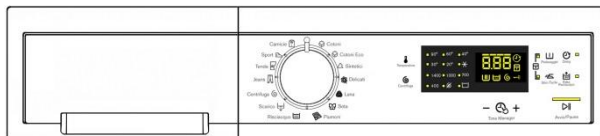
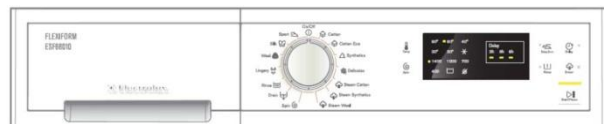




TC4



TC5



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 Training and Operations Support
 Technical Support

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Front loading washing machines

PILOT 2

P49

TC4 TC5

electronic control system

EWX 13611

EWX 11831

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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 (TC4 TC5) and EWX11831 (TC4 TC5) electronic control systems.

Previous platforms (electronic/mechanical) used a safety pressure switch that checked the minimum water level in the tub, below 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:

- General characteristics
- Control panel and compatibility between washing programmes and options
- Settings: Demo, Diagnostics
- Alarms
- Technical and functional characteristics
- Access

1.1 LOW CONSUMPTION MODE

In order to reduce electricity waste when the cycle is not running, the appliances on this platform are designed to enter consumption reduction mode:

“Stand-Off” mode

When the appliance is switched off at the OFF position, 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

“Stand-by” 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 LEDs are turned off (the Display also, if present), with the exception of the green LED on the START/PAUSE button, which flashes at a very low rate to signal that the appliance is powered, but is in low power consumption mode.

The appliance exits Stand-By mode when any of the buttons are pressed.

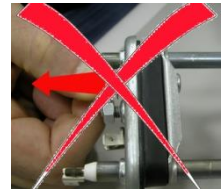
All the settings are stored so that when the appliance is turned back on, the programme is ready or if the auto-off mode was triggered after the end of the cycle, the user can see that the cycle ended normally, and can restart it if necessary.

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.



- Any work on electrical appliances must only be carried out by qualified personnel.
- Before carrying out work on the appliance, use suitable instruments to check that the power supply system in the house is fully efficient. For instance, please refer to the instructions provided/illustrated in the Electrolux Learning Gateway portal (<http://electrolux.edvantage.net>).
- On completing operations, check that the appliance has been restored to the same state of safety as when it came off the assembly line.
- If the circuit board has to be handled/replaced, use the ESD kit (Cod. 405 50 63-95/4) to avoid static electricity from damaging the circuit board, see S.B. No. 599 72 08-09 or consult the course <<Electrostatic charges>> at the address (<http://electrolux.edvantage.net>) on the Electrolux Learning Gateway portal.
- This platform is not fitted with an ON/OFF switch. Before you access internal components, take the plug out of the socket to cut the power supply.
- Make resistance measurements, rather than direct voltage and current measurements
- When replacing the heating element, replace it with one that has the same characteristics (2 thermal fuses) in order not to compromise the safety of the appliance. NEVER remove/switch the NTC sensors between heating elements.
- Always empty the appliance of all the water before laying it on its side.
- Never place the appliance on its right side (electronic control system side): some of the water in the detergent dispenser could leak onto the electrical/electronic components and cause these to burn.
- When replacing components, please refer to the code shown in the list of spare parts relating to the appliance.
- Do not place any kind of container under the appliance to catch any drips of water.
- Having removed the back panel, take care with the edges of the body, which can be sharp.



3 STYLING TC 4

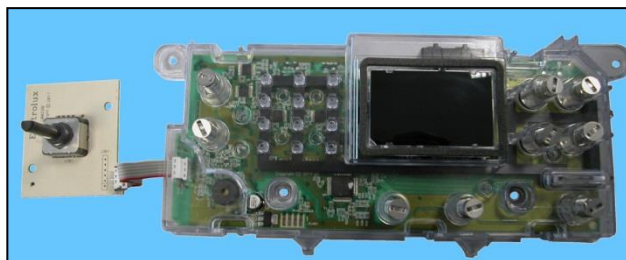
3.1 EWX13611 GENERAL CHARACTERISTICS

The electronic control system consists of two circuit boards:

- ↪ The control/display circuit board, inserted in a plastic box, secured to the control panel (the figure illustrates: the display circuit board with the side support plate onto which the selector is secured, connected to one another by a flat cable and the display circuit board assembly).



Figure 1 UI board styling TC4



- ↪ Main board, located at the rear of the appliance.

It powers the electrical components and receives commands from the display board.



Figure 2 Main board EWX13611

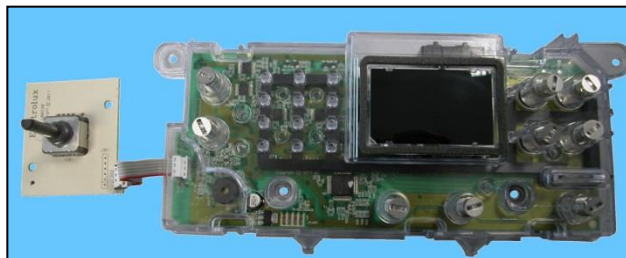
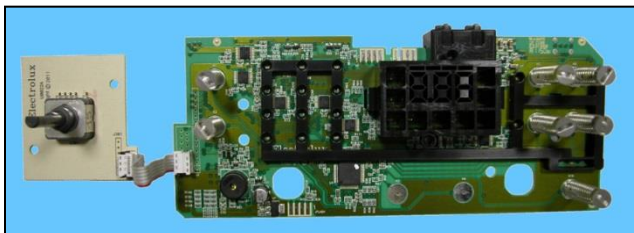
No. of touch-sensitive keys	<ul style="list-style-type: none"> Maximum 9 (8 options + start/pause)
No. LEDs	<ul style="list-style-type: none"> Maximum 27 yellow + 1 red LED + Digit (made up of 22 LEDs)
Programme selector	<ul style="list-style-type: none"> 15 positions (incorporated in the circuit board)
Power supply voltage	<ul style="list-style-type: none"> 220/240 V 50/60 Hz (configurable)
Washing type	<ul style="list-style-type: none"> Traditional with "Eco-ball"
Rinsing system	<ul style="list-style-type: none"> Traditional with "Eco-ball"
Motor	<ul style="list-style-type: none"> Collector, with tachometric generator (Universal)
spin speed	<ul style="list-style-type: none"> 1,000 ÷ 1,600 rpm
Anti-unbalancing system	<ul style="list-style-type: none"> AGS
Cold water fill	<ul style="list-style-type: none"> 1 solenoid valve with 1 inlet – 2 outlets
Detergent dispenser	<ul style="list-style-type: none"> 2 compartments: wash, conditioners
Control of water level in the tub	<ul style="list-style-type: none"> Electronic/analogue pressure switch
Door safety interlock	<ul style="list-style-type: none"> Traditional (with PTC)
Heating element heat output	<ul style="list-style-type: none"> 1,750 W with thermal fuses incorporated
Temperature check	<ul style="list-style-type: none"> NTC probe incorporated in the heating element
Buzzer	<ul style="list-style-type: none"> Traditional incorporated in the PCB

3.2 EWX11831 GENERAL CHARACTERISTICS

The electronic control system consists of three circuit boards:

The electronic control system consists of two circuit boards:

- ↪ The control/display circuit board, inserted in a plastic box, secured to the control panel (the figure illustrates: the display circuit board with the side support plate onto which the selector is secured, connected to one another by a flat cable and the display circuit board assembly).



- ↪ The main circuit board is positioned at the rear of the appliance and powers the electrical components, receiving commands from the display board as well as communicating with the motor control board (Inverter UIMC).



Figure 4 Main board EWX11831

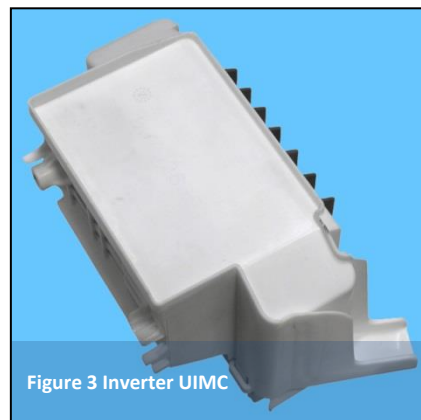


Figure 3 Inverter UIMC

No. of touch-sensitive keys	<ul style="list-style-type: none"> Maximum 9 (8 options + start/pause)
No. LEDs	<ul style="list-style-type: none"> Maximum 27 yellow + 1 red LED + Digit (made up of 22 LEDs)
Programme selector	<ul style="list-style-type: none"> 15 positions (incorporated in the circuit board)
Power supply voltage	<ul style="list-style-type: none"> 220/240 V 50/60 Hz (configurable)
Washing type	<ul style="list-style-type: none"> Traditional with "Eco-ball"
Rinsing system	<ul style="list-style-type: none"> Traditional with "Eco-ball"
Motor	<ul style="list-style-type: none"> Collector, with tachometric generator (Universal)
spin speed	<ul style="list-style-type: none"> 1,000 ÷ 1,600 rpm
Anti-unbalancing system	<ul style="list-style-type: none"> AGS
Cold water fill	<ul style="list-style-type: none"> 1 solenoid valve with 1 inlet – 2 outlets
Detergent dispenser	<ul style="list-style-type: none"> 2 compartments: wash, conditioners
Control of water level in the tub	<ul style="list-style-type: none"> Electronic/analogue pressure switch
Door safety interlock	<ul style="list-style-type: none"> Traditional (with PTC)
Heating element heat output	<ul style="list-style-type: none"> 1,750 W with thermal fuses incorporated
Temperature check	<ul style="list-style-type: none"> NTC probe incorporated in the heating element
Buzzer	<ul style="list-style-type: none"> Traditional incorporated in the PCB

3.3 CONTROL PANELS

3.3.1 STYLING

- Max. 9 touch push buttons
- 15 position programme selector
- 27 yellow LEDs + 1 red LED
- Digits made up of 22 LEDs

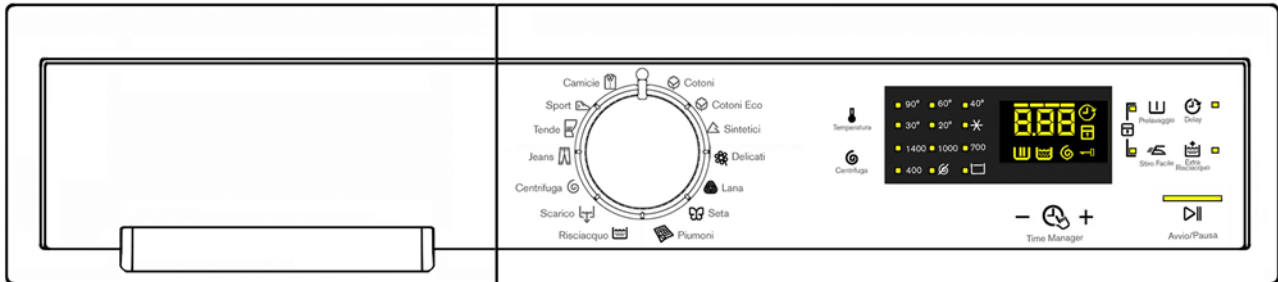
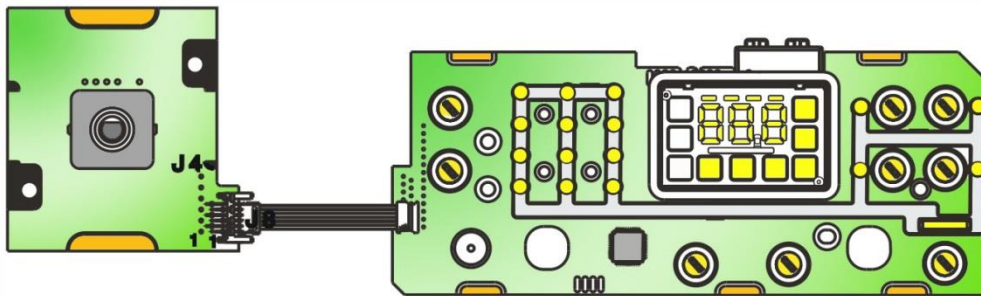


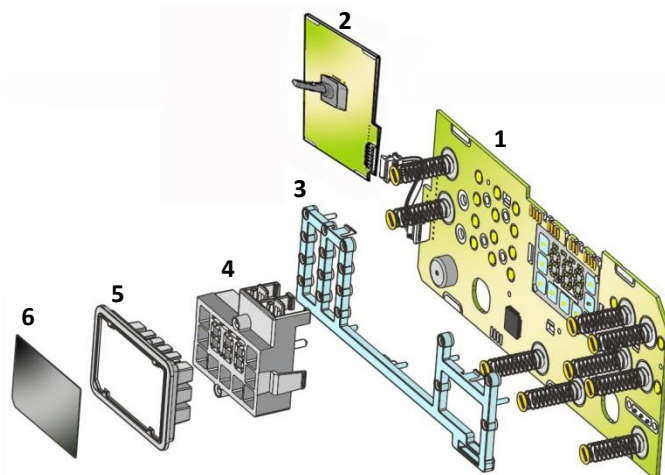
Figure 5 Styling TC 4

3.3.2 DISPLAY BOARD

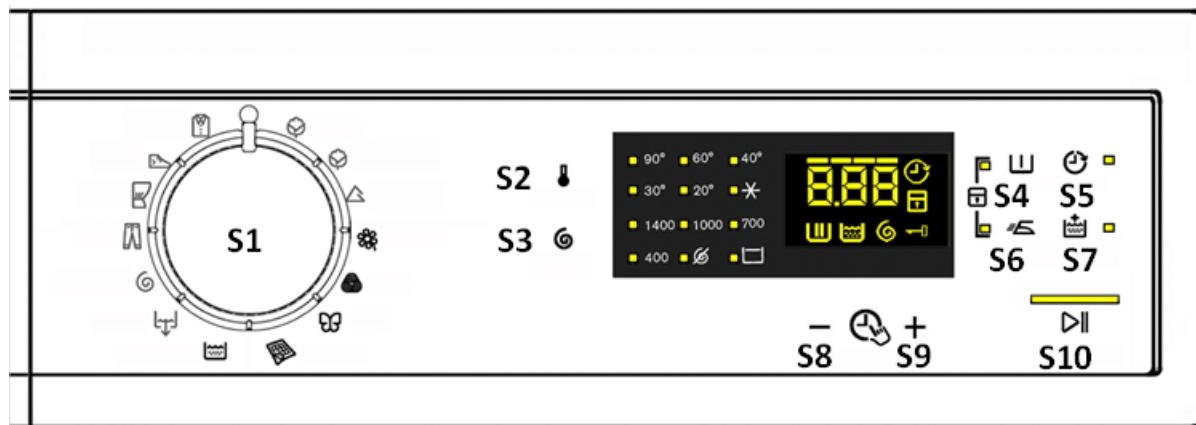


- Display board assembly, exploded view

1. Display board
2. Selector card with knob
3. Light divider
4. Digits light conveyor
5. Digits light diffuser
6. Silk-screen printed digital filter



3.3.3 CONTROL PANEL CONFIGURATION



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

3.3.3.1 PROGRAMME SELECTOR (S1)

The knob has 15 non configurable positions.

There is no ON/OFF switch.

The 0 (zero) position is reserved for resetting the programme that is running and turn off all the LEDs on the display board.

The plug must be removed from the mains socket to cut the power to the appliance.

The various positions of the selector may be configured in order to perform the various washing programmes (e.g. water level, drum movement, No. of rinses and the washing temperature to be selected according to the type of laundry).

The selector can be turned both clockwise and anti-clockwise.

For each programme, the compatible options and other parameters are defined.

The programme temperature is selected using the relevant sensor.



3.3.3.2 PROGRAMME CONFIGURATION

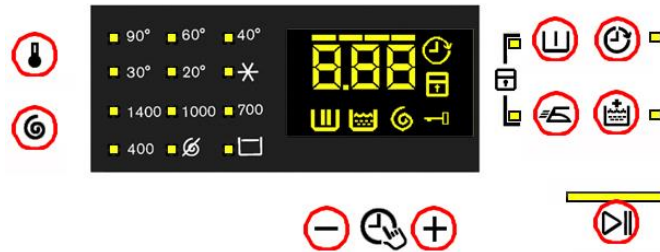
The table below lists the parameters that can be used to define the washing programmes.

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, Conditioner, Rinse, Drain, Spin, Economy.
Temperature	Normal, Minimum, Maximum: the initial temperature is the one proposed for the washing programme.
Spin	Normal, Minimum, Maximum.
Options (Normal/Possible)	Rinse Hold, Pre-wash, Extra rinse, Easy-Iron, Economy (energy label), Normal, Super quick, Reduced spin speed, No spin.
Programme phases	Pre-wash, Wash, Rinses, Spin, Delayed start.

3.3.3.3 SENSOR – LEDS AND DISPLAY

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.

Simultaneously to the enabling/disabling of the options, the cycle duration time is updated via the digits.

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.

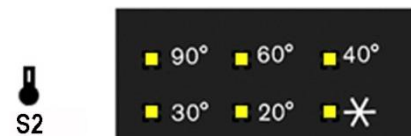
Sensor no. 2: TEMPERATURE (configurable)

The temperature is always associated with the first sensor, in combination with the six LEDs located in the top left hand corner of the display.


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 temperatures available (displayed in °C) are: **90°C, 60°C, 40°C, 30°C, 20°C cold cycle.**

The cold cycle is indicated by the symbol  .

The initial temperature set for each programme is configurable.


The temperature of 50°C is not envisaged.

↪ Sensor no. 3: SPIN SPEED (configurable)

The spin speed is always associated with the second sensor, in combination with the six LEDs located in the bottom left hand corner of the display.

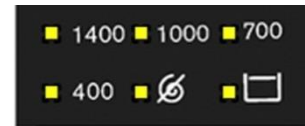
The initial spin speed displayed is that set for the chosen programme.

Touching the sensor you can reduce the spin speed, indicated by the LED near the silk-screen printed value

on the control panel coming on. Once the lowest speed has been reached you can, if you wish, select “No spin”, “Stop water in tub” lighting up the relative symbol , or “Night cycle” (if compatible with the selected programme).

The next selection will be the highest speed available for the selected programme.

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

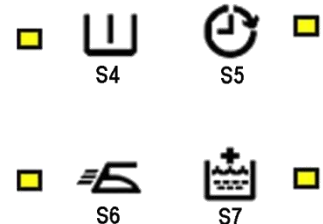


Max spin speed (rpm)	800	1,000	1,000	1,200	1,200÷1,400	1,200÷1,400	1,400-1,600	1,400-1,600	1,400-1,600	1,400-1,600
Intermediate	600	800	800	800	1,000	1,000	1,200	1,200	1,200	1,200
Intermediate	400	400	600	400	800	800	800	800	1,000	1,000
Intermediate	No speed	No speed	400	No speed	400	400	400	400	800	800
Intermediate	Rinse hold	Rinse hold	No speed	Rinse hold	Rinse hold	No speed	Rinse hold	No speed	Rinse hold	No speed
Last selection	Night Cycle	Night Cycle	Rinse hold	Night Cycle	Night Cycle	Rinse hold	Night Cycle	Rinse hold	Night Cycle	Rinse hold

↪ Sensor no. 4-5-6-7 (configurable)

Each of the sensors located on the right hand side of the display can be combined with a LED and are used to choose one of the following four selected options:

- ↪ Delayed start
- ↪ Extra-rinse
- ↪ Easy Iron
- ↪ Pre-wash



Depending on the option/choices, the programme duration time is updated (via the three digits).

↪ Sensor no. 8-9

These two sensors are positioned under the display and act as:

↪ Time manager

Allowing the end user to lengthen or shorten the washing cycle duration, this adjustment should be done after setting the temperature value and the spin speed.

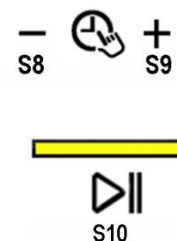


• Sensor no. 10

This sensor has the START/PAUSE function, used to start up a washing programme, after selecting the washing cycle and required options; it can also pause a cycle that has already started: to allow you to change selected option or open the door (if the temperature conditions or water level allow for this).

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

The LED combined with this sensor flashes slowly: in the selection phase, 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 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.

Display

The display is produced by a black film with transparent, silk-screen printed symbols, that are lit by yellow LEDs when activated.



The display shows the following information.

↪ - **Duration of the washing programme**, which appears after it has been selected. This time corresponds to the time required for the maximum wash load for each type of programme. If an option is selected/deselected, the time is automatically updated. After the programme has started, the time decreases (and is updated) minute by minute.



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



↪ - **Appliance stopped with water in the tub**, after programmes with the RINSE HOLD option. This is displayed by a **permanently lit zero**. The symbol indicating the door remains on and the LED of the START/PAUSE sensor is turned off. The washing machine continues to operate, rotating the drum once every 2 minutes.

↪ - **Delayed start:**


selected using the relative sensor, every time the delayed time is pressed, it increases and is simultaneously shown on the display.

↪ Up to 90 minutes the increases are of 30 minutes (☞ 30 mins ☞ 60 mins ☞ 90 mins)

↪ From 2 - 20 hours the increases are of 1 hour (2hrs. ☞ 3hrs... ☞ 20hrs. ☞ 0hrs.). In order to reset the delay time, reach the maximum delay time (20 hours) and the next time the sensor is pressed the delay time is cancelled.



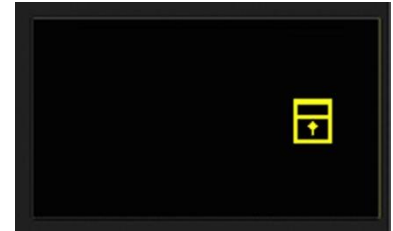
Once the delay time has been set, after 3'' of no sensor being touched, the display will once again show the programme's duration time. Press the sensor once to view the set delay time. After starting the cycle the display shows the delay time count down.

The icon  and the LED near the silk-screen printed symbol stay on, for the entire selection and delay phase, to show that the function is active.

During the last hour, the time decreases minute by minute

To cancel the delayed start time, after the cycle has started, pause the washing machine using the related sensor and cancel the option.

↪ - **Padlock:**
when lit, it indicates that all the sensors are disabled to prevent children from altering, starting or pausing the cycle.
To disable this function, a sensor combination needs to be pressed, which can be printed on the control panel or described in the instruction manual.



↪ - **Incorrect choice:**
displayed by the message “Err”, when a function that is not compatible with the chosen programme is selected.



The display duration is two seconds.

↪ - **Alarm code:**
Alarm code indicates an error in the appliance operation; the START/PAUSE sensor flashes when the code is displayed.



↪ - **Door closed:**
It lights up when the safety device prevents the door opening and switches off when it can be opened.



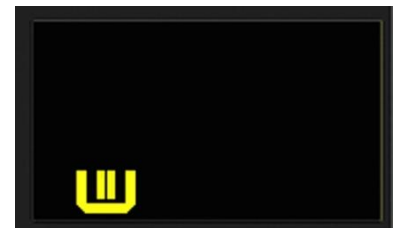
It flashes when the device is about to unlock the door (it should be noted with PTC delaying devices, which need one or two minutes to open).

↪ - **Time manager:**
Represented by four segments positioned above the digits.

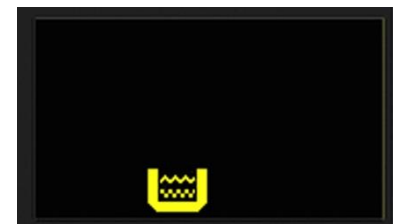


Please refer to 3.4 Time manager page 18

↪ - **Wash phase:**
It lights up during the washing phase.

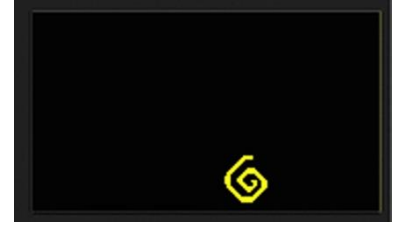


↪ - **Rinse phase:**
It lights up during the rinse phase.



↩ - Spin phase:

It lights up during the drainage phase before and during the final spin.



3.3.3.4 BUZZER

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

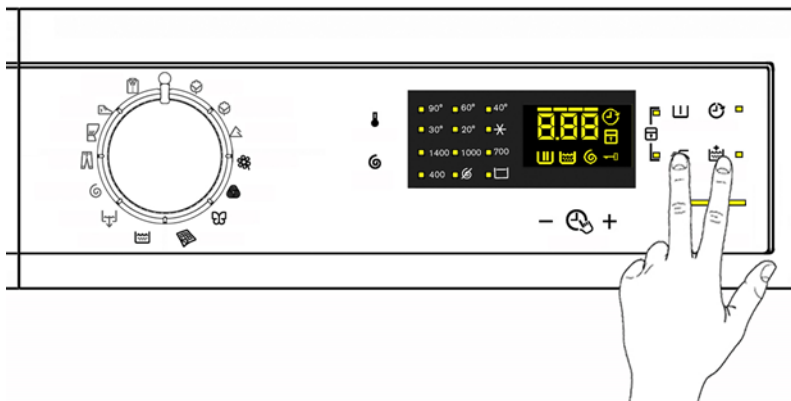
- When the appliance is turned on and off, it plays two different musical tunes.
- When a sensor is pressed it emits a short “Click”
- When the cycle ends this is indicated by a special sequence of “**three long beeps**” repeated at intervals of 15” for a total of 2 minutes. The sequence can only be 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.



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.

3.4 TIME MANAGER

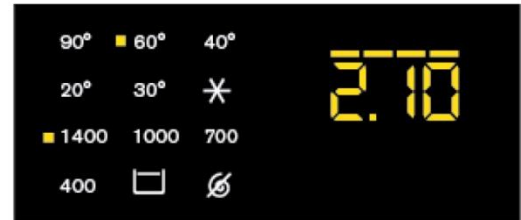
The time manager is an option available in programmes for Cotton, Synthetics, Delicates and Jeans.

During the selection of the washing cycle, four segments above the digits light up which show that the programme manages the “Time Manager” option.

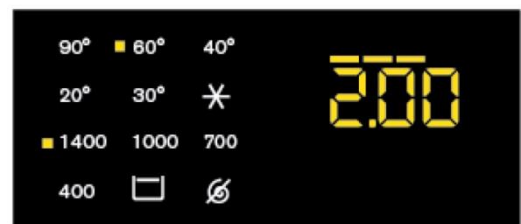
The final user can reduce the three level washing cycle duration, simultaneously with each selection: the display updates the washing cycle time and turns off a segment.

When a programme with “Time manager” is selected the four segments light up that correspond to the maximum duration time of the selected programme.

Touching the sensor with the “+” sign there is no variation.
The four segments stay lit and the time shown by the digits does not vary.



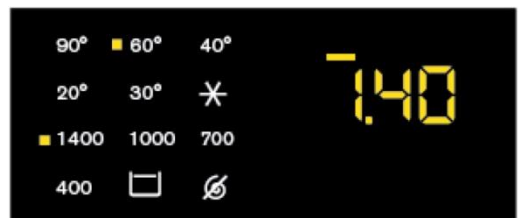
Touching the sensor with the “-” sign once, one segment turns off and simultaneously the washing time shown by the digits decreases.



Touching the sensor with the “-” sign twice, two segments turn off and simultaneously the washing time shown by the digits decreases further.



Touching the sensor with the “-” sign three times, three segments turn off and simultaneously the washing time shown by the digits decreases further.



Only one segment that indicates the minimum level of the “Time manager” is still lit.

Continuing to touch the sensor with the “-” sign no other segment turns off and the time does not decrease any further.

Once the minimum level has been reached to obtain a variation, you need to touch the sensor with the “+” sign. An increase in time shown by the digits will be obtained with the respective increase in the number of segments lit, until they are all lit and the maximum time shown will be that of the programme.

There is no “Time manager” in the “Cotton Eco” programme, however the segments are lit. By pressing the “Time manager” sensor once to reduce the time two segments are deselected.

4 STYLING TC 5

4.1 EWX13611 GENERAL CHARACTERISTICS

The electronic control system consists of two circuit boards:

- ↪ The control/display circuit board, inserted in a plastic box, secured to the control panel (the figure illustrates: the display circuit board with the side support plate onto which the selector is secured, connected to one another by a flat cable and the display circuit board assembly).

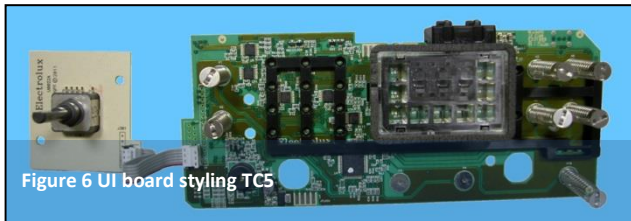
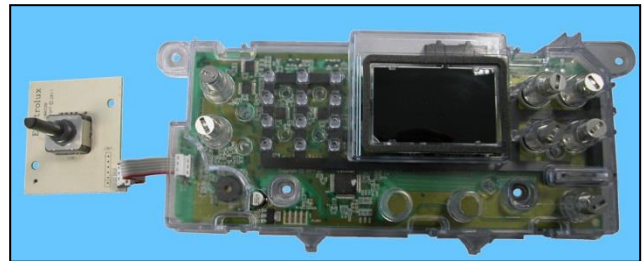


Figure 6 UI board styling TC5



- ↪ Main board, located at the rear of the appliance.

It powers the electrical components and receives commands from the display board.

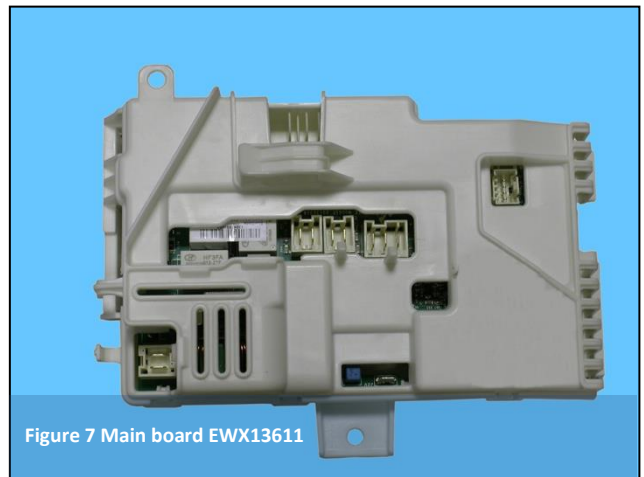


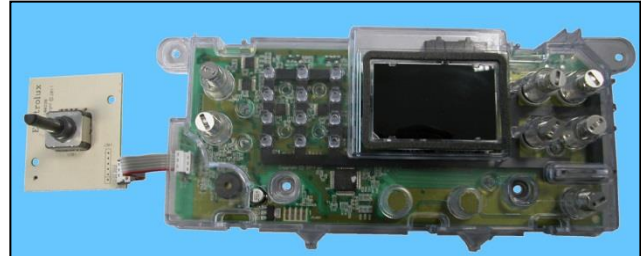
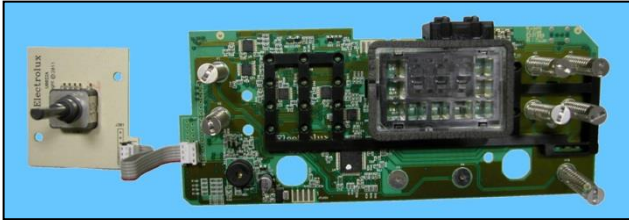
Figure 7 Main board EWX13611

No. of touch-sensitive keys	<ul style="list-style-type: none"> Maximum 7 (6 options + 1 start/pause)
No. LEDs	<ul style="list-style-type: none"> Maximum 23 yellows + 1 red
Programme selector	<ul style="list-style-type: none"> 15 positions (incorporated in the circuit board)
Power supply voltage	<ul style="list-style-type: none"> 220/240 V 50/60 Hz (configurable)
Washing type	<ul style="list-style-type: none"> Traditional with “Eco-ball”
Rinsing system	<ul style="list-style-type: none"> Traditional with “Eco-ball”
Motor	<ul style="list-style-type: none"> Collector, with tachometric generator (Universal)
spin speed	<ul style="list-style-type: none"> 800 ÷ 1,600 rpm
Anti-unbalancing system	<ul style="list-style-type: none"> AGS
Cold water fill	<ul style="list-style-type: none"> 1 solenoid valve with 1 inlet – 2 outlets
Detergent dispenser	<ul style="list-style-type: none"> 2 compartments: wash, conditioners
Control of water level in the tub	<ul style="list-style-type: none"> Electronic/analogue pressure switch
Door safety interlock	<ul style="list-style-type: none"> Traditional (with PTC)
Heating element heat output	<ul style="list-style-type: none"> 1,750 W with thermal fuses incorporated
Temperature check	<ul style="list-style-type: none"> NTC probe incorporated in the heating element
Buzzer	<ul style="list-style-type: none"> Traditional incorporated in the PCB

4.2 EWX11831 GENERAL CHARACTERISTICS

The electronic control system consists of three circuit boards:

- ↪ The control/display circuit board, inserted in a plastic box, secured to the control panel (the figure illustrates: the display circuit board with the side support plate onto which the selector is secured, connected to one another by a flat cable and the display circuit board assembly).



- ↪ The main circuit board is positioned at the rear of the appliance and powers the electrical components, receiving commands from the display board as well as communicating with the motor control board (Inverter UIMC).



Figure 9 Main board EWX11831

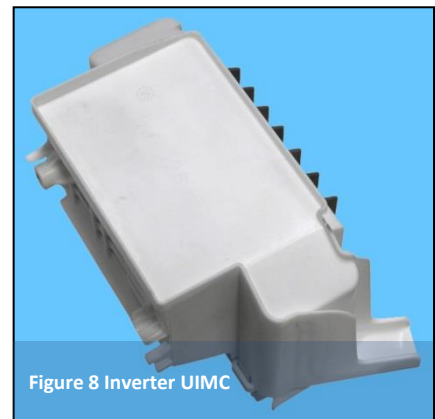


Figure 8 Inverter UIMC

No. of touch-sensitive keys	<ul style="list-style-type: none"> ▪ Maximum 7 (6 options + 1 start/pause)
No. LEDs	<ul style="list-style-type: none"> ▪ Maximum 23 yellows + 1 red
Programme selector	<ul style="list-style-type: none"> ▪ 15 positions (incorporated in the circuit board)
Power supply voltage	<ul style="list-style-type: none"> ▪ 220/240 V ▪ 50/60 Hz (configurable)
Washing type	<ul style="list-style-type: none"> ▪ Traditional with “Eco-ball”
Rinsing system	<ul style="list-style-type: none"> ▪ Traditional with “Eco-ball”
Motor	<ul style="list-style-type: none"> ▪ Collector, with tachometric generator (Universal)
spin speed	<ul style="list-style-type: none"> ▪ 800 ÷ 1,600 rpm
Anti-unbalancing system	<ul style="list-style-type: none"> ▪ AGS
Cold water fill	<ul style="list-style-type: none"> ▪ 1 solenoid valve with 1 inlet – 2 outlets
Detergent dispenser	<ul style="list-style-type: none"> ▪ 2 compartments: wash, conditioners
Control of water level in the tub	<ul style="list-style-type: none"> ▪ Electronic/analogue pressure switch
Door safety interlock	<ul style="list-style-type: none"> ▪ Traditional (with PTC)
Heating element heat output	<ul style="list-style-type: none"> ▪ 1,750 W with thermal fuses incorporated
Temperature check	<ul style="list-style-type: none"> ▪ NTC probe incorporated in the heating element
Buzzer	<ul style="list-style-type: none"> ▪ Traditional incorporated in the PCB

4.3 CONTROL PANELS

4.3.1 STYLING

- Max. 7 touch push buttons
- 15 position programme selector
- 24 LEDs

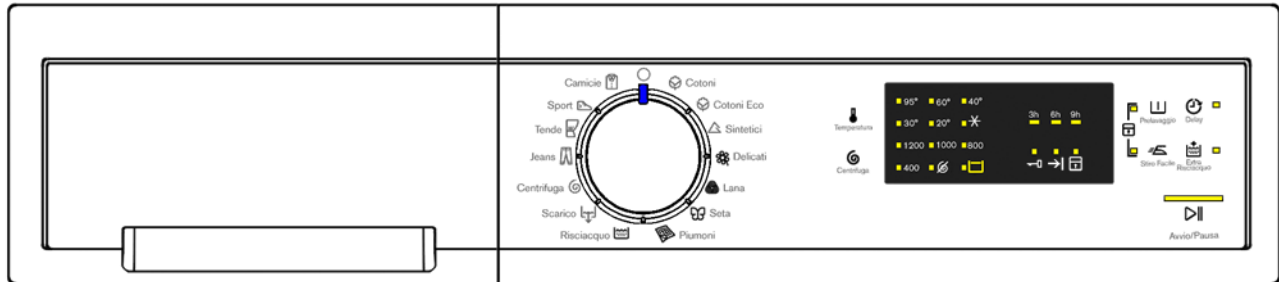
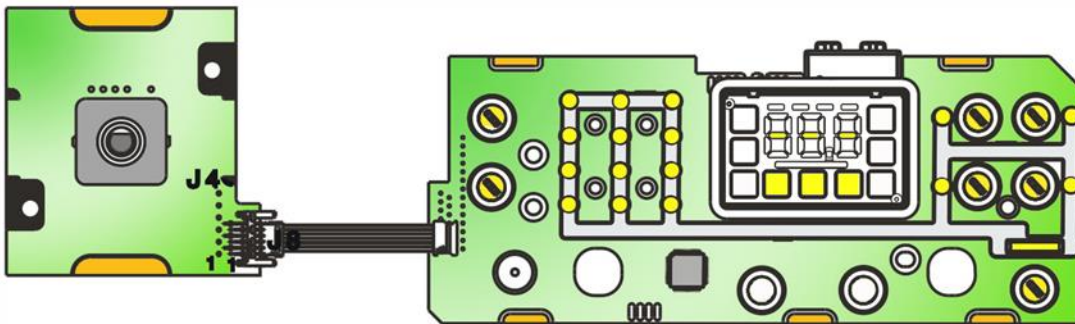


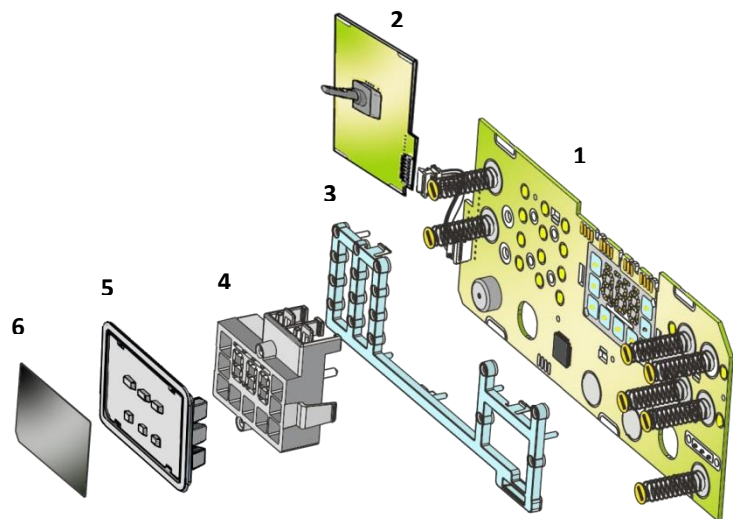
Figure 10 Styling TC 5

4.3.2 DISPLAY BOARD

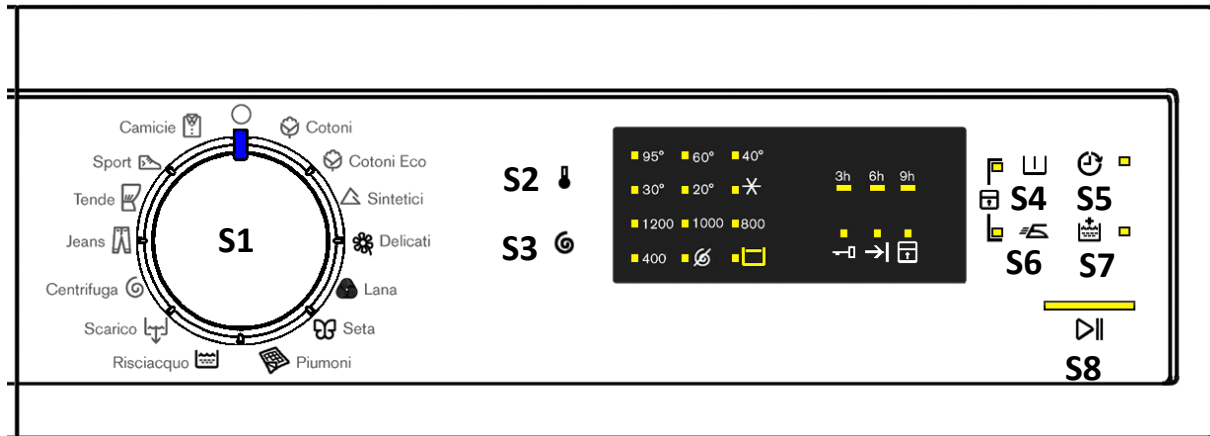


- Display board assembly, exploded view

1. Display board
2. Selector card with knob
3. Light divider
4. Digits light diffuser support
5. Digits light diffuser
6. Digital filter



4.3.3 CONTROL PANEL CONFIGURATION



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

4.3.3.1 PROGRAMME SELECTOR (S1)

Please refer to 3.3.3.1 Programme selector (S1) page 12

4.3.3.2 PROGRAMME CONFIGURATION

Please refer to 3.3.3.2 Programme configuration page 12

4.3.3.3 SENSOR – LEDS AND DISPLAY

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 the enabling/disabling, the cycle duration time is updated via the digits.

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.

Each time you touch a sensor, you need to lift your finger up by a centimetre and wait for half a second 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 and Delayed Start settings have a continued variation of values as long as your finger is in contact with the sensor.

↪ **Sensor no. 2:** TEMPERATURE (configurable)

Please refer to 3.3.3.3 Sensor – LEDs and Display page 13

↪ **Sensor no. 3:** SPIN SPEED (configurable)

Please refer to 3.3.3.3 Sensor – LEDs and Display page 13

↪ **Sensor no. 4-5-6-7** (configurable)

Please refer to 3.3.3.3 Sensor – LEDs and Display page 13

↪ **Sensor no. 8**

The function of this sensor is to START/PAUSE.

Touching this sensor starts a washing cycle, or can pause a washing cycle already under way (there are two LEDs inside:

→ a **yellow** one which flashes when the appliance is in set-up, pause; it stays on when the cycle is under way and turns off when the cycle has ended;

→ a **red** one that flashes (150 ms off, 150 ms on) in the event of an alarm or incorrect selection, such as: an incompatible option, an incorrect temperature for the chosen programme or the rotation of the programme selector dial or the selection of an option while a washing cycle is under way.



Display

The display is made with a black film (with transparent symbols), positioned above the yellow LEDs that allow light to filter through when they are activated with the display of the selected option symbol.



The display shows the following information.

↪ - **The end of the programme**

The symbol lights up when the washing cycle ends and you can open the door.



↪ - **Delayed start**

During the selection phase with the relative sensor, you can choose three possible delayed starts:

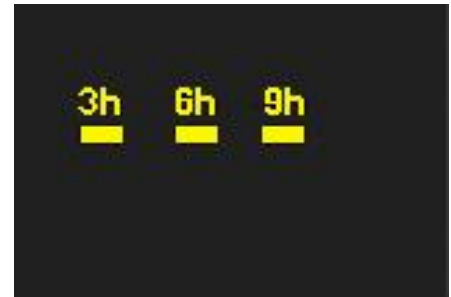
3hrs-6hrs-9hrs

After start up the LEDs only stay on for the time period dedicated to them:

LED **3hrs** stays on for the last 3hrs, before the washing cycle starts

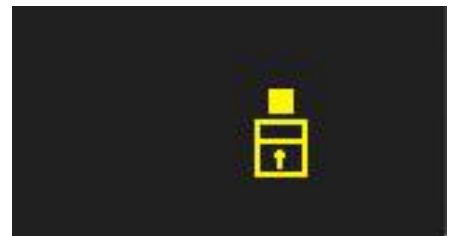
LED **6hrs** stays on for the period between 6hrs and 3hrs

LED **9hrs** stays on for the period between 9hrs and 6hrs



↪ - **Padlock:**

Please refer to 3.3.3.3 Sensor – LEDs and Display page 13



↪ - **Door closed**

Please refer to 3.3.3.3 Sensor – LEDs and Display page 13



4.3.3.4 BUZZER

Please refer to 3.3.3.4 Buzzer page 17

5 COMPATIBILITY BETWEEN WASH PROGRAMMES AND OPTIONS

		Rinse hold	Night cycle	Pre-wash/Soak (*)	Stains	Super rinse	Easy-iron	Economy	TM 8 (Intensive)	TM 6 (Daily)	TM 4 (Quick)	TM 2	Aquasol	Max steam	Medium steam	Minimum steam	
Compatibility with OPTIONS	Rinse hold			X	X	X	X	X	X	X	X	X	X	X	X	X	
	Night cycle			X	X	X		X	X	X	X	X	X	X	X	X	
	Pre-wash/Soak (*)	X	X		X	X	X	X	X	X	X	X	X	X	X	X	
	Stains	X	X	X		X	X	X	X	X	X	X	X	X	X	X	
	Super rinse	X	X	X	X		X	X	X	X	X	X	X	X	X	X	
	Easy-iron	X		X	X	X		X	X	X	X	X	X	X	X	X	
	Economy	X	X	X	X	X	X		X					X	X	X	
	TM 8 (Intensive)	X	X	X	X	X	X							X	X	X	X
	TM 6 (Daily)	X	X	X	X	X	X							X	X	X	X
	TM 4 (Quick)	X	X	X	X	X	X							X	X	X	X
	TM 2	X	X	X	X	X	X							X	X	X	X
	Aquasol	X	X	X	X	X	X	X	X	X	X	X	X				
	Max steam	X	X	X	X	X	X	X	X	X	X	X	X				
	Medium steam	X	X	X	X	X	X	X	X	X	X	X	X				
	Minimum steam	X	X	X	X	X	X	X	X	X	X	X	X				
Phases where selection/ modification is possible	Selection	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Pre-wash	X	X			X	X							X	X	X	X
	Wash	X	X			X	X							X	X	X	X
	Rinses	X															
	Spin																

(*) Pre-wash and Soak exclude each other.

Pre-wash+Stains and Soak+Stains are compatible with one another depending on the detergent dispenser used.

- 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/Soak/Extra Silent.

5.1 DESCRIPTION OF OPTIONS

- **Rinse hold**

- During the cycle the intermediate rinses and spins are performed.
- Stops the appliance with water in the tub before the final spin cycle.
- To drain the water, simply touch the START/PAUSE sensor to run the drain and spin cycles.

- **Night cycle**

- Eliminates all spin phases and adds **three** rinses in COTTON cycles and **two** rinses in SYNTHETIC FABRICS cycles
- Stops the appliance with water in the tub before the final spin cycle.
- Eliminates the buzzer (if configured).
- To drain the water, reset the programme and then select a drain or spin cycle.

- **Pre-wash**

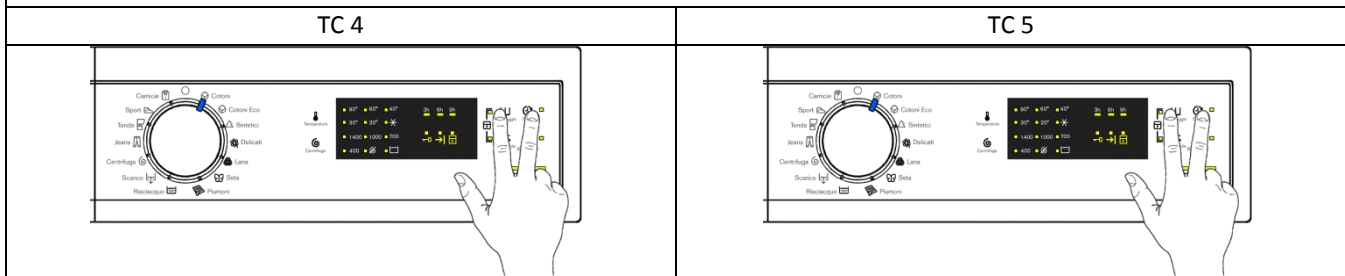
- Adds a pre-wash phase at the start of the cycle with water heating to 30°C (or cold, if selected).
- In COTTON and SYNTHETICS cycles, performs a short spin before passing on to the washing phase.
- This option cannot be selected for WOOL and HAND WASH cycles.

- **Super rinse**

- Adds **two** rinses to the COTTONS cycles, adds **one** rinse to the SYNTHETICS - DELICATES cycles
- Eliminates the spin at the end of washing.

COMBINATION OF SENSORS FOR THE EXTRA RINSE ACTIVATION /DEACTIVATION

The appliances that include the SUPER RINSE option combined with a sensor, can even activate/deactivate later cycles with a combination of sensors.



During the selection stage, to activate: simultaneously touch the two sensors for a few seconds, as shown in the figure until the relative LED comes on. To deactivate it, touch the same combination until the LED turns off.

- **No spin**

- It eliminates all the spin phases.
- It adds three rinses to the COTTON CYCLE and one to the SYNTHETIC FABRICS cycle.

- **Easy-iron**

→ In COTTON programmes:

- adds **three** rinse cycles
- eliminates intermediate spin cycles
- performs a pulse spin phase before the final spin
- adds an “untangling” phase after the spin cycle

→ In SYNTHETIC FABRICS programmes:

- it reduces the heating temperature in 50/60°C cycles to 40°C
- increases the wash time
- prolongs the cooling phase at the end of the wash phase
- adds **one** rinse cycle
- adds an “untangling” phase after the pulse spin cycle

→ It limits spin speed to 1000 rpm if the appliance can reach a higher speed.

- **Economy/Energy label**

→ Modifies the structure of the COTTON 40÷90 - SYNTHETIC FABRICS 50/60 programmes to reduce energy consumption, guaranteeing washing performance levels.

→ Reduces the washing temperature.

→ Increases the duration of the wash phase.

- **Super quick**

Can only be started with the T5 aesthetic where there is no Time manager (corresponding with the second level of Time manager).

→ Modifies the structure of the wash phase of the COTTON - SYNTHETIC FABRICS - DELICATES cycles by half a load.

- **Delayed start**

→ Adds a pause before the start of the programme. The delay time is displayed on the corresponding LEDs or on the Display (see page 12 or page 19 to respectively view with Display or LEDs).

→ To start the cycle immediately after the countdown to the delayed start has already begun: press the Start/Pause sensor, cancel the delay time by touching the relevant sensor, then press the Start/Pause sensor again.

6 DEMO MODE SETTING


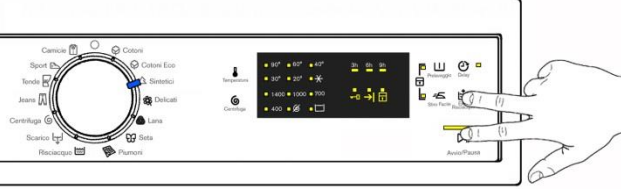
A special cycle allows demonstration of the operation of these appliances in shops, in a user interactive manner, without connecting them to the water mains:

- ◆ interactive mode consists of selecting one of the programmes, adding any options and, after touching the START/PAUSE sensor, the appliance will only perform some of the programme phases, skipping those that cannot be performed (water fill, drain, heating).

The cycle takes place as follows:

- ↪ the door lock is enabled as usual (door locked during operation, possibility of opening it at the end of the cycle or when paused).
- ↪ Motor: all low speed movements are enabled, the pulses and spin are disabled.
- ↪ the water fill solenoid valves and the drain pump are disabled.
- ↪ Display: displays all the phases of the programme very quickly.
- ↪ Alarms: for safety reasons, the E40 (door closed), E50 (motor) and E90 (communication between boards/configuration) families of alarms are enabled.

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

TC4	TC5
	
<ol style="list-style-type: none"> 1. Set the selector dial to position 0 (zero). 2. Rotate the programme selector three positions clockwise 3. Simultaneously press the START/PAUSE button and the nearest sensor option (as shown in the diagram). 4. Keep your finger above the sensors until the flashing text "DEM" appears on the screen. 	<ol style="list-style-type: none"> 1. Set the selector dial to position 0 (zero). 2. Rotate the programme selector three positions clockwise 3. Simultaneously press the START/PAUSE button and the nearest sensor option (as shown in the diagram). 4. Keep your finger above the sensors until the LEDs start flashing, with the exception of the Start/Pause LED.

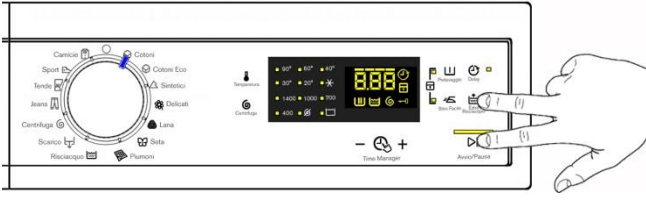
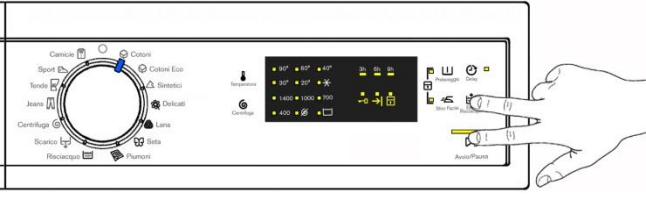
6.1 EXITING DEMO MODE

Unplug the appliance from the mains socket.

7 DIAGNOSTICS SYSTEM

7.1 ACCESSING DIAGNOSTICS

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

TC4	TC5
	
<ol style="list-style-type: none">1. Set the selector dial to position 0 (zero).2. Rotate the programme selector one position clockwise.3. Simultaneously press the START/PAUSE button and the nearest sensor option (as shown in the diagram).4. Keep your fingers above the sensors until the LEDs and display symbols start flashing. <p>In the first position, the operation of the buttons and the related LEDs is checked; turning the programme selector dial clockwise runs the diagnostic cycle for the operation of the various components and reads any alarms.</p>	

7.2 QUITTING THE DIAGNOSTICS SYSTEM

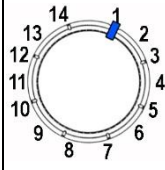

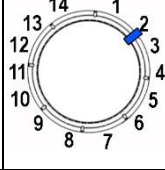

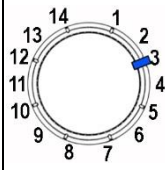

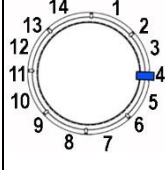

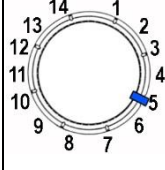

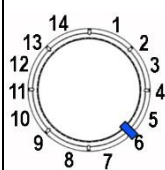

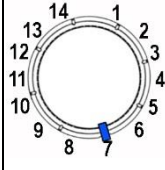

→ To exit the diagnostics system, turn the selector dial to position 0, turn the appliance back on and return the dial to position 0.





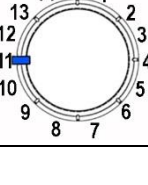

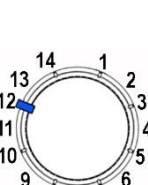



7.3 PHASES OF THE DIAGNOSTICS TEST

Irrespective of the type of electronic board and of the selector configuration, once the diagnostics system has been activated, turn the selector knob **clockwise** and you can run a check on the various components and the alarm reading.

Simultaneously, a selector control code is shown using the display screen for **two** seconds, before displaying what is described in the last column of the table below.

(all alarms are enabled in the diagnostic cycle).

Selector position	Components activated	Working conditions	Function tested	LCD display
1 	<ul style="list-style-type: none"> - They following come on in sequence: the LEDs, in groups the display symbols and the background light that light it up - Touch a sensor to turn on the group of display icons or the corresponding LED and the buzzer sounds at the same time 	Always active	User interface functioning	
2 	<ul style="list-style-type: none"> - Door safety interlock - Wash solenoid 	Door closed Water level below anti-flooding level Maximum time 5 mins	Water fill to wash compartment	 Water level in the tub (mm)
3 	<ul style="list-style-type: none"> - Door safety interlock - Pre-wash solenoid 	Door closed Water level below anti-flooding level Maximum time 5 mins	Water fill to pre-wash compartment	 Water level in the tub (mm)
4 	<ul style="list-style-type: none"> - Door safety interlock - Solenoid pre-wash and wash 	Door closed Water level below anti-flooding level Maximum time 5 mins	Water fill to conditioner compartment	 Water level in the tub (mm)
5 	<ul style="list-style-type: none"> - Door safety interlock - Third solenoid valve (where featured) 	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)
6 	<ul style="list-style-type: none"> - Door safety interlock - Fourth solenoid valve (hot water where featured) 	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)
7 	<ul style="list-style-type: none"> - Door safety interlock - Wash solenoid, if the water in the tub is not enough to cover the heating element - Heating element - Weight sensor (if present, an extra litre of water is loaded) - Circulation pump 	Door closed Water level above the heating element. Maximum time 10 mins up to 90°C (*)	Reheating Circulation	 Temperature in °C measured using the NTC probe.

8		<ul style="list-style-type: none"> - 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) 	<p>Door closed Water level above the heating element</p>	<p>Check for leaks from the tub</p>	 Drum speed in rpm/10
9		<ul style="list-style-type: none"> - Door safety interlock - Drain pump - Motor up to 650 rpm then at maximum spin speed (**) 	<p>Door closed Water level lower than anti-boiling level for spinning</p>	<p>Drain, calibration of analogue pressure switch and spin</p>	 Drum speed in rpm/10
10	-----	-----	-----	-----	-----
11		<p>Reading/Deleting the last alarm</p>	-----	-----	
12÷ 14		<ul style="list-style-type: none"> - The LEDs, groups of symbols in the LCD screen and the backlight of the display are turned on in sequence - 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 	<p>Always active</p>	<p>User interface functioning</p>	  

(*) In most cases, this time is sufficient to check the heating. However, the time can be increased by repeating the phase without draining the water: pass for a moment to a different phase of the diagnostic cycle and then back to the heating control phase (if the temperature is higher than 80°C, heating does not take place).

(**) The check at the maximum speed occurs without control of the AGS (anti-unbalancing system) and no garments must be inside the appliance.

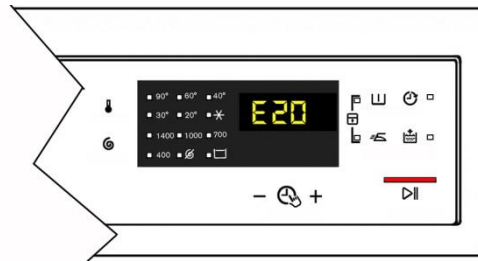
8 ALARMS

8.1 DISPLAYING THE ALARMS TO THE USER

8.1.1 STYLING TC 4

When a problem arises with the appliance generating a “WARNING” or “ALARM” this is shown in three digits (where the remaining time for the cycle to finish is shown) and simultaneously by the yellow sensor LED flashing STOP/PAUSE and the alarm (even if the user has deactivated it) gives off three short beeps every twenty seconds for five minutes.

Once the problem has been resolved, the alarm stops ringing and the code shown disappears.



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

- ↳ E10 - Water fill difficulty (tap closed)
- ↳ E20 - Drain difficulty (filter dirty)
- ↳ E40 - Door open
- ↳ EFO - If created by an overdose of detergent (if configured)

8.1.2 STYLING TC5

The alarms are displayed by the flashing red LED of the START/PAUSE sensor and by one of the three LEDs in the lower right hand corner of the display.

As soon as a problem arises these LEDs start flashing (half a second on and half a second off), until the problem is resolved.

The table below illustrates the combinations of LED lightings.

E10	E20	E40
Water fill difficulty (tap closed)	Drain difficulty (filter fouled)	Door open

While the alarms listed below:

- ↳ EFO - If generated by water leaks inside the appliance (Aqua Control System)

The intervention of a service engineer is required

For the alarm on the other hand:

↳ EHO - Voltage or frequency outside normal values

It is necessary to wait for power supply voltage and/or frequency to restore normal 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 condition that:

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

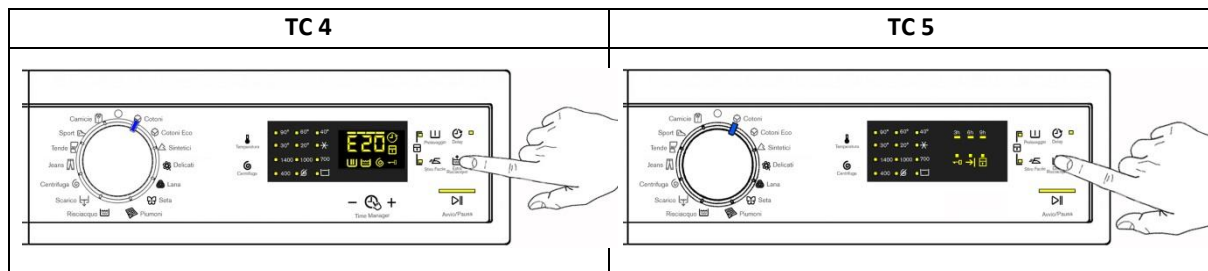
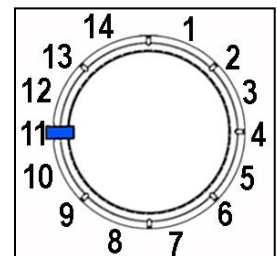
Certain alarm conditions require a drain phase to be performed before the door can be opened for safety reasons:

- 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 THE ALARMS

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

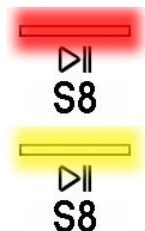
- Enter diagnostic mode (par. 7.1 page 25).
- Irrespective of the type of circuit board and configuration, turn the programme selector knob **clockwise** to the **eleventh position** and the last alarm is displayed.
- In order to view previous alarms, sequentially touch the sensor (as shown in the diagram below).
- To return to the last alarm, touch the START/PAUSE sensor.



8.2.1 VIEWING THE TC 5 AESTHETIC ALARM

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

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



These two LEDs are present in 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 letters:
 - **A** is represented by **10** flashes
 - **B** is represented by **11** flashes
 - ...
 - **F** is represented by **15** flashes
- Configuration errors are displayed by all LEDs flashing (user interface not configured).

8.2.2 EXAMPLE OF ALARM DISPLAY

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

- a sequence of four flashes of the START/PAUSE sensor red light indicates the first number **E43**;
- the sequence of three flashes of the START/PAUSE sensor with the yellow light indicates the second number **E43**.

START/PAUSE sensor with red light			START/PAUSE sensor with green light		
On/off	Time (Sec.)	Value	On/off	Time (Sec.)	Value
	0.5	1		0.5	1
	0.5			0.5	
	0.5	2		0.5	2
	0.5			0.5	
	0.5	3		0.5	3
	0.5			0.5	
	0.5	4		2.5	Pause
	0.5				
	1.5	Pause			

8.2.3 BEHAVIOUR OF THE ALARMS DURING DIAGNOSTIC TESTING

All alarms are enabled during diagnostic testing of the components.

8.3 RAPID READING OF ALARMS

It is possible to display the last alarm even if the selector is not in the eleventh diagnostics position or if the appliance is in normal operating mode (for example when performing a wash programme):

→ 10 seconds after turning on the appliance, simultaneously touch the **START/PAUSE** sensor and the nearest **sensor option** (as if accessing DIAGNOSTICS) for at least 2 seconds:

In the TC4 aesthetics, the display shows the last alarm.

In the TC5 aesthetics, the LEDs initially switch off, and then display the flashing sequence indicating the last alarm.

→ The alarm continues to be displayed for the required time and then returns to its normal function or until a sensor is touched.


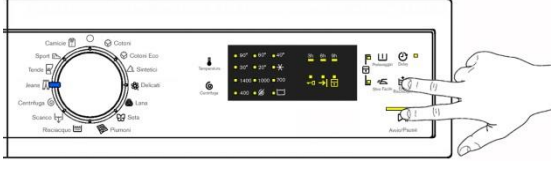
→ The alarm reading system is as described in para. 8.2.

→ While the alarm is being displayed, the appliance continues to perform the cycle or, if in the programme selection phase, it stores the previously selected options.

8.4 DELETING THE LAST ALARM

It is good practice to cancel the alarms stored:

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

TC 4	TC 5
	
<ol style="list-style-type: none"> 1. Enter the diagnostic mode. 2. Turn the programme selector clockwise to position eleven (alarm reading). 3. Simultaneously press the START/PAUSE sensor and the nearest sensor option (as shown in the diagram). 4. Keep your finger above the sensors until: <p>In the TC4 aesthetics: "E00" appears on the LCD screen (at least 5 seconds).</p> <p>In the TC5 aesthetics: the LEDs stop flashing (at least 5 seconds).</p> 	

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	Water fill difficulty during washing	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
E23	Faulty triac for drain pump	Wiring faulty; Drain pump faulty; Main PCB faulty.	Safety drain cycle - Cycle stops with door open.	RESET
E24	Drain pump triac "sensing" circuit faulty	Main circuit board faulty.	Safety drain cycle - Cycle stops with door unlocked.	RESET
E25	Aqua Control "sensing" circuit faulty	Main circuit board faulty.	Safety drain cycle - Cycle stops with door unlocked.	RESET
E31	Malfunction in electronic pressure switch circuit	Wiring; Electronic pressure switch; Main PCB.	Cycle stops with door locked.	RESET
E32	Calibration error of the electronic pressure switch	Drain pipe kinked/clogged/improperly positioned; Solenoid valve faulty; Drain filter clogged/dirty; Drain pump faulty; Leaks from pressure switch hydraulic circuit; Pressure switch faulty; Wiring; main PCB.	Cycle is paused.	START/RESET
E35	Overflow	Water fill solenoid valve faulty; Leaks from water circuit on pressure switch; Wiring faulty; Pressure switch faulty; Main PCB faulty.	Cycle interrupted. Safety drain cycle. Drain pump continues to operate (5 min. on, then 5 min. off. etc.).	RESET

Alarm	Description	Possible fault	Machine status/action	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
E42	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
E43	Faulty triac supplying power to door delay system	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
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; Main circuit board faulty.	Cycle stops with door locked (after 5 attempts).	ON/OFF
E53	"Sensing" faulty triac motor	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
E57	Inverter is drawing too much current (>15°)	Wiring faulty on inverter for motor; Inverter PCB faulty; Motor faulty.	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET
E58	Inverter is drawing too much current (>4.5°)	Motor malfunction (overload); Wiring faulty on inverter faulty; Motor faulty; Inverter PCB faulty	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET
E59	No rotation of the motor	Wiring faulty on inverter for motor; Inverter PCB faulty; Motor faulty;	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET
E5A	Overheating on heat dissipator for Inverter	Overheating caused by continuous operation or ambient conditions (let appliance cool down); Inverter PCB faulty. NTC open (on the Inverter PCB)	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET

Alarm	Description	Possible fault	Machine status/action	Reset
E5C	Input voltage is too high	Input voltage is too high (measure the grid voltage); Inverter PCB faulty	Cycle stops with door locked (after 5 attempts)	ON/OFF RESET
E5d	Data transfer error between Inverter and main PCB	Line interference; Wiring faulty; Faulty main PCB or inverter PCB.	-----	ON/OFF RESET
E5E	Communication error between Inverter and main PCB	Faulty wiring between main PCB and inverter PCB; Inverter PCB faulty; Main PCB faulty;	Cycle blocked (after 5 attempts)	ON/OFF RESET
E5F	Inverter PCB fails to start the motor	Wiring faulty; Inverter PCB faulty; Main PCB faulty;	Cycle stops with door open (after 5 attempts)	ON/OFF RESET
E5H	Input voltage is lower than 175V	Wiring faulty; Inverter PCB faulty;	Cycle stops with door locked (after 5 attempts)	ON/OFF 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 K2 relay status)	Main PCB faulty.	Safety water fill. Cycle stops with door closed.	ON/OFF RESET
E68	Current leak to the ground	Current leakage between heating element and ground.	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
E6H	Heating element power relay faulty (inconsistency between sensing and K1 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	Error in reading selector	Main PCB faulty (Incorrect configuration data).	Cycle cancelled.	START/RESET

Alarm	Description	Possible fault	Machine status/action	Reset
E84	Recirculation pump triac "sensing" circuit faulty.	Main circuit board faulty.	Safety drain cycle - Cycle stops with door open.	RESET
E85	Circulation pump TRIAC switch faulty	Wiring faulty; Recirculation pump faulty; Main PCB faulty.	Safety drain cycle - Cycle stops with door open.	RESET
E86	Selector configuration error	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
E91	Communication error between main PCB and display	Wiring faulty; Control/display PCB faulty; Main circuit board faulty.	-----	RESET
E92	Communication inconsistency between main PCB and display (incompatible versions)	Incorrect control/display PCB; Incorrect PCB (does not correspond to the model).	Cycle blocked.	ON/OFF
E93	Appliance configuration error	Main PCB faulty (incorrect configuration data).	Cycle blocked.	ON/OFF
E94	Incorrect configuration of washing cycle	Main PCB faulty (incorrect configuration data).	Cycle blocked.	ON/OFF
E97	Inconsistency between programme selector and cycle configuration	Main PCB faulty (incorrect configuration data).	Cycle blocked.	RESET
E98	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
EC1	Electronically controlled valve blocked with operating flowmeter	Faulty cabling; 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

Alarm	Description	Possible fault	Machine status/action	Reset
EF1	Drain filter clogged (drain phase too long)	Drain filter clogged/dirty; Drain hose blocked/kinked/too high.	Warning displayed at the end of cycle.	START/RESET
EF2	Overdosing of detergent (too much foam during drain phases)	Excessive detergent dosing; Drain hose kinked/blocked; Drain filter clogged/dirty.	Warning displayed after 5 attempts or by the specific LED.	RESET
EF3	Aqua control system intervention	Water leaks onto base frame; Aqua control system faulty; Drain pump winding interruption/overheating.	Appliance drains.	ON/OFF RESET
EF4	Water fill pressure too low, no signal from flowmeter 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.	-----
EH1	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
EH2	Supply voltage too high	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions.	ON/OFF
EH3	Supply voltage too low	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions.	ON/OFF
EBE/EHE	Inconsistency between FCV relay (in the main board) and safety "sensing" circuit	Faulty wiring; Main circuit board faulty	Safety drain cycle Cycle stops with door open	RESET
EBF/EHF	Safety sensing circuit faulty (wrong input voltage to microprocessor)	Main circuit board faulty.	Safety drain cycle Cycle stops with door open	RESET

10 TECHNICAL CHARACTERISTICS

10.1 DETERGENT DISPENSER

New detergent drawer assembly, with a dispenser assembly incorporated at the front, which is inserted into the detergent inlet pocket of the porthole bellows seal.



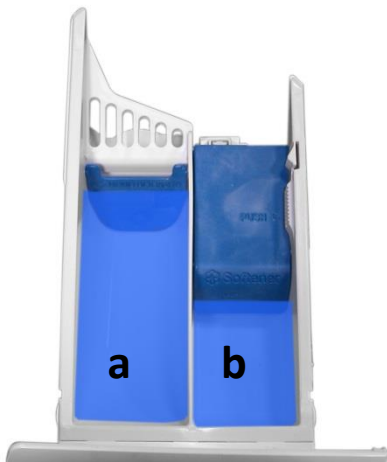
Operating principle of the conveyor.

<p>Water fill directly to tub (pre-wash solenoid)</p> <p>There is no pre-wash compartment. If necessary, the detergent must be introduced directly into the drum.</p>	
<p>Water fill to wash compartment (wash solenoid)</p> <p>In all models: compartment "a" is used to hold the detergent loaded at the start of washing. In the event of stains, mix stain removers with the washing detergent (for powder detergent).</p>	
<p>Water fill to conditioner compartment (pre-wash and wash solenoid valves)</p> <p>In all models: compartment "b" is used to contain the conditioner, which is removed with the water of the last rinse.</p>	

10.2 DETERGENT DRAWER

The detergent dispenser is designed for use with: powder detergent or liquid detergent.

A flap has been fitted inside compartment “a” where the detergent is introduced, which can be flipped up or down.



Flip it up to use powder detergent.



Flip the flap down to use liquid detergent.

Position of the flap when the appliance leaves the factory (see figure).

To modify the position of the flap, pull the detergent dispenser out (*Please refer to 13.2.3 Control panel page 67*).

For further details, read the instruction manual.

10.3 WASHING UNIT

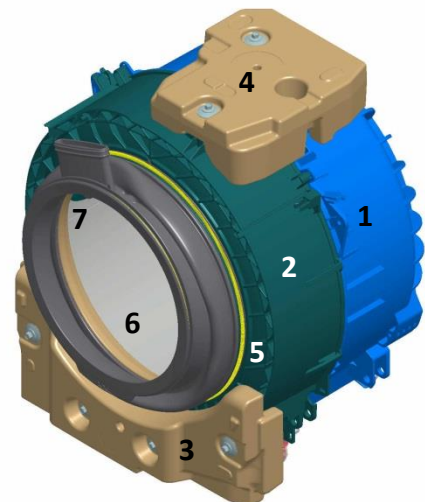
WASHING UNIT		
Type	Load capacity (cottons)	Drum volume
	max.	
P49	7/8 Kg	53 litres

The washing unit is made up of:

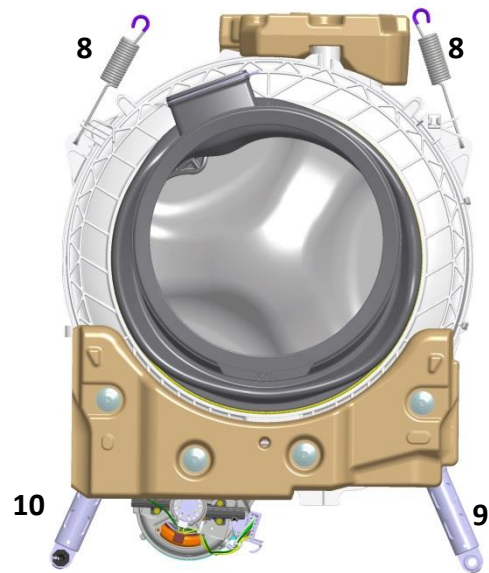
A back casing (1) and a front casing (2), welded together to form the welded tub. Inside this is the drum (6) (made of stainless steel) with the three blades (7) (in carboran) snap-fastened to the drum.

To balance the unit during the washing movements and during the spin phases, the two counterweights are secured in place with screws: one at the front (3) and one at the top (4).

The bellow seal (5) is fixed at the front.



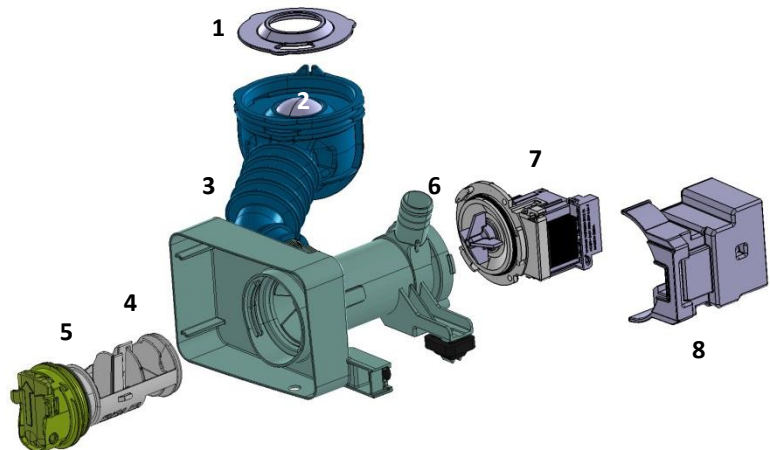
The washing unit is suspended by two coil springs (8) attached to the top crosspiece, and the oscillations are dampened by two shock absorbers, one on the right (9) and one on the left (10) (looking straight at the front of the appliance).



10.4 WATER CIRCUIT

10.4.1 TRADITIONAL OKO VERSION DRAIN CIRCUIT (WITH DRAIN FILTER REMOVABLE FROM THE OUTSIDE)

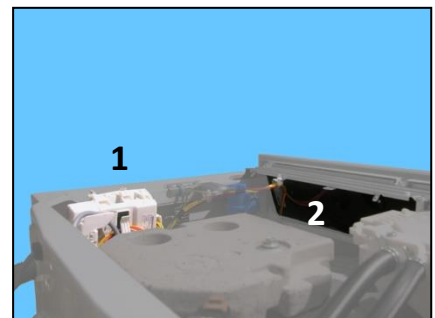
1. Diaphragm ring
2. Ball
3. Filter body-tub drain pipe
4. Filter body assembly
5. Filter or needle trap
6. Drainage
7. Drainage pump
8. Drain pump protection



10.5 ELECTRONIC CONTROL

The electronic control is made up of:

1. Main electronic circuit board
2. Control/display circuit board
3. INVERTER motor control board where featured (not shown in the figure).



The control/display PCB contains: the display (where featured), to display the programme information; the touch sensors, to adjust the temperature, the spin speed and possibly select an option, the START/PAUSE button, the ON/OFF button and lastly the LEDs which (when lit) indicate the selections made.

The commands acquired by the display board are sent to the main circuit board, which powers all the electrical components (cold water solenoid valve, drain pump, heating element and door safety device, etc.) and concurrently:

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 flow of water through the solenoid valve via the flowmeter (where featured).

To guarantee proper performance of the washing cycle.

10.5.1 PROGRAMMING/UPDATING THE MAIN CIRCUIT BOARD



Any programming/updating/diagnostics operation carried out with the board installed on the appliance and the mains plug disconnected from the socket.

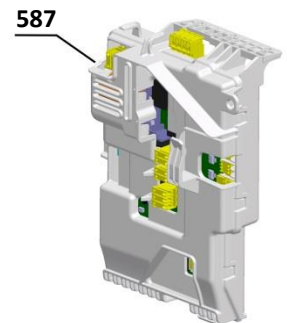
If one of these operations is accidentally carried out when plugged in to the socket, on completing the operation, the appliance will remain turned off when restarting; disconnect the plug from the socket and wait at least 40 minutes before starting up the appliance (any operation will only create further delay).

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

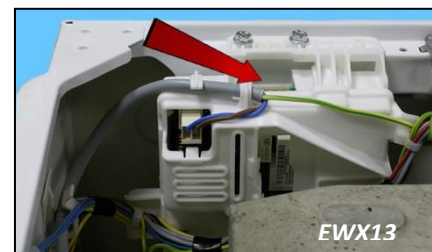
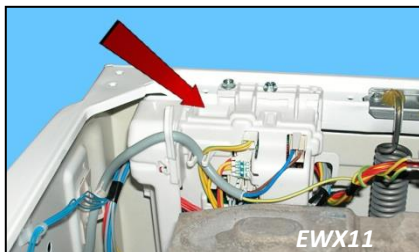
- ↪ Code 973 914... identifies the pre-programmed board.
- ↪ Code 132... identifies the unprogrammed board.

The circuit board can be programmed/updated using the **Sidekick** application.

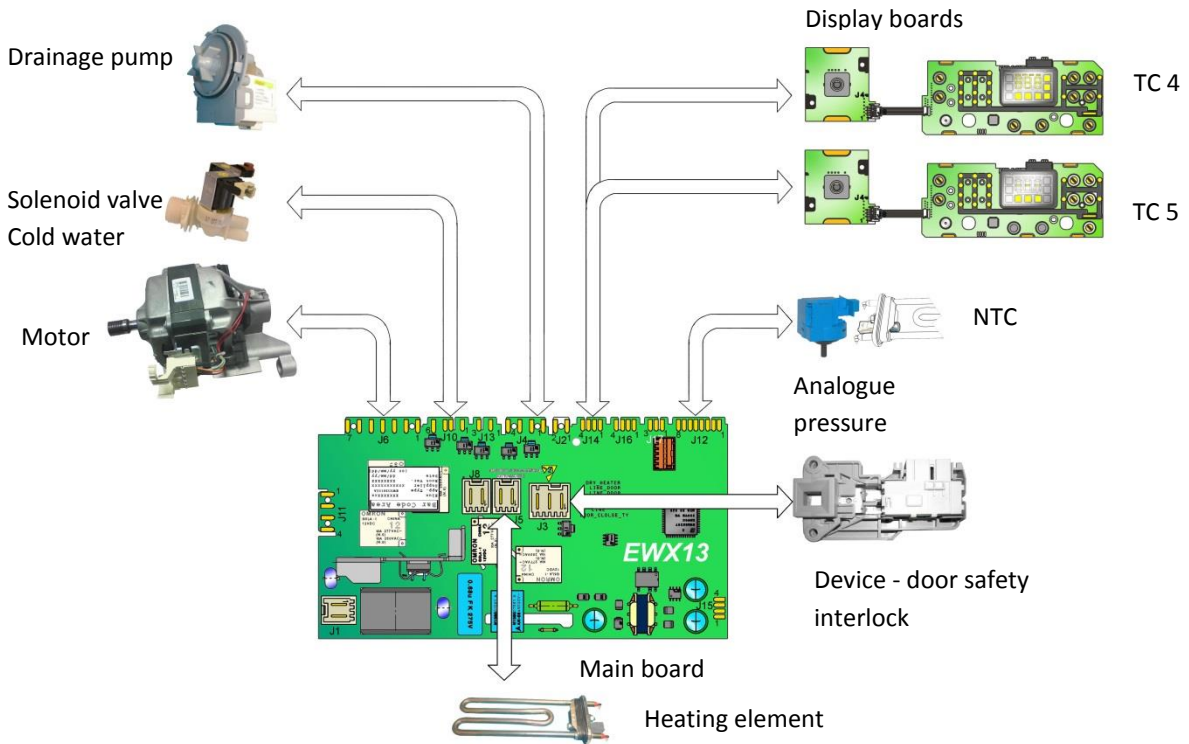
For further information, please refer to the instructions provided/illustrated in the course entitled << **Sidekick Guide** >> at the link (<http://electrolux.edvantage.net>) on the Electrolux Learning Gateway portal.



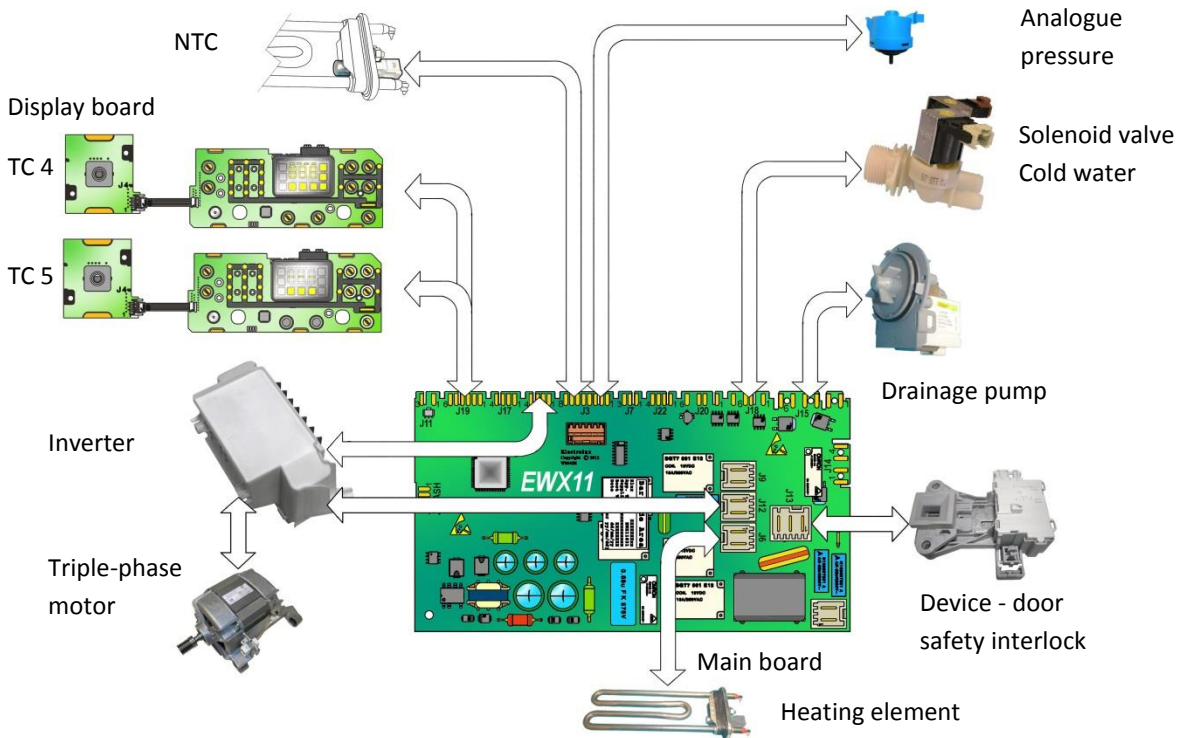
To update/program the main board, insert the **Sidekick** connector in the position shown by the red arrow:



10.5.2 ELECTRICAL CHARACTERISTICS WITH UNIVERSAL MOTOR



10.5.3 ELECTRICAL CHARACTERISTICS WITH THREE-PHASE MOTOR AND INVERTER



11 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.**

11.1 NOISE FILTER

11.1.1 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.

Diagram with universal Motor	Diagram with Inverter
1. Main electronic circuit board	1. Main electronic circuit board

11.2 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.

The programmes can be selected by touching the related touch sensor, which can also be used to: select options, start or pause the appliance.

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

Diagram with universal Motor	Diagram with Inverter
1. Main electronic circuit board 9. Display board	1. Main electronic circuit board 8. Display board

11.3 DRAINAGE PUMP



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

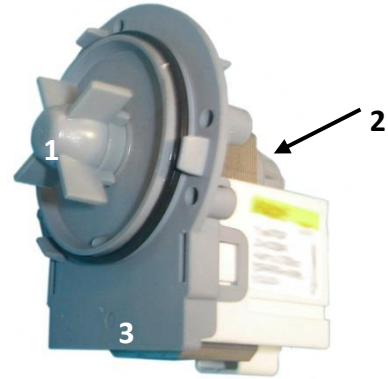
11.3.1 GENERAL CHARACTERISTICS

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.



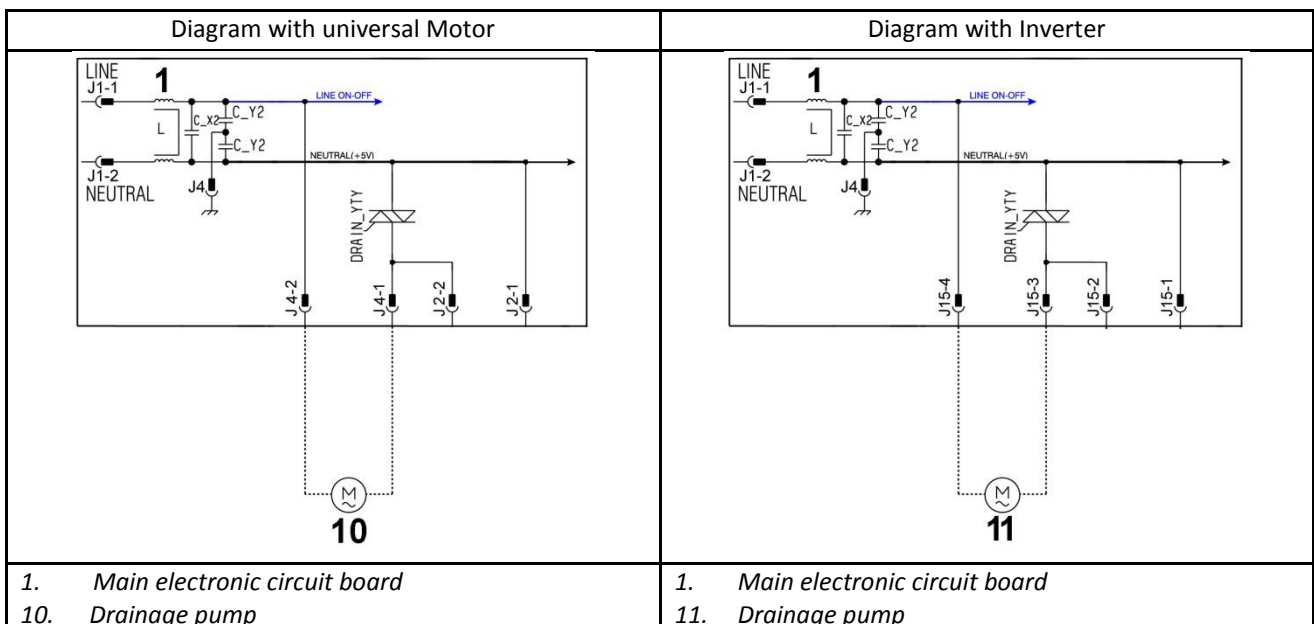
Important!

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 actuated for a brief period or passes to the subsequent phase.



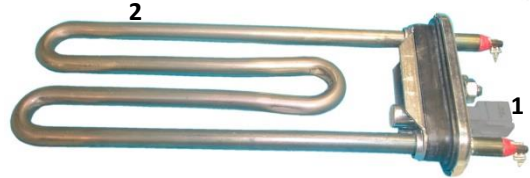
11.4 HEATING ELEMENT



- **When replacing the heating element, please refer to the code shown in the list of spare parts relating to the appliance being repaired.**
- **It is strictly forbidden to tamper with the heating element in any way!!! (e.g. replace the NTC probe, etc...)**

11.4.1 GENERAL CHARACTERISTICS

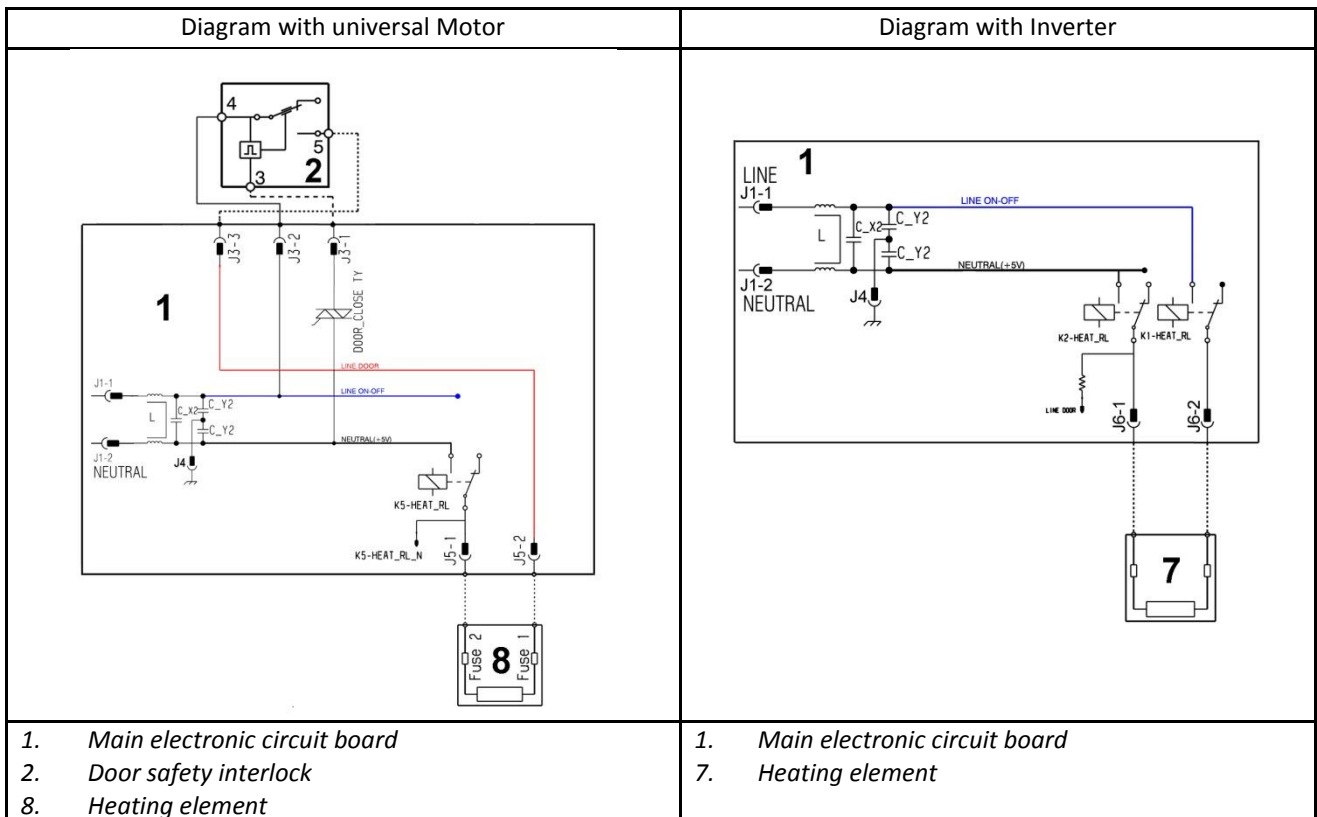
1. NTC probe
2. Heating element



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

It is powered by the relays located on the circuit board. It is fitted with two thermal fuses which trip if the temperature of the heating element exceeds the values for which they were calibrated.

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



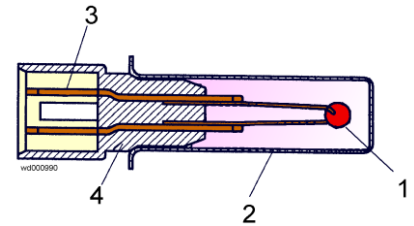
11.5 TEMPERATURE PROBE



- When replacing the heating element, please refer to the code shown in the list of spare parts relating to the appliance being repaired.
- It is strictly forbidden to tamper with the heating element in any way!!! (e.g. replace the NTC probe, etc...)

11.5.1 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.

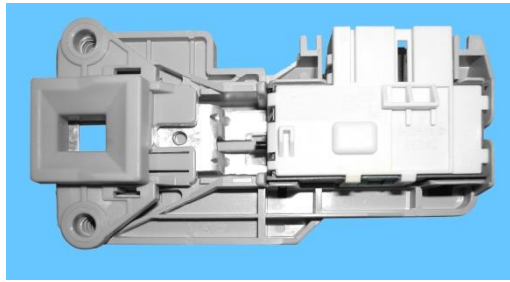
The temperature of the water is controlled by the circuit board by means of an NTC temperature probe incorporated in the heating element.

Diagram with universal Motor	Diagram with Inverter
<ol style="list-style-type: none"> 1. Main electronic circuit board 4. NTC probe 	<ol style="list-style-type: none"> 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.

11.6 DOOR SAFETY INTERLOCK WITH PTC (EWX13...)

11.6.1 GENERAL CHARACTERISTICS



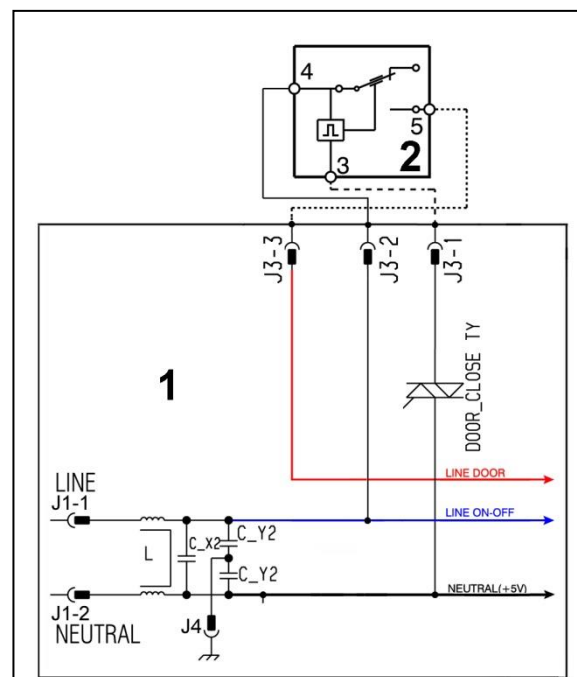
An electromechanical device is used as the door safety interlock, with the following functions:

- When it is powered, the volumetric device trips the main switch, which powers some of the electrical components of the washing machine (only if the door is closed).
- During operation, the cursor remains mechanically blocked, preventing the door from opening when the appliance is running. Once the power supply is cut off, the door remains locked for 1-2 minutes to ensure that the drum has stopped before opening it.

11.6.2 OPERATING PRINCIPLE

When the washing programme is started by pressing the start/pause button, the bi-metal PTC (contact 3) is powered by the triac on the circuit board (J5-3): after 2÷4 seconds, the switch (4-5) powering the electrical components of the washing machine is closed.

1. Main electronic circuit board
2. Door safety interlock - Traditional

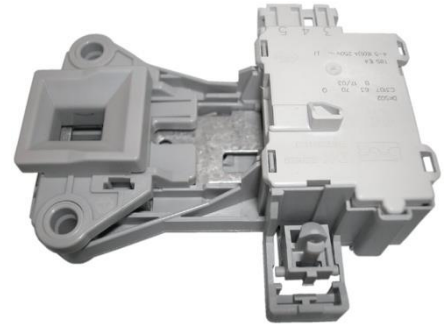


11.7 INSTANTANEOUS DOOR SAFETY INTERLOCK (EWX11...)

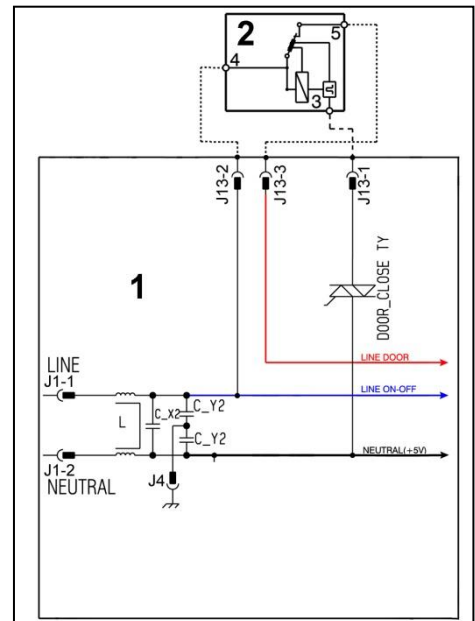
11.7.1 GENERAL CHARACTERISTICS

The instantaneous door interlock allows the door to be opened as soon as the drum stops,

if the conditions described further are met.



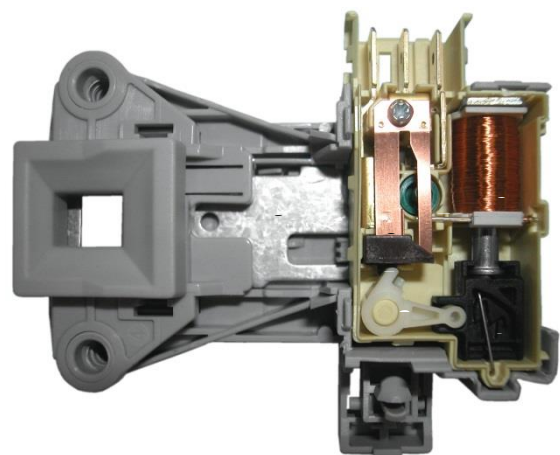
- 1 Main electronic circuit board
- 2 Door safety interlock



11.7.2 OPERATING PRINCIPLE

1. Solenoid protection PTC
2. Solenoid
3. Lifting assembly
4. Cam (Labyrinth)
5. Locking pin
6. Electrical contacts (main switch)
7. Door sensing switch
8. Cursor

- When the programme starts (start/pause button) the main circuit board sends a voltage pulse, lasting 20 msec., to the valve (2) (at least 6 seconds should have passed since turning it on), which moves the cam (4) to a locking position; the blocking pin (5) is pushed locking the cursor (8), and simultaneously the main switch contacts are shut (6).
- When the programme ends or the Start/Pause button is pressed, the circuit board sends two additional 20 msec pulses (200 msec apart):
 - the first pulse moves the cam (4) by another position, without releasing the pin (5).



- the second pulse (which is only sent if everything is in working order) moves the cam (4) to another position, which causes the pin (5) to return to its position and therefore release the interlock; the contacts of the main switch are simultaneously opened.

– Solenoid protection

A PTC is connected in series to the solenoid to limit the current (and therefore any overheating) in the following cases:

- Main circuit board triac short circuit
- Many consecutive pressings of the start/pause button (more than 5 times)

Dooropen conditions

Before pulses are sent to release the door, the PCB checks for the following conditions:

- The drum must be stationary.
- The water level must not be higher than the lower edge of the door.
- The temperature of the water must not be higher than 40°C.

– **Manual release device**

Previous instantaneous door safety interlocks released the lid automatically, in the following cases:

- Power failure
- The appliance being turned off at the ON/OFF button (before the wash cycle ended)

Whereas, in case of malfunction:

- Of the solenoid valve
- Main PCB faulty

the appliance had to be turned off to release the lid (by unplugging it from the mains supply). Because inside they had a PTC bi-metal which allowed the lid to be opened after cooling, between 55 seconds and 4 minutes.

The new device (since it does not have a PTC) in the case of the above malfunctions is fitted with a manual opening system, which allows the door to be opened following the instructions below:

Before proceeding with the manual opening of the appliance door, check:

1. That the drum is stationary.
2. If the water is above the lower level of the appliance door, drain off the water; if possible set a drainage programme (see point 4) or unplug the appliance from the mains socket, disconnect the main drain pipe, lay it on the ground and drain off the water (see point 5).
3. If the water is not above the lower level of the door, then it can be opened manually.
4. Unplug the appliance from the socket.
5. Activate the manual opening system.

➤ To access the manual opening, proceed as follows:

Disconnect the mains plug from the mains socket.

Remove the worktop (*Please refer to 13.1 Worktop page 65*)

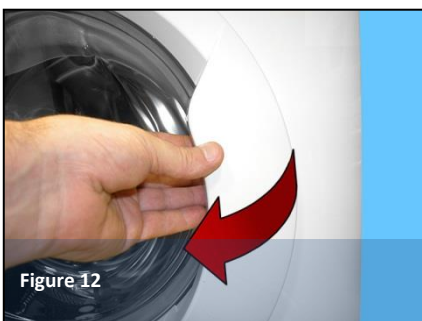


Figure 12

Move the washing unit towards the rear of the appliance.
Push the door delay system lever (shown by the arrow *Figure 11*).
At the same time, pull the handle to open the appliance door (*Figure 12*).

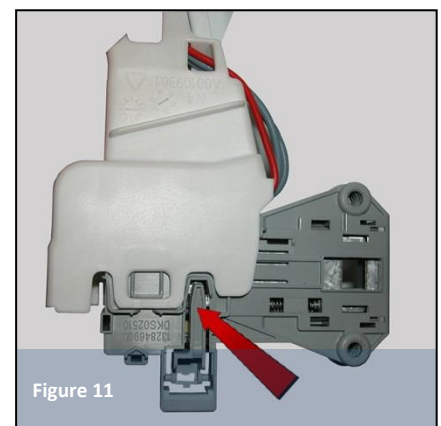


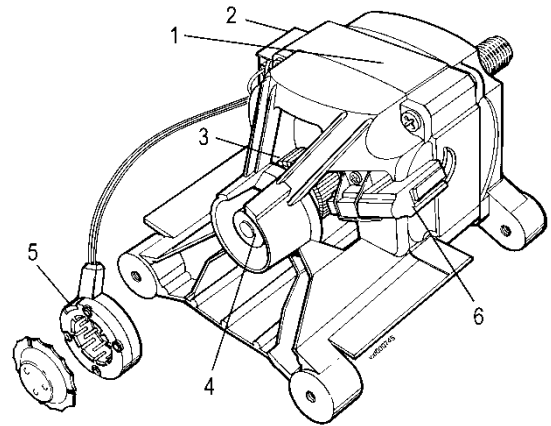
Figure 11

11.8 UNIVERSAL MOTOR

11.8.1 GENERAL CHARACTERISTICS

Collector motors are fitted on appliances with a spin speed of between 600 and 1400 rpm.

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



11.8.2 OPERATING PRINCIPLE

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

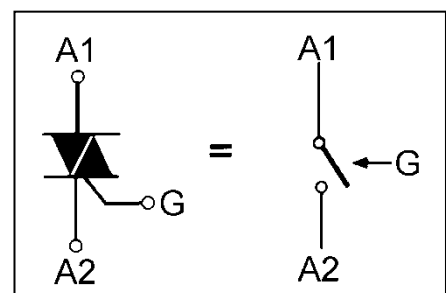
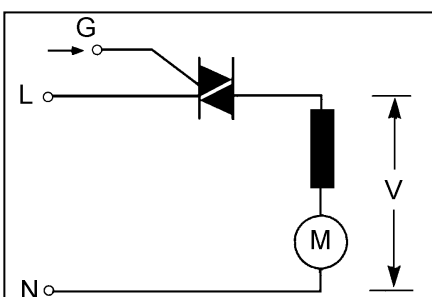
Every section of the rotor winding is connected to a pair of collector blades (also referred to as a switching device). The electrical contact between the collector and the fixed circuit is made by two static brushes on the collector blades.

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.

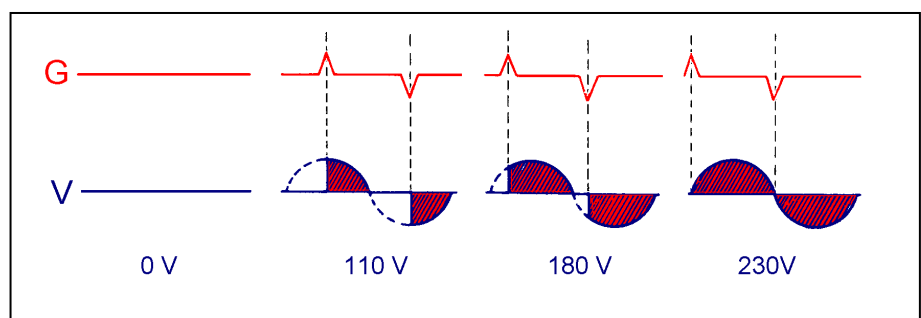
11.8.2.1 MOTOR SPEED CONTROL

- This is achieved by an electronic control, by varying the voltage (V) applied to the motor.
- The method adopted is the “phase partialization” command of the TRIAC. The TRIAC is an electronic bidirectional switch. Closing of the circuit between A1-A2 (anodes) occurs when there are appropriate starting pulses on gate (G).



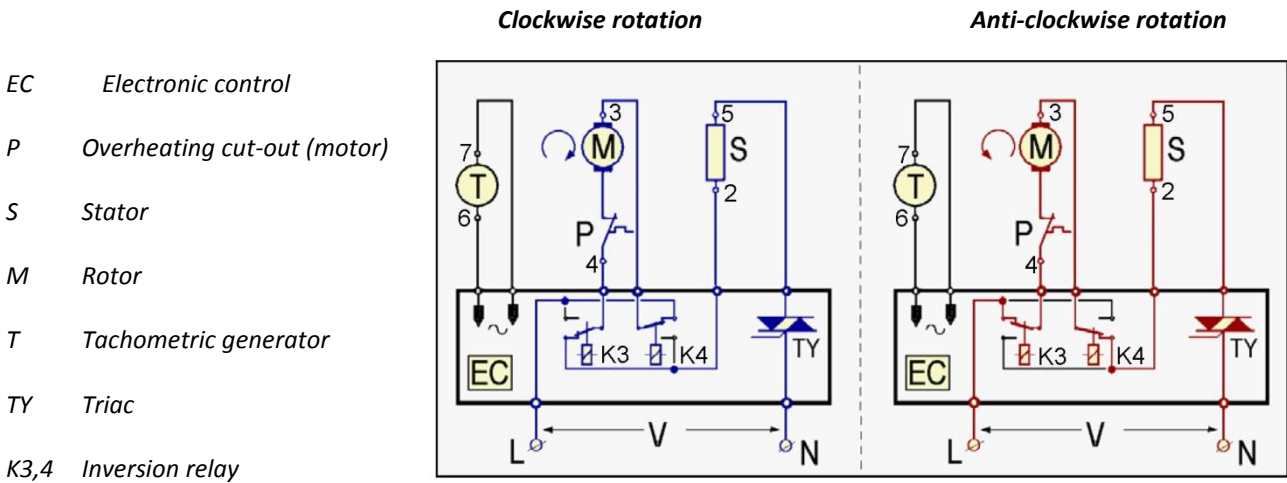
Starting pulses

Voltage on motor



11.8.2.2 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 circuit board relay contacts.

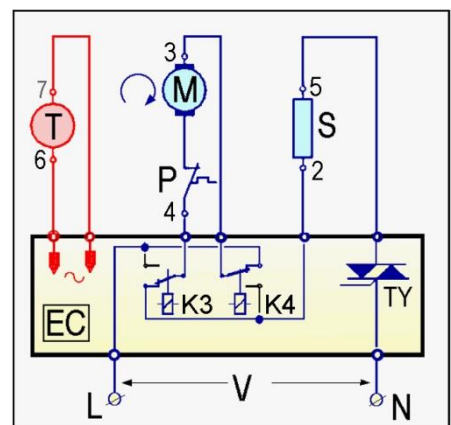
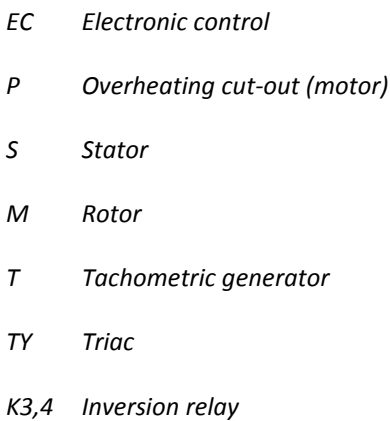


11.8.2.3 TACHOMETRIC GENERATOR

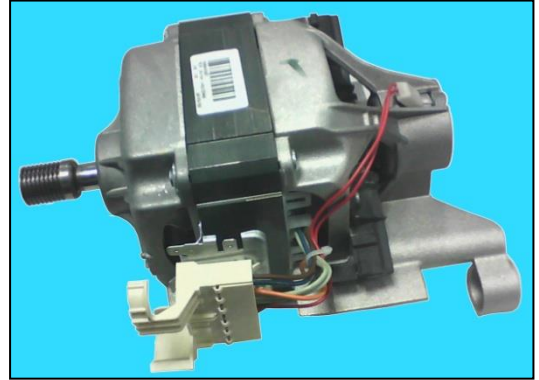
The speed of the collector motor, like all motors with serial excitation, depends on the load; so the speed decreases as the load increases. This makes it necessary for the power supply voltage to the motor, and therefore its speed, to be constantly controlled by an electronic speed control.

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.



11.8.3 POWER SUPPLY TO MOTOR



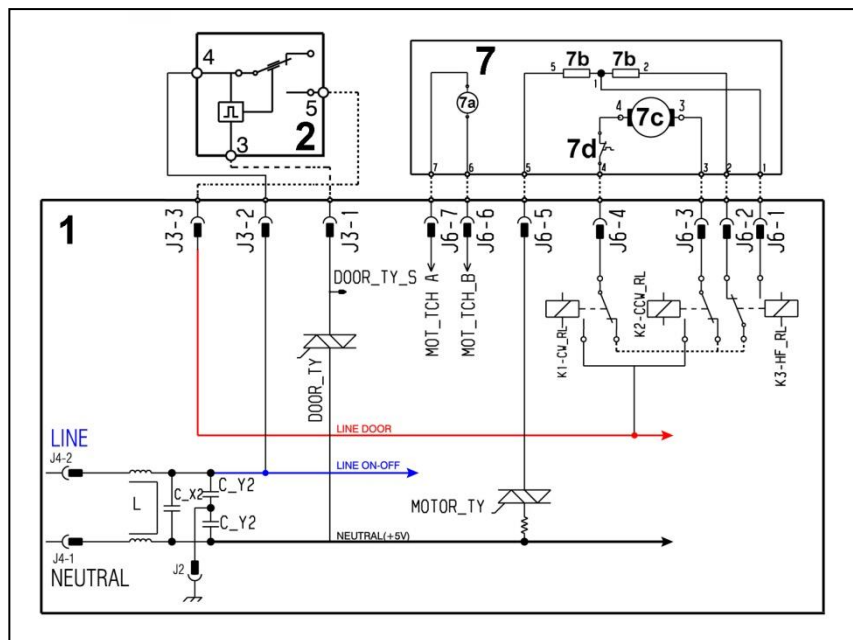
The PCB powers the motor via a TRIAC switch; the direction of rotation is reversed by switching the contacts on the two relays (K1-K2), which modify the connection between the rotor and the stator.

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 anti-foam and the anti-balancing check procedure.

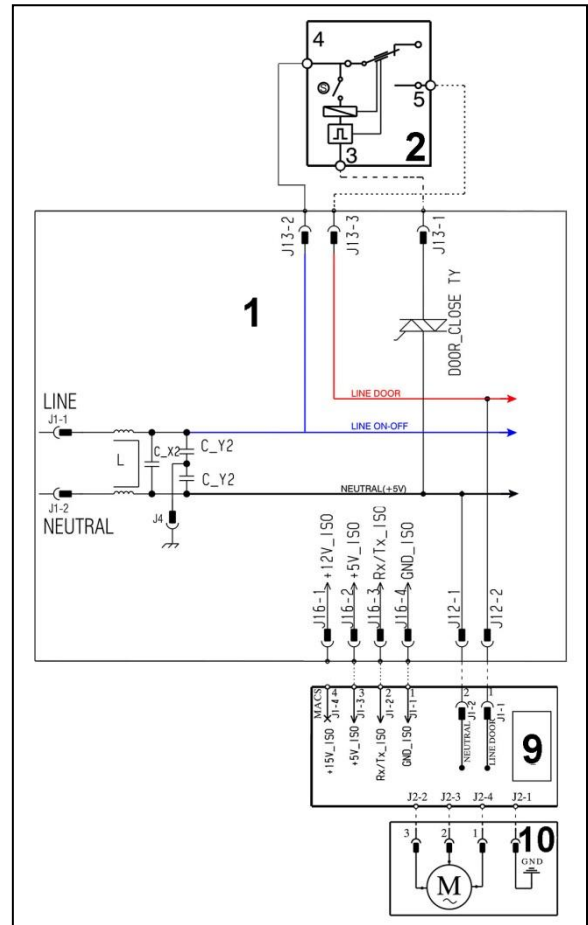
1. Main electronic circuit board
2. Door safety interlock
7. Universal motor
- 7a. Tachometric generator (motor)
- 7b. Stator (motor)
- 7c. Rotor (motor)
- 7d. Thermal cut-out (motor)



11.9 THREE-PHASE ASYNCHRONOUS MOTOR - INVERTER

11.9.1.1 GENERAL CHARACTERISTICS

1. Main electronic circuit board
2. Door safety interlock
9. Inverter
10. Motor



11.9.2 POWER SUPPLY TO MOTOR

Three-phase power is fed by the inverter (10), which sends through the connectors J2-2 J2-3 J2-4 the three phases to connectors 1-2-3 on the motor (nodes U-W-V), where the windings (Y-X-Z-) are connected.

The phase shift between the phases is 120° and peak amplitude is 310 V.

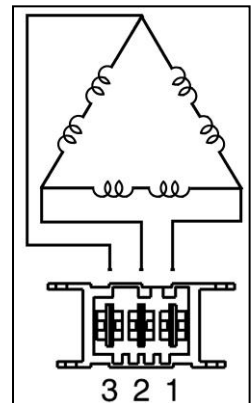
It is possible to get an idea of the efficiency of the motor by measuring the resistance of the coils:

Coil y ohm 6.43 $\sim \pm 7\%$ (contacts 2-3)

Coil x ohm 6.43 $\sim \pm 7\%$ (contacts 1-2)

Coil z ohm 6.43 $\sim \pm 7\%$ (contacts 1-3)

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



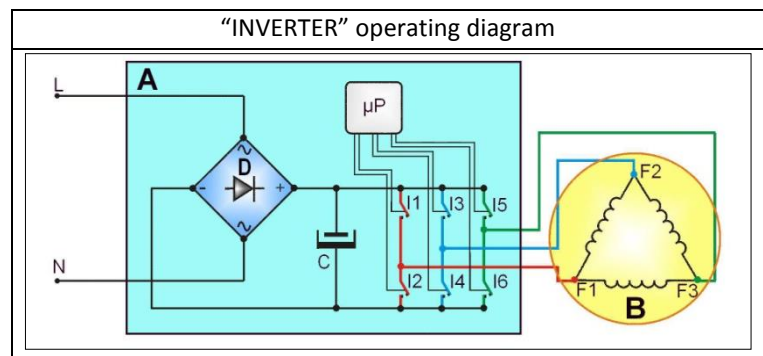
11.10 INVERTER

11.10.1 GENERAL CHARACTERISTICS

The EWX11831 electronics use a new asynchronous motor, with 2 poles, three-phase, with high performance and low noise levels.

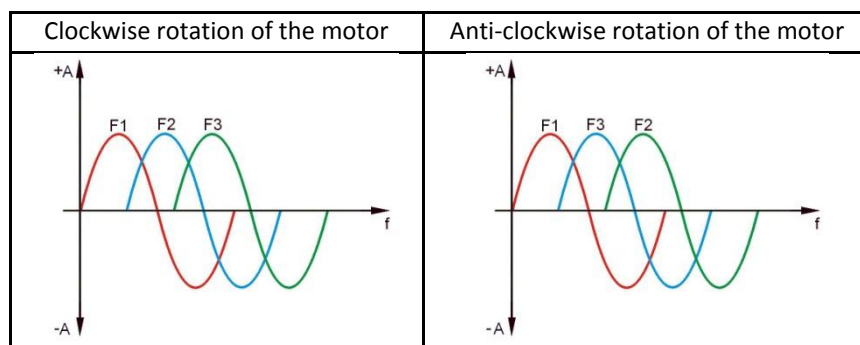


- L = Phase
- N = Neutral
- A = "INVERTER" board
- B = Motor
- C = Condenser
- D = Diodes
- I1÷6 = Switches
- F1÷3 = Motor connectors
- μP = Micro Processor



To transform the single-phase electricity (available in our homes) into three-phase electricity, a new circuit board is used (A) to transform the energy from single-phase to three-phase, which can be modulated in breadth and frequency respectively to adjust the power and number of revolutions of the motor.

Single-phase electricity (applied to connectors L-N), is rectified by the diode jumper (D), so there is a direct voltage of 310 V at the ends of condenser C, which through the combination of the opening and closing of switches I1÷I6 (piloted by the μprocessor) determines the piloting voltage and frequency of the motor.



The motors powered by this inverter do not have tachometric winding.

The inverter can detect/adjust the motor speed via the current absorption.

During the spin phases, the microprocessor can perform, depending on the software configuration, the anti-foam check, where featured, and the anti-unbalancing check.



- Any work on electrical appliances must only be carried out by qualified personnel.
- Unplug the appliance before accessing internal components.
- When replacing the “INVERTER” board, do not open the plastic casing, because some parts are subject to high voltage values and some condensers remain loaded for a long time at dangerous voltage levels even after being unplugged.
- Accidental physical contact may cause electric shocks.

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

11.11 ANTI-FOAM CONTROL SYSTEM

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

Spin with little foam: if the pressure switch senses a “full” level, the spin phase is interrupted, the drain pump continues to operate and, when the pressure switch senses “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.

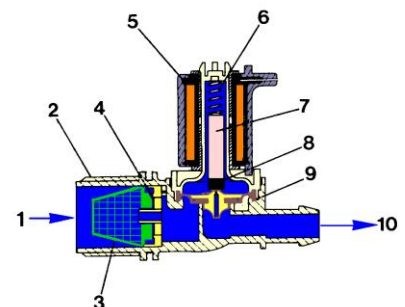
11.12 SOLENOID VALVES

11.12.1 GENERAL CHARACTERISTICS



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.

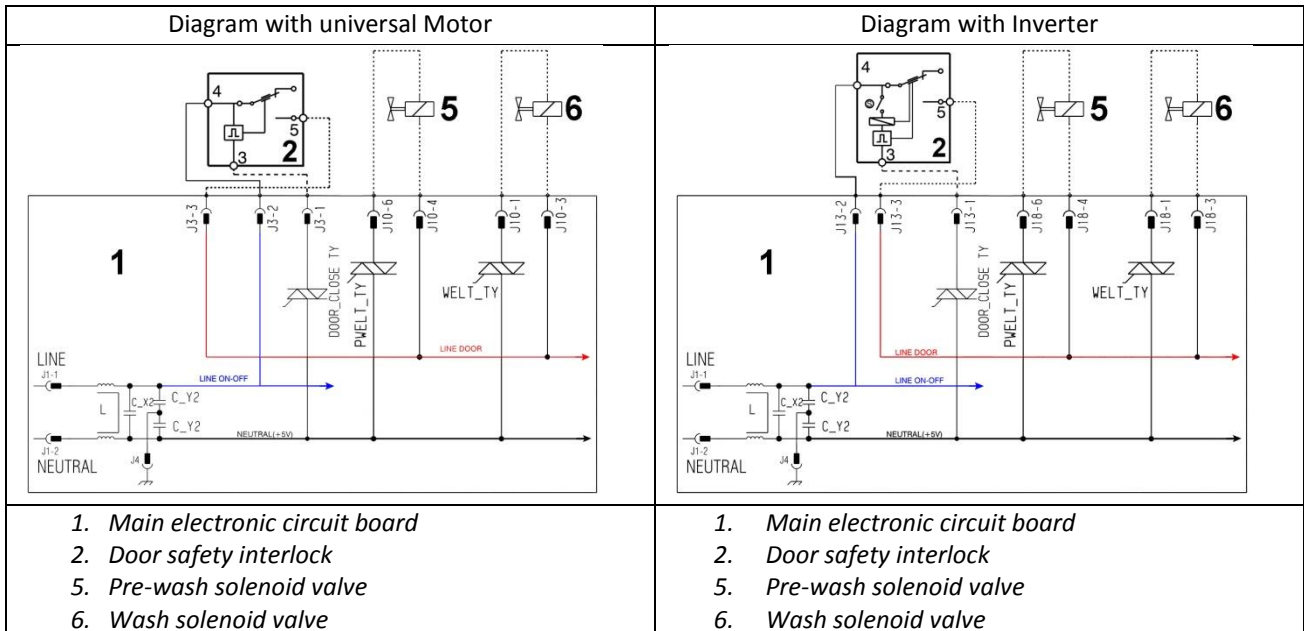
1. Water inlet
2. Solenoid valve body
3. Filter or needle trap
4. Flow reducer
5. Coil
6. Spring
7. Moving core
8. Rubber
9. Membrane
10. Water outlet



11.12.2 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.



11.12.3 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.

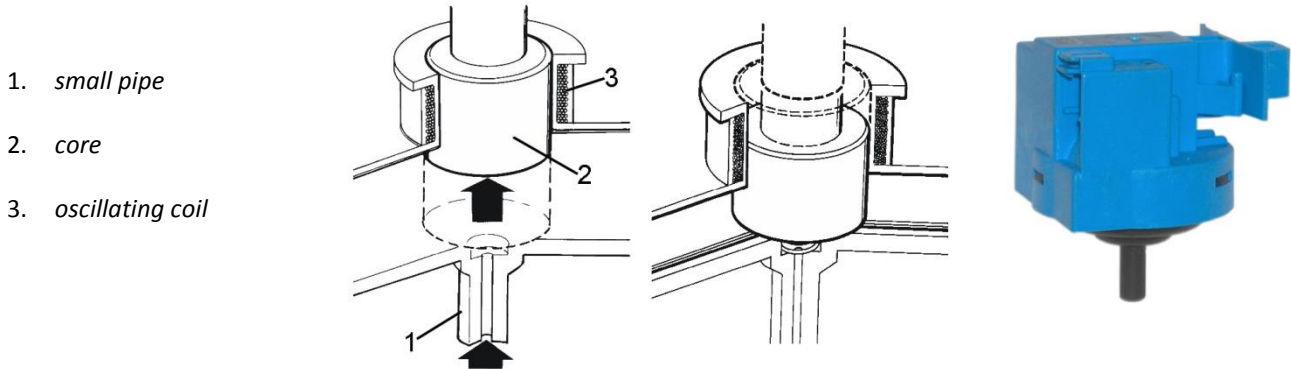
11.12.4 LOW WATER PRESSURE

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 signalled.

11.13 ANALOGUE PRESSURE SWITCH

11.13.1 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.



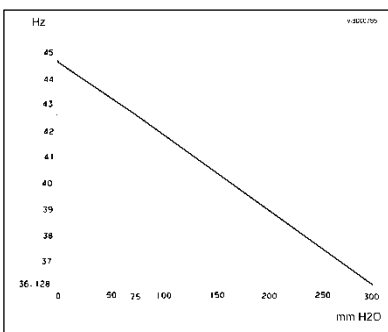
The pressure switch is connected via a pipe to the pressure chamber.

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 recognises how much water has been introduced into the tub according to the frequency.

Diagram with universal Motor	Diagram with Inverter
<p>1. Main electronic circuit board</p> <p>3. Analogue pressure switch</p>	<p>1. Main electronic circuit board</p> <p>3. Analogue pressure switch</p>

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

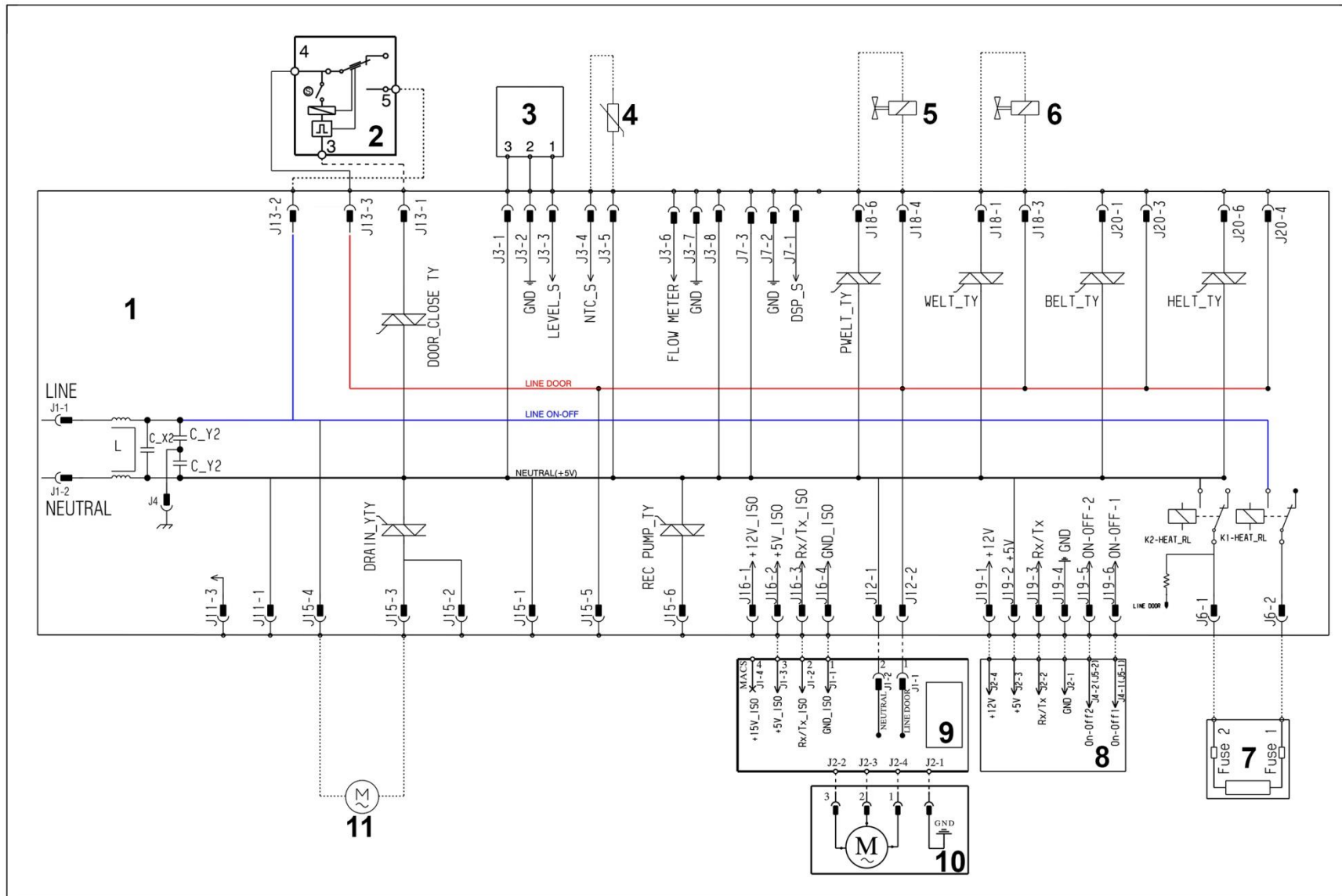


In the event of a fault an alarm will be displayed - see table of alarms.

12.1.1 KEY TO OPERATING CIRCUIT DIAGRAM EWX13611 (WITH UNIVERSAL MOTOR)

Appliance electrical components	PCB components	
1. Main electronic circuit board		
2. Door safety interlock		
3. Electronic pressure switch	DRAIN_TYS	Drain pump Triac
4. NTC	DOOR_TY	Door interlock Triac
5. Pre-wash solenoid valve	PWELT_TY	Pre-wash solenoid Triac
6. Wash solenoid valve	WELV_TY	Wash solenoid Triac
7. Universal motor	MOTOR TY	Motor Triac
7a. Tachometric (motor)	K1	Clockwise rotation motor relay
7b. Stator (motor)	K2	Anti-clockwise rotation motor relay
7c. Rotor (motor)	K3	Spin speed motor relay
7d. Thermal cut-out (motor)	K5	Heating element relay
8. Heating element		
9. Display board		
10. Drainage pump		

12.2 OPERATING CIRCUIT DIAGRAM EWX11831 (WITH THREE-PHASE MOTOR)



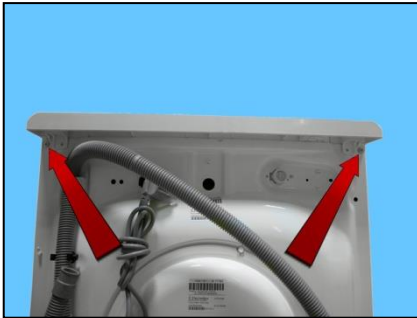
12.2.1 KEY TO OPERATING CIRCUIT DIAGRAM EWX11831 (WITH THREE-PHASE MOTOR)

Appliance electrical components	PCB components	
1. Main electronic circuit board		
2. Door safety interlock (instantaneous)		
3. Electronic pressure switch	DRAIN_YTY	Drain pump Triac
4. NTC (washing)	DOOR_TY	Door interlock Triac
5. Pre-wash solenoid valve	DOOR_CLOSE_TY	Door interlock Triac
6. Wash solenoid valve	PWELT_TY	Pre-wash solenoid Triac
7. Heating element	WELV_TY	Wash solenoid Triac
8. Display board	K1	Heating element relay
9. Motor control board (Inverter)	K2	Heating element relay
10. Triple-phase motor		
11. Drainage pump		

13 ACCESSIBILITY (APPLIANCES WITH UNIVERSAL MOTOR)

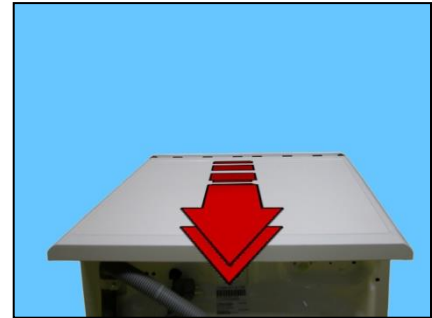
Make sure you wear gloves, because parts of the cabinet are sharp

13.1 WORKTOP



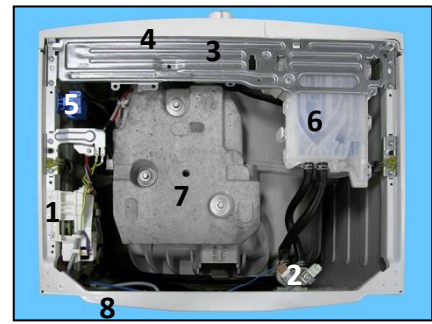
Remove the screws that secure it to the back panel.

Pull it out from the back.



13.2 FROM THE WORKTOP, YOU CAN ACCESS

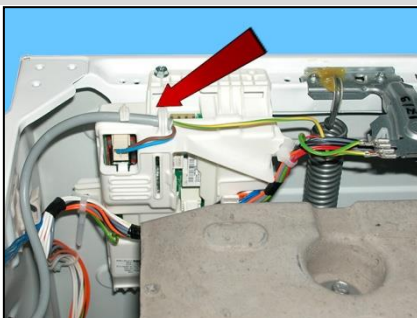
1. Main board
2. Solenoid valve
3. Display board/light diffuser/buttons/buttons springs assembly
4. Control panel
5. Analogue pressure switch
6. Detergent dispenser
7. Upper counterweight
8. Cable clamp



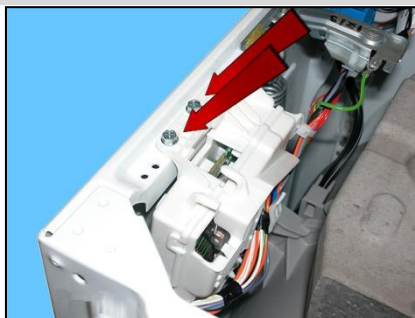
13.2.1 MAIN BOARD

To service the main board, use the antistatic kit a code 4055063-95/4.

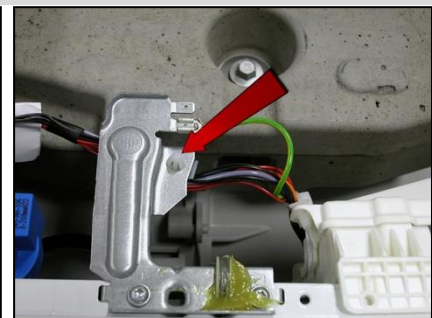
Remove the worktop (see relevant paragraph).



Remove the power cable from the hooks that hold it close to the board.

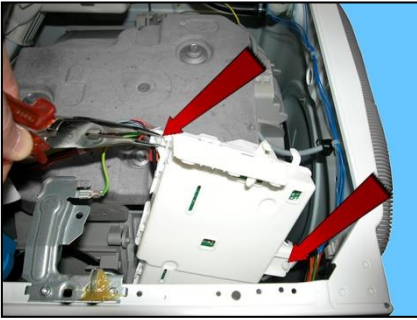


Unfasten the two screws securing it to the cabinet.

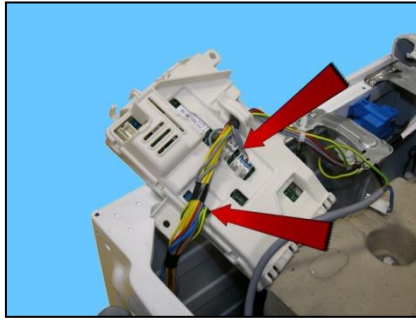


Remove the clamp that secures the wiring to the spring support bracket.

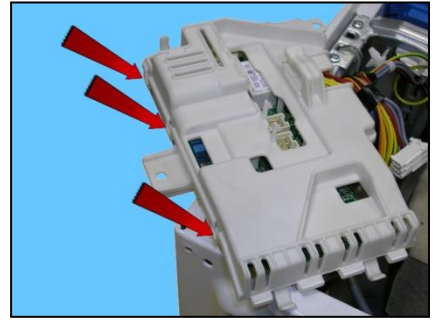
Slide off the connector.



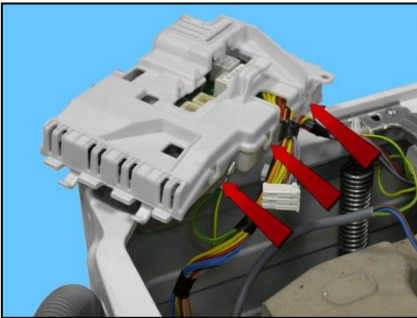
Using a pair of pliers, remove the clamps that secure the wiring to the power board assembly container (indicated by the arrows).



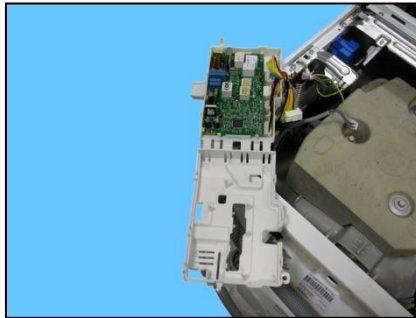
Position the board assembly as shown in the figure. Remove the connectors and the faston that connects the earth (beware as it is fitted with an anti-sliding stop). Remember to use the anti-sliding kit.



Unhook the three hooks that join the two casings on one side



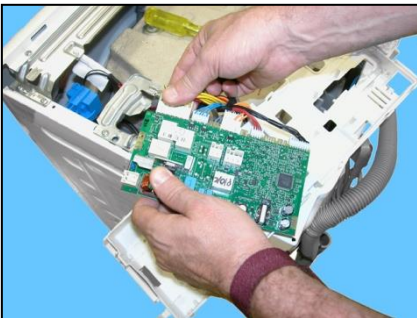
and on the other.



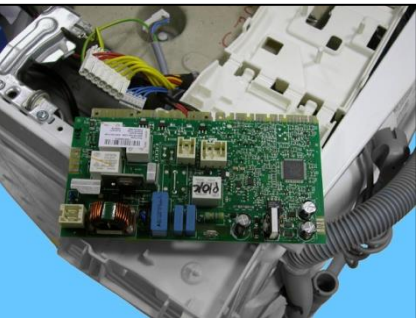
Lift the lid.



Release the three hooks that secure the board to the container and remove it (take care not to break the hooks).



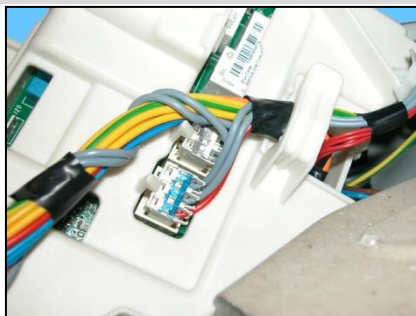
Remove the connectors. When reassembling.



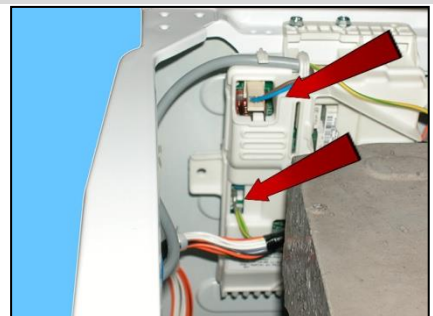
Board



Once you have inserted the connectors, make sure the wiring is inside the box. So that when the lid is closed, the wiring is not crushed or cut by the two plastic parts.



Fit the connectors into their proper slots and arrange the wiring as shown in the figure.

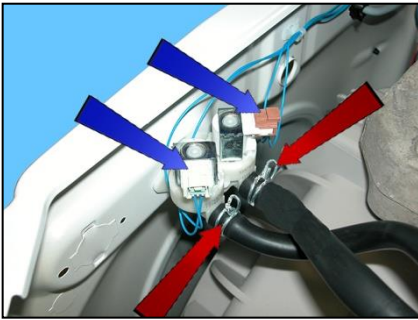


Before securing the side clamp:

Restore the earth connection, fit the power supply connector and insert it between the two hooks.

13.2.2 SOLENOID VALVE

Remove the worktop (see relevant paragraph).



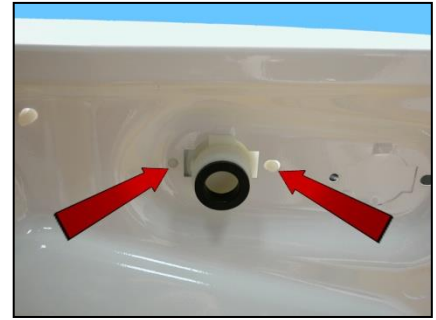
Detach the connectors indicated by the blue arrows.

Pull out the pipes indicated by the red arrows, which connect the

solenoid valve to the detergent dispenser.

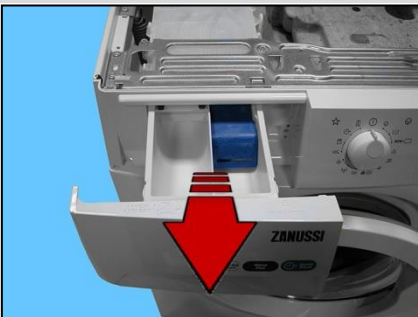
Unscrew the water fill pipe from the solenoid valve. Push the two retainers indicated by the arrows towards the inside of the appliance.

At the same time, turn the solenoid valve to remove it.



13.2.3 CONTROL PANEL

Remove the worktop (see relevant paragraph).



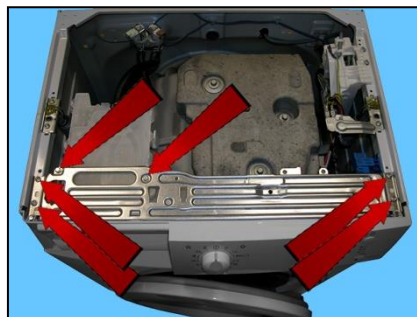
Pull the detergent drawer out and at the same time press the right-hand side indicated by the arrow.



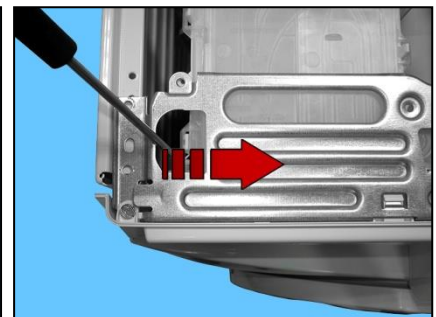
Remove the screw securing the control panel to the conveyor.



If necessary pull the clamp out.



Remove the four screws securing the crossbar to the sides of the cabinet. Remove the two screws securing the detergent drawer to the crossbar.



Release the anchor tab securing the detergent drawer to the crosspiece.



Raise both sides of the control panel so as to pull out the hooks securing it to the front panel.

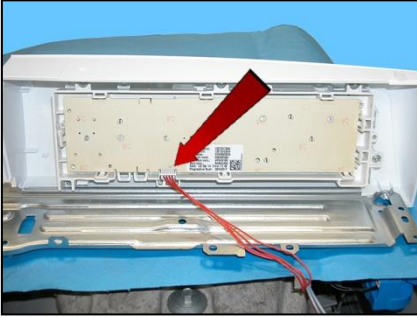


Remove the control panel and position it as shown in the figure, making sure to introduce protection to prevent scratching.

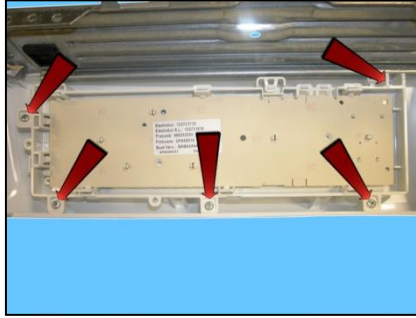
13.2.4 DISPLAY BOARD/LIGHT DIFFUSER/BUTTONS/BUTTONS SPRINGS ASSEMBLY

Remove the worktop (see relevant paragraph).

Remove the control panel (see relevant paragraph).



Rotate the control panel on itself.

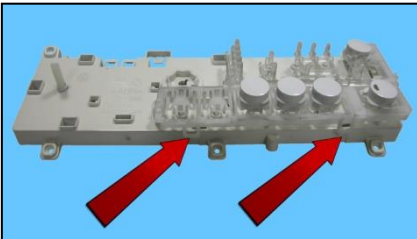


Remove the screws securing the display board assembly to the control panel.

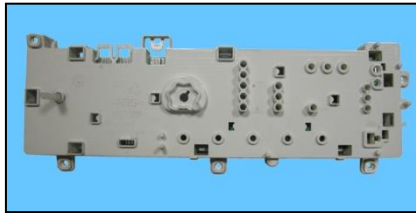


Release the hooks securing the display board assembly to the control panel.

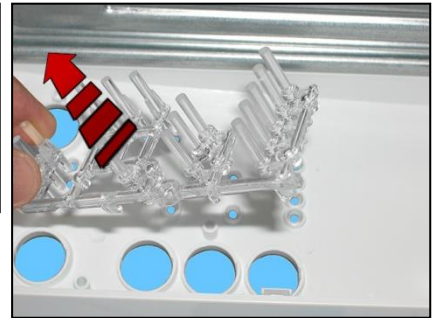
Remove the connector connecting the display board.



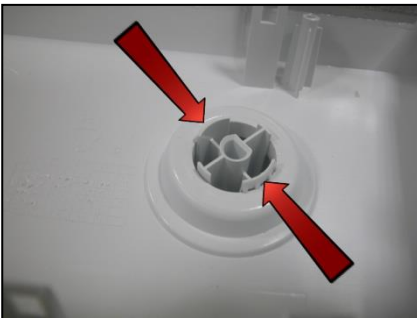
Remove the display board and spring assembly.



To access the button spring unit, release it from the board assembly.



The light diffuser is inserted into the control panel holes; lift it to remove.



When refitting the display board assembly to the control panel, it is advisable to remove the dial from the control panel to make it easier to insert the dial selector pin.

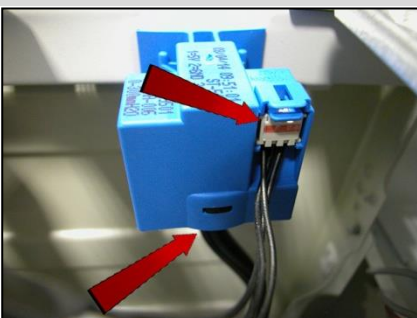
Dial

To remove the dial:

Tighten the two tabs which secure it to the control panel and remove it.

13.2.5 ANALOGUE PRESSURE SWITCH

Remove the worktop (see relevant paragraph).



Remove the connector. Pull off the pipe connecting it to the pressure chamber

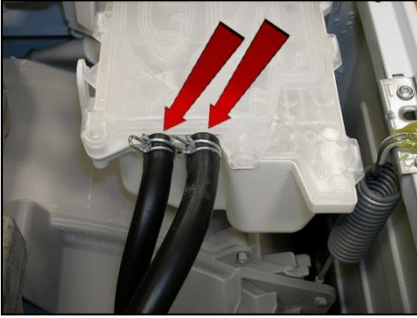
Tighten the two tabs which secure it to the cabinet and remove it.



13.2.6 DETERGENT DISPENSER

Remove the worktop (see relevant paragraph).

Remove the control panel (see relevant paragraph).



Pull off the pipes.



Pull out the detergent dispenser from the bellows seal detergent inlet pocket (open the clamp if necessary, otherwise leave it closed).



Remove the detergent dispenser.

For reassembly.

After completing all the steps in the reverse order.

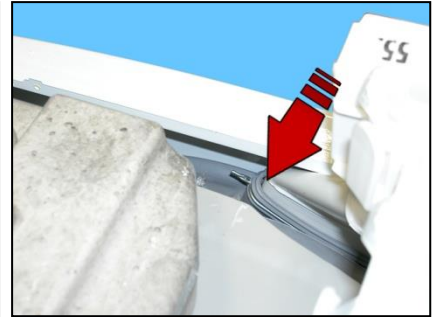
During insertion of the detergent dispenser into the pocket of the bellows seal:



Reposition the clamp in its seating in the pocket of the porthole bellows seal (close it if it is open).



Also lubricate with water and soap the outside of the detergent dispenser assembly, which should be inserted into the pocket.



First task to perform:

Gently insert the part of the detergent dispenser indicated by the arrow into the pocket of the bellows seal.

Lubricate with water and soap the inside of the pocket.



Second task:

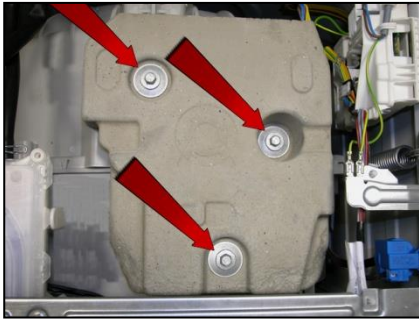
With one hand inside the porthole, hold the bellows seal pocket form and gently insert the rest of the detergent dispenser.



Check that the dispenser is perfectly in place to avoid any water leaks.

13.2.7 UPPER COUNTERWEIGHT

Remove the worktop (see relevant paragraph).



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

When reassembling:

If the tub assembly is new, tighten the screws at a torque of 20 Nm.

If the tub assembly is new, tighten the screws at a torque of 15 Nm.

13.2.8 POWER SUPPLY CABLE CLAMP

Remove the worktop (see relevant paragraph).

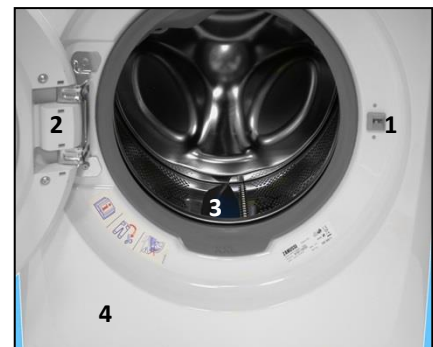
Remove the main circuit board (see relevant section).



Squeeze it using a pair of pliers while at the same time pulling it out into the cabinet.

13.3 ACCESSING THE FRONT PART

1. Door safety interlock
2. Door and Door Hinge
3. Fixed blade
4. Front panel



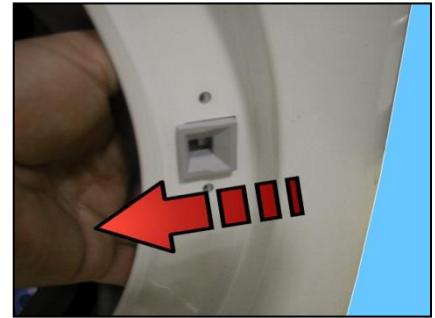
13.3.1 DOOR SAFETY DEVICE (WITH INCORPORATED FLANGE)



Remove the plastic ring fixing the bellows seal to the cabinet. Release the bellows seal from the cabinet.



Unfasten the two screws securing the door safety interlock to the front panel.



Take the device and move it to the left.



Turn it towards the inside (right-hand side of the flange). Pull it out towards the right and remove it.



Pull out the wiring protection from the door safety device.

Disconnect the connector.



To reassemble the door safety device, repeat the same operations in reverse.



Before tightening the screws to secure the door safety device to the front panel, make sure the flange is positioned properly on the outside as indicated by the arrows.

Tighten the screws at a torque of 2.5 Nm.

13.3.2 DOOR AND DOOR HINGE



To replace the hinge, loosen the screws securing it to the cabinet.

Unfasten the screws joining the two front and rear door frames shown in the figure.



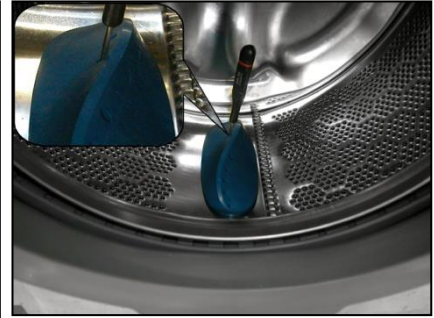
13.3.3 BLADE



The blade is secured to the drum with slides and secured with blades carved into the drum.



The blades are secured in place by six slides (as can be seen in the picture) which fit into purpose-provided runners in the drum strip.



To release the blade from the drum:

Insert a flat-tip screwdriver into the hole (as shown in the figure).



The hole is the first in the second series towards the rear of the blade.



With the screwdriver tilted towards the left push the right-hand tab down.



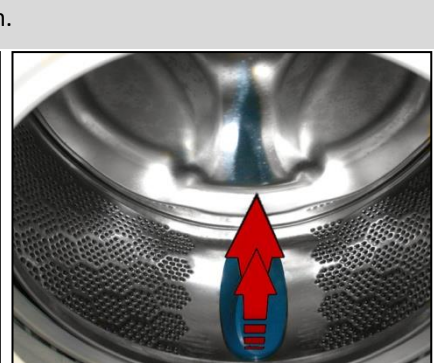
With the screwdriver tilted towards the right push the left-hand tab downwards.



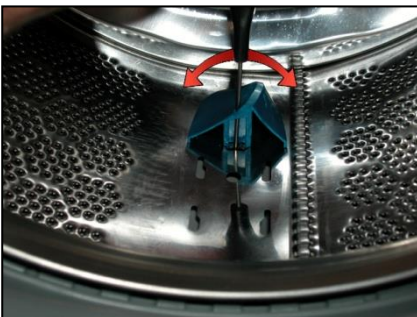
When the two tabs are down push the blade towards the front of the drum.



Reassembling the blade onto the drum.
Before securing the new blade insert a flat-tip screwdriver beneath the lock tabs and raise them a little.



Position the new blade inside the drum guides. Push it towards the back.



Move to the left and right.

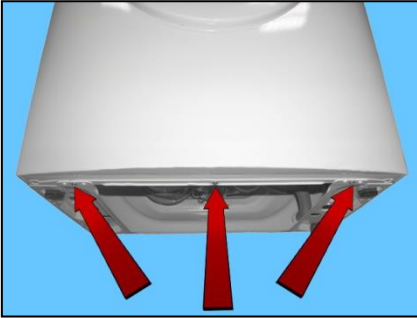
Insert the screwdriver (in the fourth slot) at a right angle to the blade, so as to position it at the centre of the two lock tabs.

To move the tabs up (as shown by the arrows) and insert them inside the blade, securing it to the drum (as shown in the figure).

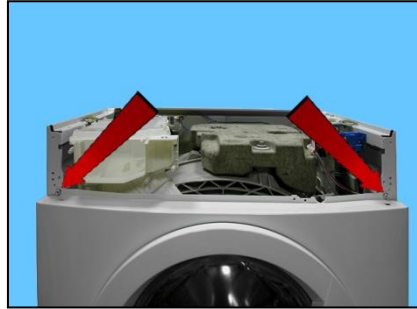


13.3.4 FRONT PANEL

Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).
Remove the plastic ring, remove the door bellow seal from the front panel.
Unfasten the screws securing the door safety interlock (see related paragraph).



Tilt the washing machine (towards the back).
Unfasten the three screws fixing the front panel to the base (indicated by the arrows).



Unfasten the two screws fixing the front panel to the sides (indicated by the arrows).



Remove the front panel.

When refitting the front panel, first tighten the two upper screws, then the three lower screws.

13.4 FROM THE FRONT PANEL, YOU CAN ACCESS

DRAIN FILTER REMOVABLE FROM THE OUTSIDE

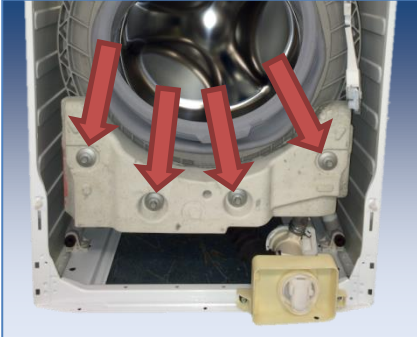
1. The front counterweight
2. Bellow seal
3. The drain water circuit
4. The welded tub assembly
5. The tub suspension springs



13.4.1 FRONT COUNTERWEIGHT

Remove the worktop (see relevant paragraph).
Remove the iron ring securing the bellow seal to the front panel.
Release the door safety device (see relevant paragraph).
Remove the front panel (see relevant paragraph).

DRAIN FILTER REMOVABLE FROM THE OUTSIDE



Loosen the four screws securing the front counterweight to the welded tub assembly.

When reassembling:

tighten the screws at a torque of 20 Nm if the tub assembly is new,
if it isn't new, the tightening torque should be reduced to 15 Nm.

13.4.2 BELLOW SEAL

Remove the worktop (see relevant paragraph).
Remove the iron ring securing the bellow seal to the front panel.
Release the door safety device (see relevant paragraph).
Remove the front panel (see relevant paragraph).



Pull out the detergent dispenser from the bellows seal detergent inlet pocket.

Take the seal out of the welded tub.
(take care as the seal is held in position by a snap ring)

When reassembling the seal

use liquid soap to lubricate the part where the tub is inserted (indicated by the red circle).
Make sure the references are aligned.
Reassemble the snap ring between the door bellow seal and the tub.
Reassemble the plastic ring between the door bellow seal and the cabinet.

13.4.3 WELDED TUB ASSEMBLY

Empty the drain circuit

Remove the worktop (see relevant paragraph).

Remove the front panel (see relevant paragraph).

Remove the detergent tray (see relevant paragraph).

Remove the upper counterweight (see relevant paragraph).

Remove the front counterweight (see relevant paragraph).

Remove the back panel (see relevant paragraph).

To remove the washing unit assembly, disconnect:

All the tub pipes, the wiring connectors that connect the heating element, the NTC probe, remove the belt and the motor (to lighten the tub).

Lay the appliance on its back (making sure you place a polystyrene or cardboard layer on the floor to prevent damaging the cabinet).

Take the tub out of the washing machine.

13.4.4 TUB SUSPENSION SPRINGS

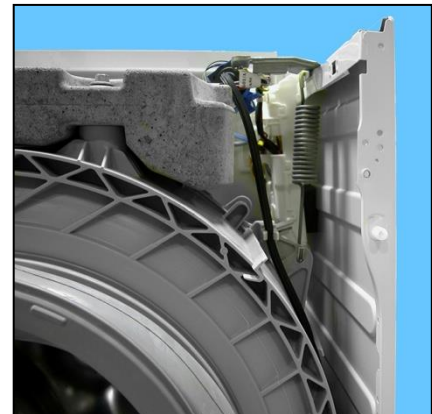


•Left spring

Attach the spring as shown in the figure: the shortest leg faces towards the side, whereas the longest leg faces towards the welded tub.

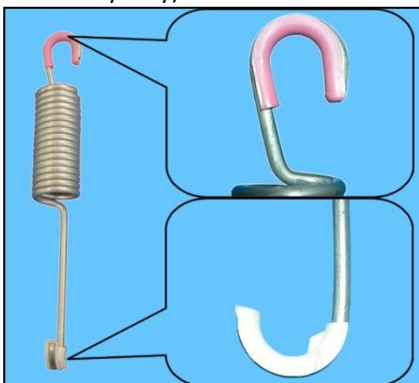
•Right spring

The instructions provided for the left spring also apply to the right spring.



When reattaching the springs (after repair work which required their removal)

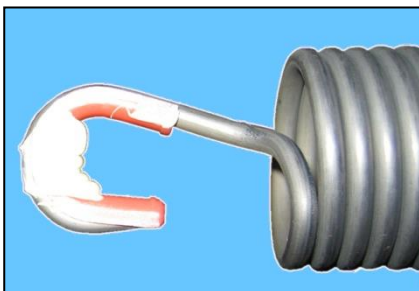
make sure that the bushings shown in the figure are featured on both ends (the colour of the bushings in the photos below may vary).



Pay attention to the differences between the bushings (see enlarged details).

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 16-00/6

13.4.5 DRAIN WATER CIRCUIT

13.4.5.1 FILTER BODY

Remove the worktop (see relevant paragraph).
Remove the iron ring securing the bellow seal to the front panel.
Release the door safety device (see relevant paragraph).
Remove the front panel (see relevant paragraph).



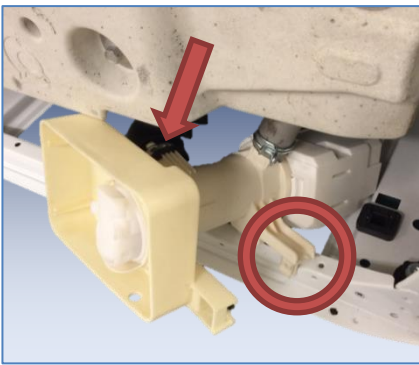
Pull out the main drain pipe.



Loosen the screws securing it to the front crossbar.



Remove the clamp that secures the support to the base.



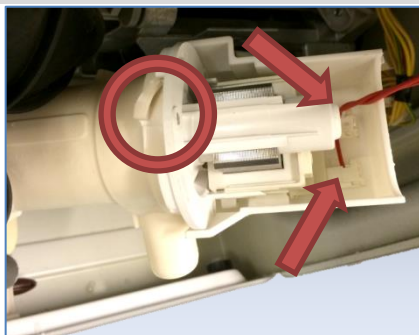
Lift the filter body to extract the support inserted on the side crossbar.
Break/widen the clamp

When reassembling, make sure the references are positioned correctly.

The size of the clamp to use is 40.5 mm.

13.4.5.2 DRAIN PUMP

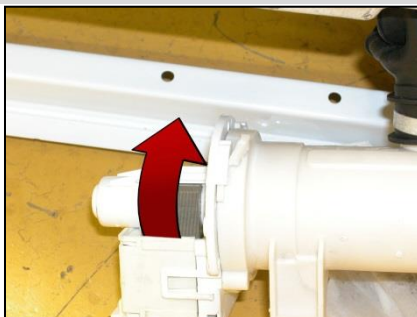
Remove the worktop (see relevant paragraph).
Remove the iron ring securing the bellow seal to the front panel.
Release the door safety device (see relevant paragraph).
Remove the front panel (see relevant paragraph).



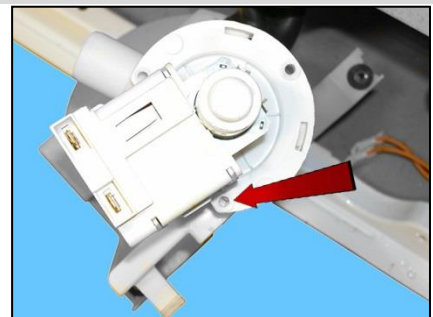
Remove the pump protection

Remove the connectors

Using a pair of pliers, raise the anchor tab to release the pump



Turn and pull out the pump



If the lock catch securing the pump to the filter body breaks.

Secure the pump to the filter body, securing it in place using a screw, screwing the latter in the slot shown by the arrow.

Size of the screw 3.5 x 19 Code 5024 79 51- 00/2

13.5 ACCESSING THE REAR PART

Make sure you wear gloves, because parts of the cabinet are sharp.

13.6 BACK PANEL



Loosen the screws that fix it to the cabinet.

Do not fully unscrew the screw marked with the number 1.

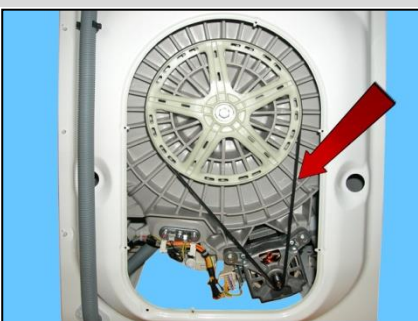
13.6.1 FROM THE BACK PANEL, YOU CAN ACCESS

1. Belt
2. Plastic pulley (\varnothing 273 mm)
3. Motor
4. Heating



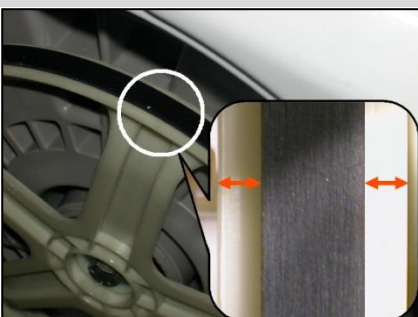
13.6.1.1 BELT

Remove the back panel (see relevant chapter).



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

When reassembling:



Position the belt and align it with the centre of the pulley (\varnothing 273 mm) as shown in the figure. Turning the pulley, check that the belt positions

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

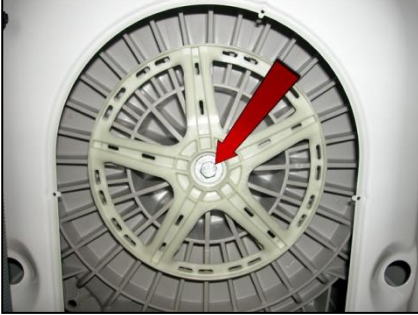


itself and remains in the central part of the pulley.

13.6.1.2 PLASTIC PULLEY (Ø 273 MM)

Remove the back 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 shaft.

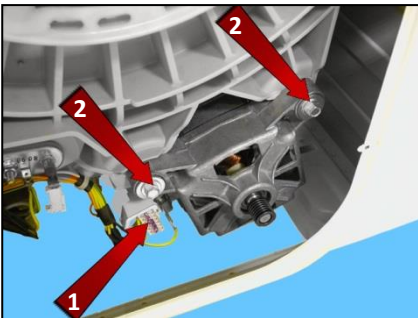
When reassembling

tighten the screw at a torque of 60 Nm.

13.6.1.3 MOTOR

Remove the back panel (see relevant chapter).

Remove the belt (see relevant chapter).



Disconnect the power supply connector (1) and the earth faston (beware as it is fitted with an anti-sliding stop).

Loosen the two front fastening screws (2) as there are no rear ones.

When reassembling:

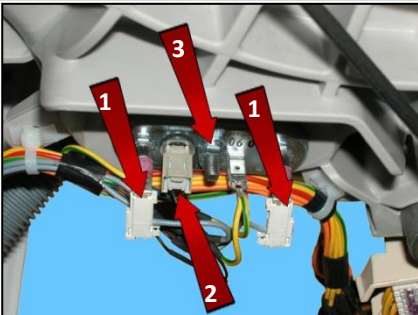
Restore the connections.

If the clamp securing the wiring to the motor breaks, replace it with a new one.

Tighten the screws at a torque of 11.5 Nm.

13.6.1.4 HEATING

Remove the back panel (see relevant chapter).



Disconnect the connectors of the heating element (1) and NTC probe (2).

Loosen the nut (3) and pull it out.

When reassembling:

tighten the nut at a torque of 4 Nm.

13.7 FROM THE BASE OF THE APPLIANCE, YOU CAN ACCESS

DRAIN FILTER REMOVABLE FROM THE OUTSIDE

1. Drain water circuit
2. Pressure chamber
3. Shock absorbers



13.7.1 DRAIN WATER CIRCUIT - FILTER REMOVABLE FROM THE OUTSIDE

13.7.1.1 DRAINAGE PUMP

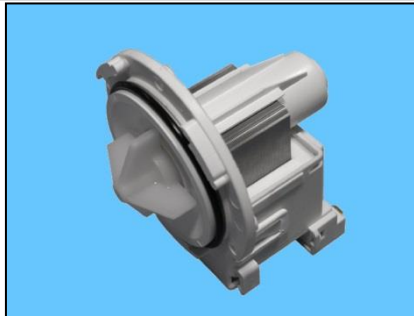
Remove the back panel to make certain operations easier.

Empty the drain circuit

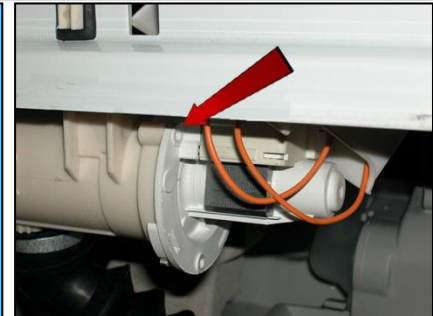
Lay the appliance onto its left side (the side where the detergent dispenser is)



Using a pair of pliers, raise the anchor tab to release the pump
At the same time
Turn the pump and pull it out of the filter body



Remove the protection and disconnect the connectors.
Pump



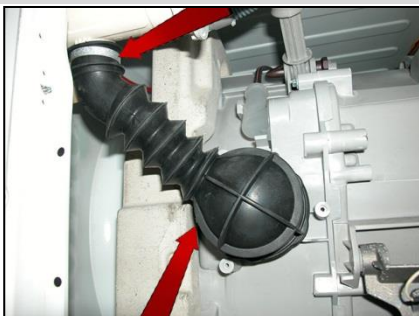
If the lock catch securing the pump to the filter body breaks.
Secure the pump to the filter body, securing it in place using a screw, screwing the latter in the slot shown by the arrow.

Size of the screw 3.5 x 19 Code 5024
79 51- 00/2

13.7.1.2 TUB DRAIN PIPE

Empty the drain circuit

Lay the appliance onto its left side (the side where the detergent dispenser is)



Loosen the screw that tightens the clamp (on the tub side)
Widen/break the clamp (on the filter body side)

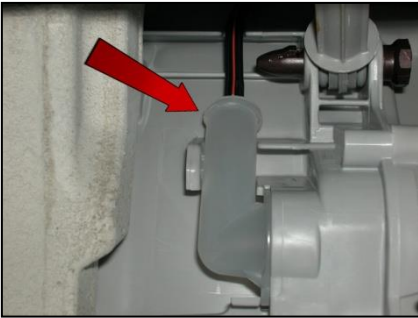
When reassembling:

replace the clamp with one with identical characteristics and with a diameter of 40.5 mm

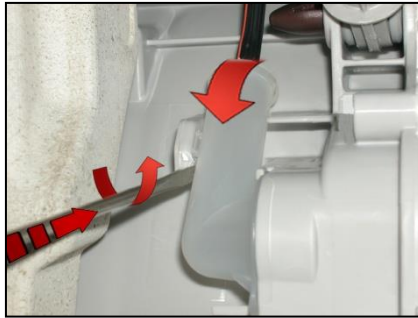
13.7.2 PRESSURE CHAMBER

Empty the drain circuit.

Lay the appliance onto its left side (the side where the detergent dispenser is).

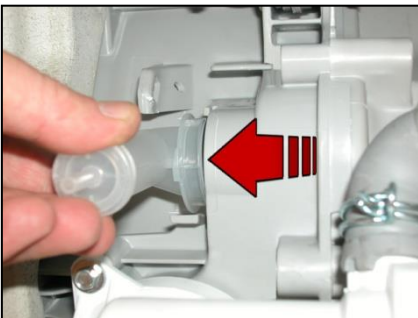


Insert a flat-tip screwdriver between the pressure chamber and the hook securing it to the welded tub.



Remove the pipe connecting to the analogue pressure switch.

Turn it anti-clockwise while at the same time removing the chamber.
Take care not to damage it.



Turn it until you reach the position shown in the figure.
Remove it.



Pressure chamber



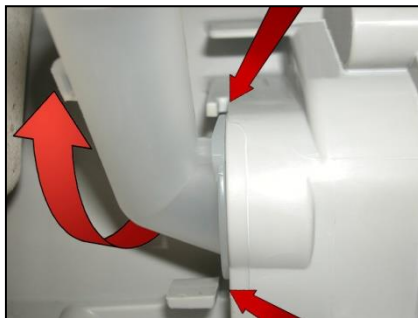
Detail of the pressure chamber set into the welded tub.

When reassembling

make sure that the seal is not damaged/warped, otherwise replace it.



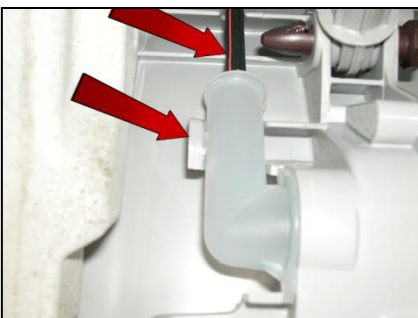
Insert the pressure chamber in its seat in the welded tub.



Turn it and make sure that the two tabs slot into the purpose-provided runners (shown by the arrows).



As shown in this picture.



Insert the pipe and secure the pressure chamber.

13.7.3 SHOCK ABSORBERS

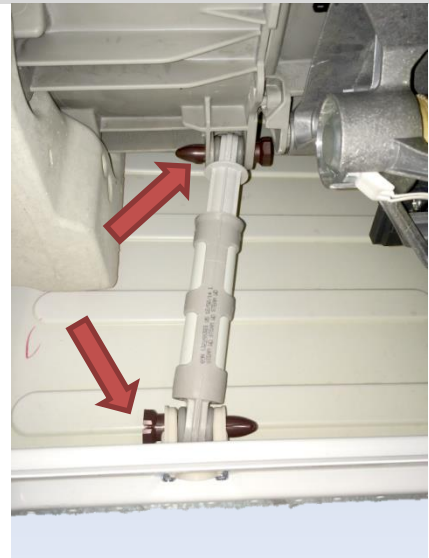
Empty the drain circuit.

Lay the appliance onto its left side (the side where the detergent dispenser is).



Left-hand shock absorber from the rear.

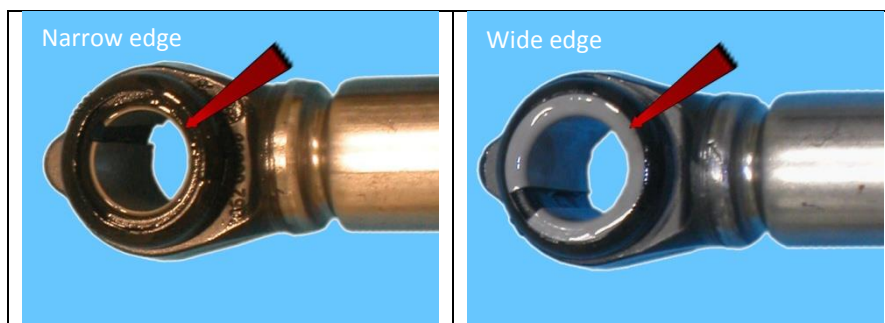
Right-hand shock absorber from the rear.



13.7.4 SHOCK ABSORBER PIN

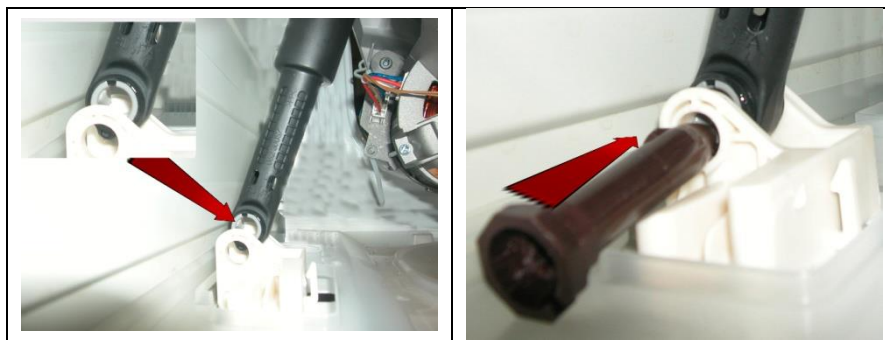
The principle is still the same, even if the photographs show different components and situations.

There is a bushing on either end of the shock absorber. It has a wider profile on one end to avoid it becoming dislodged when the pin is inserted (see the two figures below).



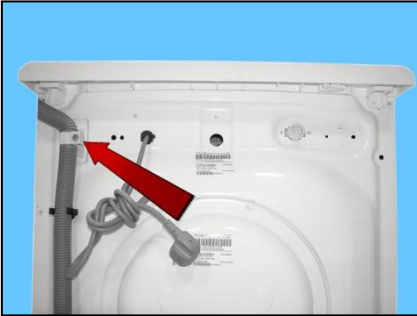
When positioning the shock absorber inside the fastening (situated at the bottom of the cabinet or in the tub), take care when positioning the bushing, so as to insert the pin from the part of the bushing with the widest profile.

The spare bushing is supplied under Code 344 91 25-30/5.



If you are having difficulty inserting the pin, grease it a little (code 5026 24 16-00/6).

13.7.5 MAIN DRAIN PIPE

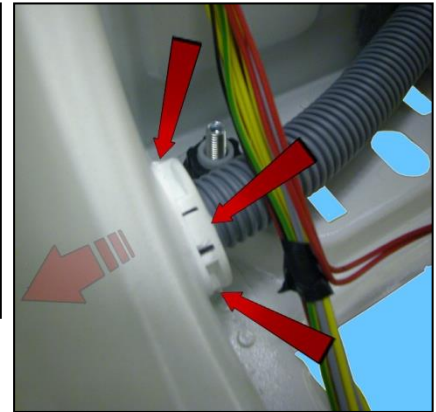


Loosen the screw which fastens the pipe fastener at the top of the appliance.

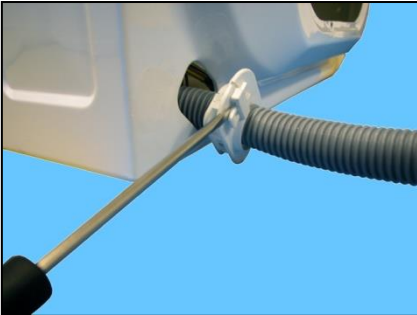
Straighten out the pipe to drain the water into a container.
Remove the back panel (see relevant chapter).



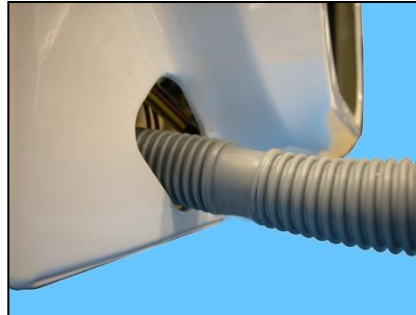
Open/warp the clamp (shown by the arrow) which secures the drain pipe to the pump body assembly.



Remove the pipe fastener that secures it to the cabinet by pressing the three hooks (indicated by the arrows) and pull it out at the same time.



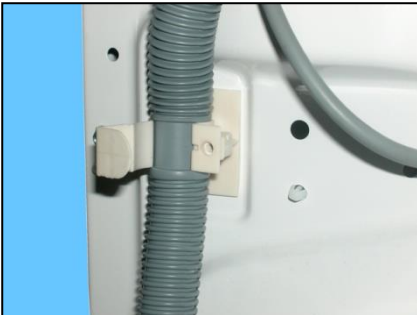
Insert a screwdriver to open up the cabinet pipe fastener.



When refitting the pipe, make sure that the non-corrugated part is inserted in the seat of the pipe fastener.



The other uncorrugated part of the pipe must be positioned in the pipe fastener at the top of the appliance.



When reassembling repeat all these steps in the reverse order.

14 ACCESSIBILITY (APPLIANCES WITH INVERTER MOTOR CONTROL)

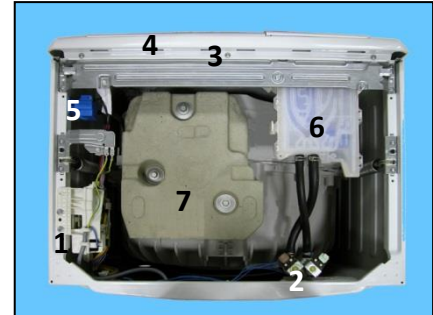
Make sure you wear gloves, because parts of the cabinet are sharp.

14.1 WORKTOP

Please refer to 13.1 Worktop page 65

14.2 FROM THE WORKTOP, YOU CAN ACCESS

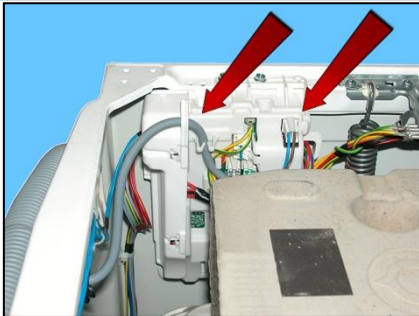
1. Main board
2. Solenoid valve
3. Display board/light diffuser/buttons/buttons springs assembly
4. Control panel
5. Analogue pressure switch
6. Detergent dispenser
7. Upper counterweight



14.2.1 MAIN BOARD

To service the main board, use the antistatic kit a code 4055063-95/4.

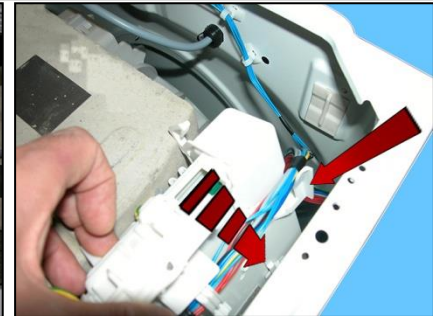
Remove the worktop (see relevant paragraph).



Remove the power cable from the hooks that hold it close to the board.

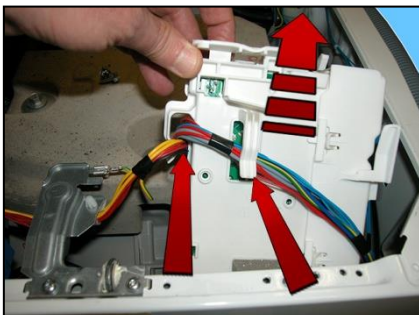


Unfasten the two screws securing it to the cabinet.

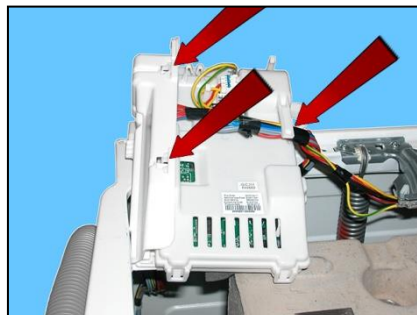


Lower the power board assembly to remove the wiring from the hook shown by the arrow.

Slide off the connector.



Lower the power board assembly to remove the wiring from the hooks shown by the arrows.

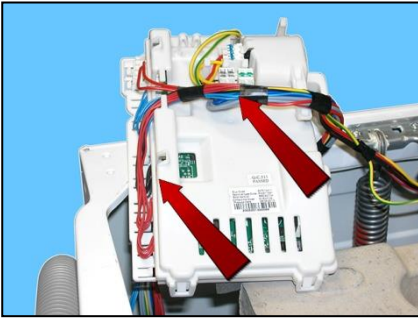


Position it as shown in the figure.

Remove the wiring from the hook.



To remove the protection from the connectors: disconnect the hooks securing it on one side and on the other.



Remove the connectors.

When reassembling:



Repeat these steps in the reverse order.
Insert the earth wire of the power supply cable beneath the hook and wrap it and arrange it as shown in the figure.

14.2.2 SOLENOID VALVE

Please refer to 13.2.2 Solenoid valve page 67

14.2.3 CONTROL PANEL

Please refer to 13.2.3 Control panel page 67

14.2.4 DISPLAY BOARD ASSEMBLY

Please refer to 13.2.4 Display board/light diffuser/buttons/buttons springs assembly page 68

14.2.5 ANALOGUE PRESSURE SWITCH

Please refer to 13.2.5 Analogue pressure switch page 68

14.2.6 DETERGENT DISPENSER

Please refer to 13.2.6 Detergent dispenser page 69

14.2.7 UPPER COUNTERWEIGHT

Please refer to 13.2.7 Upper counterweight page 70

14.3 ACCESSING THE FRONT PART

1. Door and Door Hinge
2. Door safety interlock
3. Blade
4. Front panel



14.3.1 DOOR SAFETY INTERLOCK

Please refer to [13.3.1 Door safety device \(with incorporated flange\)](#) page 71

14.3.2 DOOR - DOOR HINGE

Please refer to [13.3.2 Door and Door Hinge](#) page 71

14.3.3 BLADE

Please refer to [13.3.3 Blade](#) page 72

14.3.4 FRONT PANEL

Please refer to [13.3.4 Front panel](#) page 73

14.4 FROM THE FRONT PANEL, YOU CAN ACCESS

Please refer to [13.4 From the front panel, you can access](#) page 73

14.4.1 FRONT COUNTERWEIGHT

Please refer to [13.4.1 Front counterweight](#) page 74

14.4.2 BELLOW SEAL

Please refer to [13.4.2 Bellows seal](#) page 74

14.4.3 WELDED TUB ASSEMBLY

Please refer to 13.4.3 Welded tub assembly page 75

14.4.4 TUB SUSPENSION SPRINGS

Please refer to 13.4.4 Tub suspension springs page 75

14.4.5 DRAIN WATER CIRCUIT

14.4.5.1 FILTER BODY

Please refer to 13.4.5.1 Filter body page 76

14.4.5.2 DRAIN PUMP

Please refer to 13.4.5.2 Drain pump page 76

14.5 ACCESSING THE REAR PART

Make sure you wear gloves, because parts of the cabinet are sharp

14.5.1 BACK PANEL

Please refer to 13.6 Back panel page 77

14.6 FROM THE BACK PANEL, YOU CAN ACCESS

1. Belt
2. Plastic pulley (\varnothing 273 mm)
3. Motor
4. Heating
5. UIMC
6. Drainage pump
7. Fluff filter



14.6.1 BELT

Please refer to 13.6.1.1 Belt page 77

14.6.2 PLASTIC PULLEY (Ø 273 MM)

Please refer to 13.6.1.2 Plastic pulley (Ø 273 mm) page 78

14.6.3 MOTOR

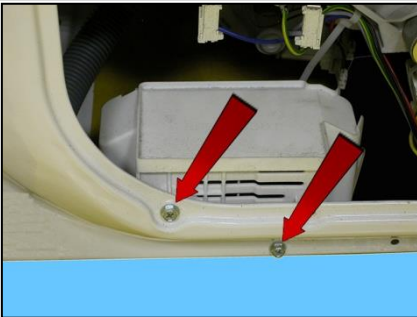
Please refer to 13.6.1.3 Motor page 78

14.6.4 HEATING

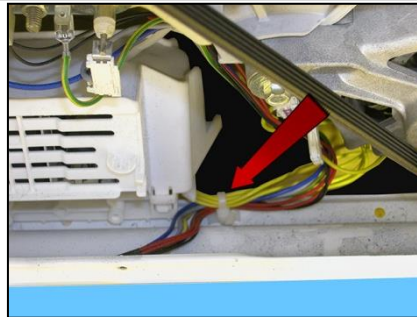
Please refer to 13.6.1.4 Heating page 78

14.6.5 UIMC

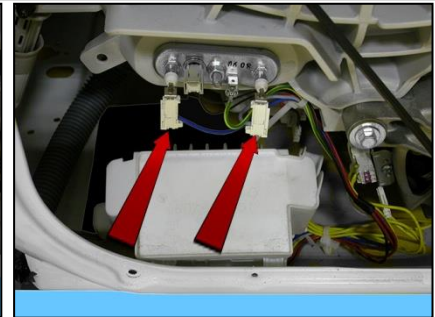
Remove the back panel (see relevant chapter).



Loosen the two screws that fix it to the rear cabinet.



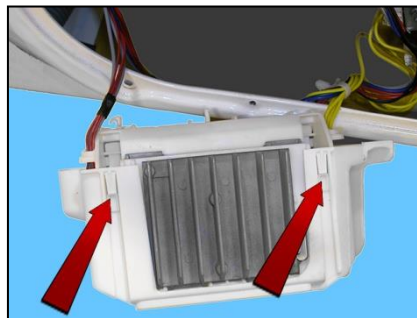
Remove the clamp (shown by the arrow) from the crosspiece, taking care not to break it.



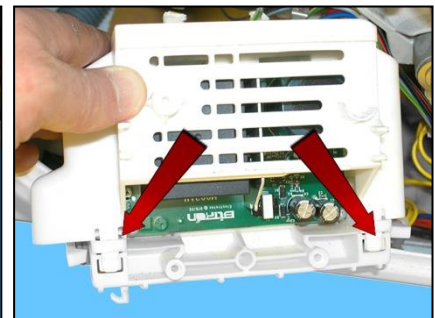
Remove the heating element connectors.



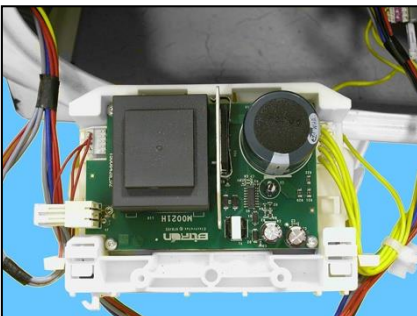
Pushing the washing unit towards the inside of the appliance, remove the UIMC.



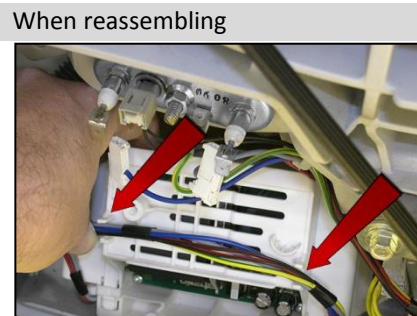
Release the two hooks securing the connectors protection on one side.



And on the other remove the connectors protection.



Remove the connectors.



When reassembling

repeat these steps in the reverse order.

Making sure the wiring is positioned inside the UIMC runners to avoid damaging it.

14.7 FROM THE BASE OF THE APPLIANCE, YOU CAN ACCESS

Please refer to 0

From the base of the appliance, you can access page 79

14.7.1 DRAIN WATER CIRCUIT - FILTER REMOVABLE FROM THE OUTSIDE

14.7.1.1 DRAINAGE PUMP

Please refer to 13.7.1.1 Drainage pump page 79

14.7.1.2 TUB DRAIN PIPE

Please refer to 13.7.1.2 Tub drain pipe page 79

14.7.2 PRESSURE CHAMBER

Please refer to 13.7.2 Pressure chamber page 80

14.7.3 SHOCK ABSORBERS

Please refer to 13.7.3 Shock absorbers page 81

14.7.4 MAIN DRAIN PIPE

Please refer to 13.7.5 Main drain pipe page 82

15 REVISION:

Revision	Date	Description	Written by	Approved by:
00	04/2015	Document creation	MP	