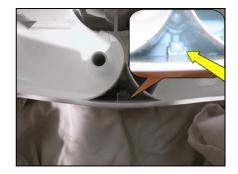
Louver with protection

When reassembling, repeat these steps in the reverse order

15.1.11. Drum shutters

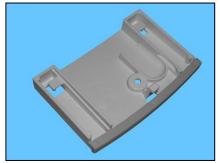
Lift the lid

Press the button to open the shutters. If the shutters are broken/warped, order the dedicated kit. See the appliance's Service Notes for the right code.











15.1.12. Opening blade

Warning: use a pair of gloves, as some parts may be sharp.

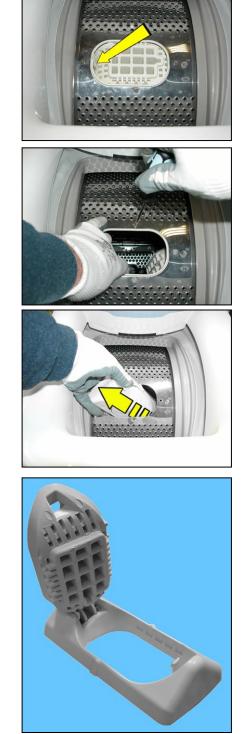
Turn the drum until you can see the blade.

Push the hook locking the mobile part of the blade (taking care to open it gently).

Use one hand to keep the blade locked in position. Unfasten the four screws securing it to the drum. Make sure that the screws do not fall into the inside of the tub. (use a magnetic screwdriver)

Extract the blade.

Blade



Insert the blade completely into the drum with the mobile part disconnected.

Insert your hand into the seat of the mobile part of the blade.

Position it correctly and fasten the screws to fix it to the drum.

Turn the drum until the doors are in the correct position.

15.1.13. Fluff filter

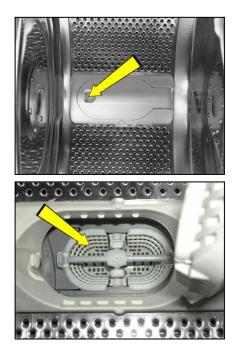
Lift the cover. Open the drum doors.

Press the button to open the mobile part of the blade.

It is possible to insert a fluff filter.

Position of the fluff filter.





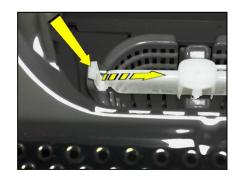
At the centre of the fluff filter there is a small rod with a fixing spring (indicated by the arrow). Push it in the direction of the arrow.

The fluff filter can be inserted in either direction without any problem, so the spring can also be positioned on the other side with respect to the view shown in the photo, and be hidden by the mobile part of the blade.

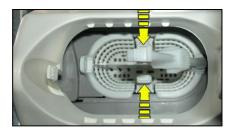
Lift the small rod.

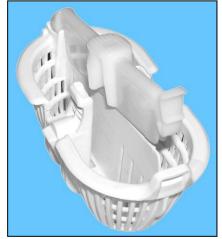
Press together the two stops locking the fluff filter to the drum and extract the filter.

Fluff filter









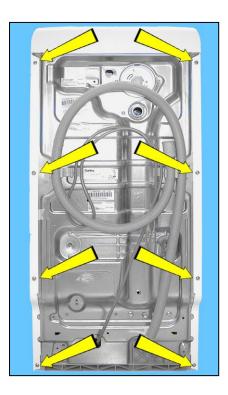
15.1.14. Side panels

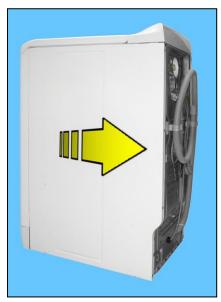
By removing the side panels you can access all various parts of the washing machine.

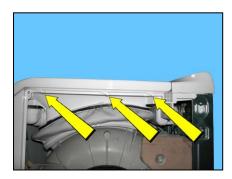
Unfasten the screws that fix the right or left side panel (appliance viewed from the front) to the back panel.

so as to allow its removal from the upper guides, marked by the arrows in the drawing.

Move it towards the back of the washing machine







15.1.15. From the right side panel it is possible to access

- 1. Main board
- 2. Belt
- 3. Pulley
- 4. DSP
- 5. Bearing support unit with seal ring
- 6. Motor
- 7. Drainage pump
- 8. Main drain pipe
- 9. Upper counterweight
- 10. Front shock absorber
- 11.Tub suspension springs

15.1.15.1. Main board

Remove the right side panel (see relevant chapter).

Put on the Anti-static Kit Code 405 50 63-95/4.

Unscrew the two screws on the back part of the equipment and the side screws that fix the board assembly case to the back panel.

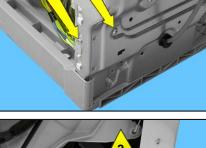
Remove the faston earthing connectors indicated by the yellow arrow 1 (warning: they have a locking device to prevent removal). Remove the power connector 2. Lift the main circuit board assembly 3 slightly. Move the assembly towards the inside of the appliance 4.

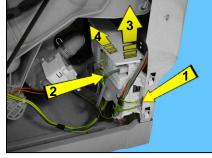
Position it as shown in the figure.

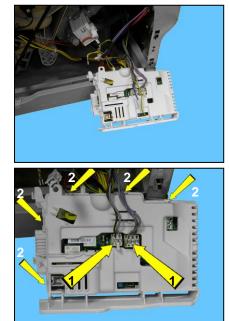
Remove the connectors at the centre of the circuit board assembly (1).

Unfasten the side hooks (2) locking the upper part to the lower part of the casing.





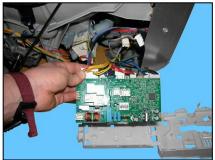




Lift the cover.

Unfasten the three hooks fixing the board to the container, and extract the board (be careful not to break the hooks).

<image>



Remove the connectors.

When reassembling, repeat these steps in the reverse order.



When replacing the board, please refer to the code shown in the list of spare parts relating to the appliance.

15.1.15.2. Belt

Remove the right side panel (see relevant chapter).

Before removing the belt, check its position in the motor pulley.

Hold the belt, and by turning the pulley, remove it.

When reassembling: Position the belt and align it with the centre of the pulley (273 mm) as shown in the figure.

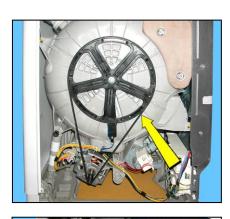
Turning the pulley, check that the belt positions itself and remains in the central part of the pulley.

If necessary, adjust the position of the belt on the drive pulley, so that it is correctly positioned.

15.1.15.3. Plastic pulley (273 mm)Remove the right side panel (see relevant chapter).Remove the belt (see relevant chapter).

Insert a retainer to secure the pulley in place. Unfasten the screw securing the pulley to the drum axle.

Pulley











When reassembling:

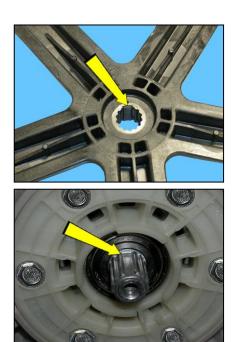
Make sure you insert the pulley properly on the drum axle.

The notch in the pulley (indicated by the arrow).

Must be inserted

in correspondence with the toothless part of the drum axle, indicated by the arrow.

Tighten the screw at a torque of 60 Nm.

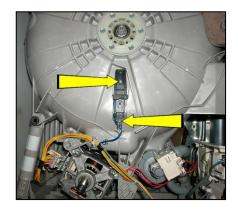


15.1.15.4. Drum Self Position device (where foreseen)

Remove the right side panel (see relevant chapter). Remove the belt (see relevant chapter). Remove the pulley (see relevant chapter).

Remove the two screws that secure it to the welded tub. Slide off the connector.

When reassembling, tighten the screws to a locking torque of XX Nm.

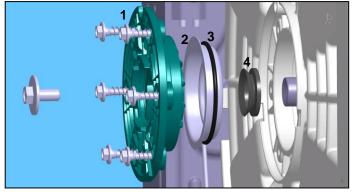


15.1.15.5. Bearing support unit with seal ring



When working on the bearing support unit, always replace all four of the components shown here.

- 1. Bearing support unit
- 2. Plate
- 3. O-ring seal
- 4. Seal ring



Remove the right side panel (see relevant chapter). Remove the belt (see relevant chapter). Remove the pulley (see relevant chapter).

Remove the six screws that secure it to the welded tub.

Insert a flat-tip screwdriver into the two seats (as shown in the figure). Push the screwdriver handle in the direction indicated by the arrow, so as to extract the bearing support unit from its seat.

Extract the bearing support unit.

Extract the plate from its position.









When you remove the plate you will see two seals:

One positioned in the plate (indicated by arrow 1), O-ring diameter 55 mm thickness 2.5 mm.

The other inserted on the drum axle (indicated by arrow 2).

Position of the O-ring on the plate.

Remove the seal from its seat (indicated by the arrow).

When reassembling, coat the thin part of the seal with grease (Code 5318 00 10-97/6) and position it so that it faces outwards (towards the plate).

Insert it onto the drum axle and push it until it is in contact.

Insert the plate with the relevant O-ring onto the drum axle and push it until it is in contact.

Insert the new bearing support and tighten the six screws to a locking torque of 9 Nm.













15.1.15.6. Motor

Remove the right side panel (see relevant chapter). Remove the belt (see relevant chapter).

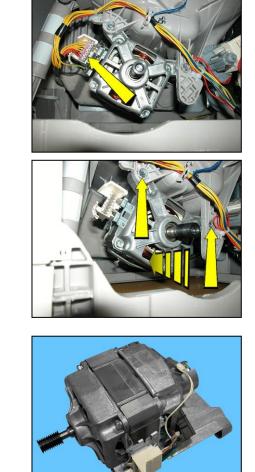
Disconnect the mass connection and the motor power connector.

Unfasten the two screws that fix it to the washing unit. Push it inwards to remove it from the supports.

Take it out.

Motor

When reassembling, tighten the screws to a locking torque of 5 Nm.



15.1.15.7. Drain pump

Remove the right side panel (see relevant chapter).

Empty the drain circuit.

Remove the connectors. Remove the wiring from the hook that fastens it to the pump.



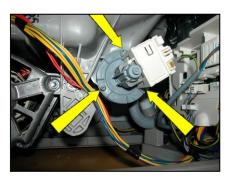
Position a container or some rags under the pump to collect the water in the drain circuit.

Unfasten the three screws fixing it to the tub.

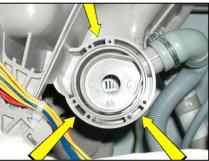
Drainage pump

The screw has six projections to fix it to the pump, if one of more of the three projections are damaged it is possible to use the other three.

When reassembling, tighten the screws to a locking torque of 1.5 Nm.







15.1.15.8. Main drain pipe

Remove the right side panel (see relevant chapter).

Using a pair of pliers, expand the clamp and remove the pipe from the screw.

Remove it from the base support.

15.1.15.9. Upper counterweight

Remove the left and right side panels (see relevant chapter).



The right side counterweight weighs around 10.5 Kg so take care when removing it.

From the left side, unfasten the screw.

From the right side, unfasten the two screws.

Push the unit inwards and extract the counterweight.

When reassembling:

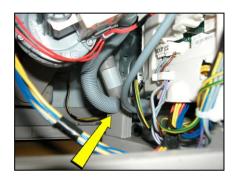
With a new welded tub:

Tighten the three screws with a locking torque of 10 Nm.

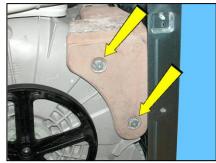
With a used welded tub:

Clean the supports, position the counterweight, inject silicon into the holes where the screws are to be inserted and tighten the screws by the required amount before the silicon has hardened.











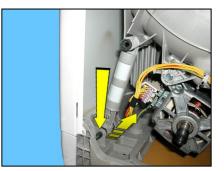
15.1.15.10. Front shock absorber

Remove the right side panel (see relevant chapter).

To take the Pins out of their seats, push the locking tooth and at the same time remove it with pliers.

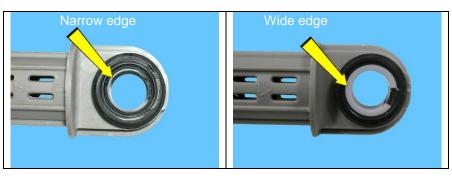
Do the same for the other Pins.

Remove the shock absorber from its seat.



Shock absorber pin

A bushing is inserted at each end of the shock absorber. These bushings have a wider edge, to prevent them from coming out when the Pin is inserted (see the two figures below).



When positioning the shock absorber in the fixing element (located in the bottom part of the cabinet or of the tub), pay particular attention to the position of the bushing, so that the pin is inserted from the part of the bushing with the widest edge.

Spare bushings are available, under Code 344 91 25-30/5.



Should you have any difficulty inserting the pin, apply a little grease (Code 5026 24 16-00/6).

15.1.15.11. Tub suspension springs

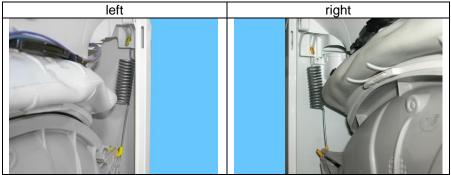


Before removing the springs place a support under the motor to make the operation easier.

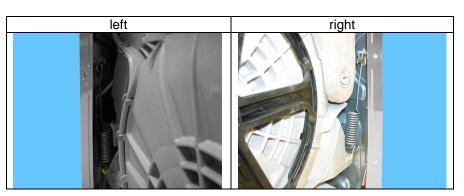
Remove the right/left side panel (see relevant chapter).

• Left/right front spring

Hook the spring up as shown in the figure: the longest end towards the welded tub, and the shortest end towards the inlet.



• Left/right rear spring



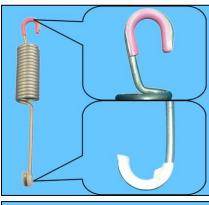
Hook the spring up as shown in the figure: the longest end towards the rear part of the appliance, and the shortest end towards the welded tub.

When reattaching the springs (after repair work which required their removal), make sure that the bushings shown in the figure are featured on both ends.

Pay attention to the differences between the bushings (see enlarged details). Spare bushings are available, under the following codes:

Upper bushing Code 405 50 62-51/9 Lower bushing Code 405 50 62-52/7

Apply some grease on either end of the spring. Use grease Code 5026 24 -006





15.1.16. From the right side it is possible to access

- 1. Bearing support unit with seal ring
- 2. Pressure chamber
- 3. Heating element
- 4. Lower counterweight
- 5. Rear shock absorber
- 6. Tub suspension springs

15.1.16.1. Bearing support unit with seal ring

See chapter 15.1.15.5 pag. 80

15.1.16.2. Pressure chamber

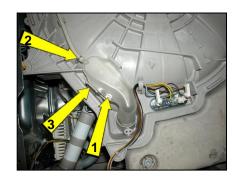
Remove the left side panel (see relevant chapter).

Unfasten the screw (1) fixing it to the welded tub. Remove the small pipe (2) connecting it to the electronic pressure switch. Unhook it from the two hooks (3) fixing it to the tub.

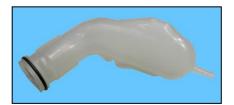
Turn it in the direction of the arrow and take it out.

When the pressure chamber is extracted from its seat it is recommended that the O-Ring be replaced.

When reassembling, tighten the screw to a locking torque of 2 Nm.









15.1.16.3. Heating element

Remove the left side panel (see relevant chapter).

Remove all the connectors.

Unscrew the bolt and remove the heating element.

15.1.16.4. Lower counterweight



The left counterweight weighs around 8.8 Kg so take care when removing it.

Remove the left side panel (see relevant chapter).

Tilt the appliance onto its right hand side, taking care not to damage it.

Unfasten the three screws that fix the counterweight to the washing unit.

Remove the counterweight, working also from the bottom.

When reassembling:

With a new welded tub:

Tighten the three screws with a locking torque of 10 Nm.

With a used welded tub:

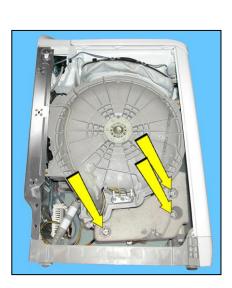
Clean the supports, position the counterweight, inject silicon into the holes where the screws are to be inserted and tighten the screws by the required amount before the silicon has hardened.

15.1.16.5. Rear shock absorber

See para. 15.1.15.10 page 85

15.1.16.6. Tub suspension springs

See para. 15.1.15.11 page 86







15.1.17. Front panel



Before removing the front panel place a support under the motor in order to make the operation easier.

Remove the two right/left side panels (see relevant chapter).

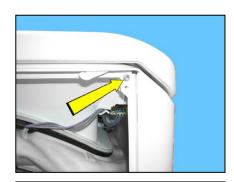
Remove the two side screws that hold the front panel on to the inlet.

Open the cover.

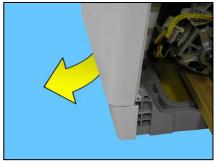
Remove the two side screws that hold the front panel to the base frame. Remove the two internal screws that hold the front panel to the base frame.

Push the lower part of the front panel towards the outside.

Remove it from the inlet.









15.1.18. From the Front panel, you can access

1. Door Lock

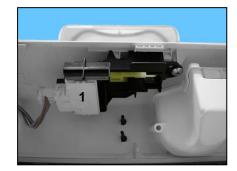
15.1.18.1. Door Lock

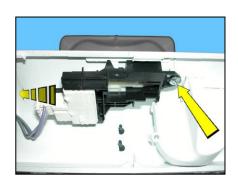
Remove the two right/left side panels (see relevant chapter). Remove the front panel (see relevant chapter).

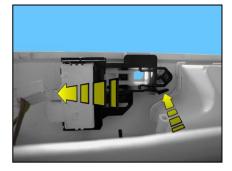
Remove the connector from the door lock. Loosen the screw that fixes it to the inlet.

Push the stop.

Move the entire door lock to the left and extract it.







15.1.19. Bellow seal

Remove the left and right side panels (see relevant chapter).

Remove the wiring from the various supports (indicated by the arrows).

Using a screwdriver, open the clamp, taking care not to perforate the bellow seal or break the locking ring.

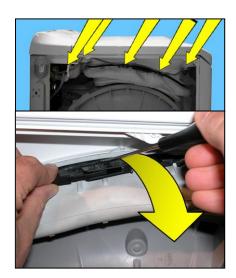
Remove the bellow taking care not to ruin the 2 bases.

When reassembling.

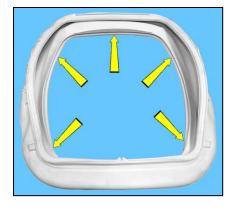
Lubricate the whole of the inlet seat into which the bellow seal is to be inserted.

Lubricate the bellow seal seat to be inserted into the inlet.

(The bottom part is not indicated by the arrows because it is hidden.)







After lubricating the two seats, the inlet seat and the bellow seal seat.

Find the position of the reference symbol on the edge of the inlet.

The position of the reference symbol on the bellow seal.

Insert the seal between the inlet and the welded tub.

Position the two references so that they correspond.

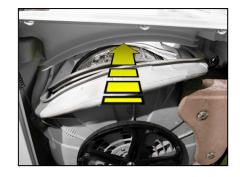
And insert the bellow seal into the loading inlet seat.











Lubricate the part of the locking ring that is to be inserted into the bellow seal seat, to fix it tightly to the welded tub.

Lubricate the bellow seal seat indicated by the arrow.

Insert the locking ring between the bellow seal and the inlet.

Check that the bellow is inserted precisely and that the reference notches are positioned properly.

From both sides.

Check that the locking ring is inserted perfectly in its seat around the whole perimeter.

Join the two ends of the locking ring.

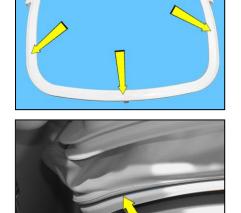
Tighten with a pipe wrench (be careful not to break the ring).

Repeat the operations carried out with this locking ring with the locking ring fixing the bellow seal to the inlet.









15.1.20. Inlet

Remove the cover (see relevant chapter). Remove the whole control panel (see relevant paragraph). Open the upper cutting ring. Disconnect the bellow seal from the upper side (see relevant chapter). Remove the side panels (see relevant chapter). Remove the electronic pressure switch (see relevant paragraph).

Remove the door lock wiring from the cable glands indicated by the arrows.

Open the locking ring that fixes the bellow seal to the inlet and remove it from its seat.

Unfasten the two screws fixing the inlet to the rear panel and to the front panel. Left side

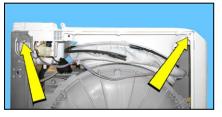
Unfasten the two screws fixing the inlet to the rear panel and to the front panel. Right side

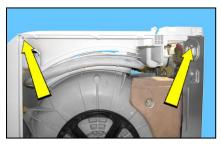
Remove the connectors from the solenoid valves (1). Remove the wiring stop (2). Unfasten the two screws fixing the support to the back panel (3).

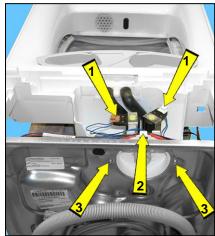
Push the inlet forwards to extract the solenoid valve support from the back panel, and lift it up slightly.

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To facilitate operations on the inlet, position a support under the motor.

Remove the inlet from the front panel.

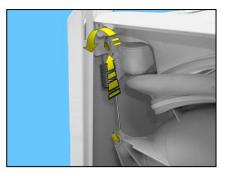
Unhook the right and left front springs from the inlet.

Remove the wiring connector from the door delay system.

Inlet with solenoid valves.

When reassembling, repeat these steps in the reverse order.







15.1.20.1. Air bleeder/safety level

Remove the cover (see relevant chapter). Remove the whole control panel (see relevant paragraph). Open the upper cutting ring. Disconnect the bellow seal from the upper side (see relevant chapter). Remove the side panels (see relevant chapter). Remove the electronic pressure switch (see relevant paragraph). Remove the inlet (see relevant chapter).

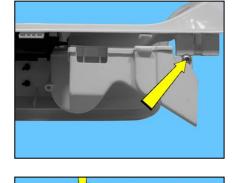
Loosen the screw that fixes it to the inlet.

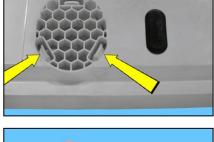
Unhook the three hooks fixing it to the inside of the inlet.

Steam outlet.

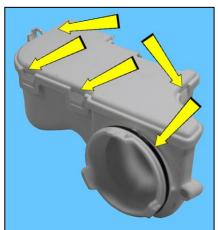
If there are any problems with the steam outlet, these can be eliminated by opening the cover, after unfastening the hooks.

Every time work is carried out on this component, check that the O-ring seal is not damaged, and if necessary replace it with one of the same type.









15.1.21. Remove the washing unit

Remove the left and right side panels (see relevant chapter). Open and remove the lower cutting ring on the bellow (see relevant chapter). Disconnect the bellow from the lower side (see relevant chapter). Slide off the belt and remove the pulley (see relevant chapter). Remove the DSP drum positioning device (see relevant chapter). Remove the two upper and lower counterweights (see relevant chapter). Remove the heating element (see relevant chapter). Remove the heating element (see relevant chapter). Remove the drum rotating motor (see relevant chapter). Loosen the hose clamp on the main drain pipe (see relevant chapter). Remove the pressure chamber from its seat and the pipe connecting it to the pressure switch (see relevant chapter). Release the shock absorber pivots from the washing unit side (see relevant chapter). Release the washing unit support springs (see relevant chapter).

Remove the washing unit from the appliance.

15.1.22. Base board

Remove a right or left side panel (see relevant chapter).

Release the hook locking the base board to the centre of the front part of the base (indicated by the arrow in the figure).

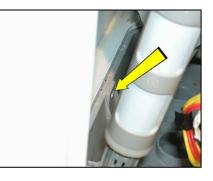
Insert a protective element to prevent scratching the cabinet, and then use a screwdriver to

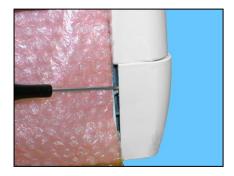
release the hooks fastening it at the sides.

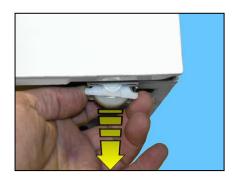
15.1.23. Wheels (where envisaged)

Tilt the appliance.

Remove the wheel from its seat.







15.2. "CLAUDIA" structure



Before intervening on the appliance, place a protection over the drum to avoid small parts falling into the tub; use a pair of gloves because some parts of the cabinet may be sharp.

15.2.1. Control panel

See para. 15.1.1 page 64

15.2.2. Display board assembly

See para. 15.1.2 page 65

15.2.3. Water dispenser

Lift the lid. Remove the detergent dispenser.

Remove the control panel (see relevant paragraph)

Widen/break the clamps that block the pipes leading to the water dispenser. Pull off the pipes

When reassembling, use camps with the same characteristics. With a $\ensuremath{\mathcal{Q}}$ of 20.5mm

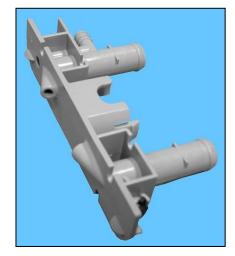
Unhook the tabs that secure it to the inlet





Take it out of its seat





Water dispenser/Conveyor

15.2.4. Solenoid valve

Remove the control panel (see relevant paragraph)

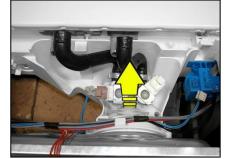
Remove the connectors Widen/break the clamps that block the pipes leading to the water dispenser. Pull off the pipes

Push the two retainers (1) towards the inside of the appliance and turn the solenoid valve (2) anti-clockwise at the same time.

Take it out of its seat







To remove the solenoid valve from the pipes, open/break the clamps

When reassembling, repeat these steps in the reverse order. Replace the clamps with new ones with the same characteristics.

The diameters are:

Ø 17.5 mm for clamps securing pipes to the solenoid valves Ø 20.5 mm for clamps securing pipes to the water dispenser.

15.2.5. Solenoid valve/water dispenser pipes

Remove the control panel (see relevant paragraph) Remove the solenoid valve (see relevant paragraph)

When reassembling, repeat these steps in the reverse order.

15.2.6. Electronic pressure switch

See para. 15.1.6 page 68

15.2.7. Cover

See para. 15.1.7 page 69

15.2.8. Handle

See para. 15.1.8 page 69

15.2.9. Lid seal

See para. 15.1.9 page 70

15.2.10. Drum shutters

See para. 15.1.11 page 71

15.2.11. Opening blade

See para. 15.1.12 page 72



15.2.12. Fluff filter

See para. 15.1.13 page 73

15.2.13. Side panels

See para. 15.1.14 page 75

15.2.14. You can access the following from the right side panel

See para. 15.1.15 page 76

15.2.14.1. Main board

See para. 15.1.15.1 page 76

15.2.14.2. Belt

See para. 15.1.15.2 page 78

15.2.14.3. Plastic pulley (273mm)

See para. 15.1.15.3 page 78

15.2.14.4. Drum Self Position drum positioning device (if there is one)

See para. 15.1.15.4 page 79

15.2.14.5. Bearing support unit with seal ring

See para. 15.1.15.5 page 80

15.2.14.6. Motor

See para. 15.1.15.6 page 82

15.2.14.7. Drain pump

See para. 15.1.15.7 page 83

15.2.14.8. Main drain pipe

See para. 15.1.15.8 page 84

15.2.14.9. Upper counterweight

See para. 15.1.15.9 page 84

15.2.14.10. Front shock absorber

See para. 15.1.15.10 page 85

15.2.14.11. Tub suspension springs

See para. 15.1.15.11 page 86

15.2.15. You can access the following from the left side panel

See para. 15.1.16 page 87

15.2.15.1. Bearing support unit with seal ring

See para. 15.1.15.5 page 80

15.2.15.2. Pressure chamber

See para. 15.1.16.2 page 86

15.2.15.3. Heating element

See para. 15.1.16.3 page 88

15.2.15.4. Lower counterweight

See para. 15.1.16.4 page 88

15.2.15.5. Rear shock absorber

See para. 15.1.15.10 page 85

15.2.15.6. Tub suspension springs

See para. 15.1.15.11 page 86

15.2.16. Front panel

See para. 15.1.17 page 89

15.2.17. From the front panel, you can access

See para. 15.1.18 page 90

15.2.17.1. Door Locked

See para. 15.1.18.1 page 90

15.2.18. Bellow seal

See para. 15.1.19 page 91

15.2.19. Inlet

See para. 15.1.20 page 94

Inlet with solenoid valves



When reassembling, repeat these steps in the reverse order

15.2.19.1. Air vent/safety level

Remove the lid (see relevant chapter). Remove the control panel (see relevant chapter). Open the upper cutting ring. Remove the bellow seal from the top (see relevant chapter). Remove the side panels (see relevant chapter). Remove the electronic pressure switch (see relevant chapter). Remove the inlet (see relevant chapter)

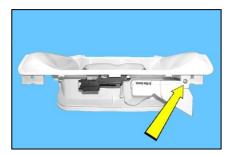
Loosen the screw that secures it to the inlet

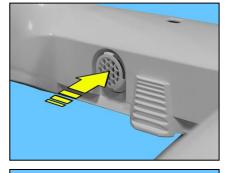
Push to remove it from its position.

Steam vent

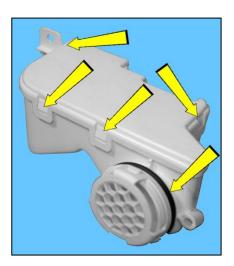
If the steam vent is faulty, you can remove it by opening the lid after unhooking the retainers.

Every time you intervene on this component, check that the O-ring seal is not worn; if this is the case, replace it with one featuring the same characteristics









15.2.20. Remove the washing unit.

See para. 15.1.21 page 97

15.2.21. Base board

See para. 15.1.22 page 97

15.2.22. Rollers (where envisaged)

See para. 15.1.23 page 97

REVISION:

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