SERVICE MANUAL

WASHING

Z3

Z6

Customer Care - EMEA
Training and Operations Support
Technical Support

Publication Number

599 78 07-46

EN

Edition: 09/2014 - Rev. 00

Front loading washing machines with electronic control system

EWX13611
EWX11831

Technical and functional characteristics

Styling

Z3 & Z6

Washing unit

P49

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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 (Z6-Z3) and EWX11831 (Z6-Z3) 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 ON/OFF button, it is in the “Stand-Off” or “virtual” off status. The LEDs and the LCD screen are turned off and the buttons are disabled, although the main circuit board and certain electrical components are electrically powered.

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

“Auto-off” mode

If, after 5 minutes, during the programme selecting phase or after the end of the cycle, the appliance receives no further instructions, it is automatically turned off (for energy savings in conformity with the standards on energy consumption).
All the settings are stored so that when the appliance is turned back on, the programme is ready or if the auto-off mode was triggered after the end of the cycle, the user can see that the cycle ended normally, and can restart it if necessary.

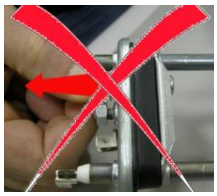
You have to unplug the appliance to cut off the power supply

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

2 WARNINGS

- **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.**

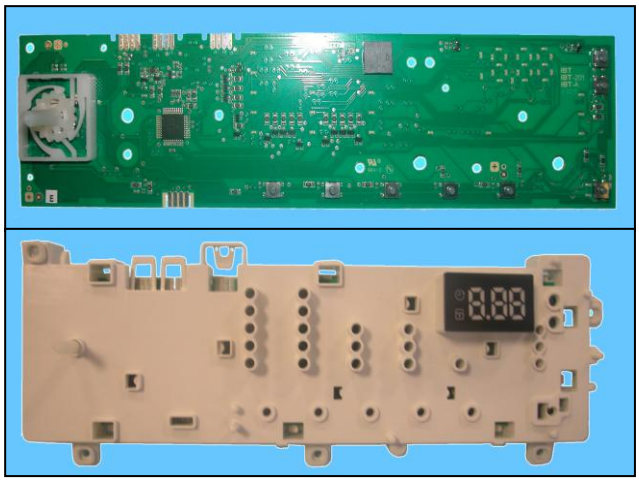


- **Always empty the appliance of all the water before laying it on its side.**
- **Never place the appliance on its right side (electronic control system side): some of the water in the detergent dispenser could leak onto the electrical/electronic components and cause these to burn.**
- **When replacing 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.**
- **This appliance is not fitted with a user accessible filter, in the case of a call in relation to cleaning it, please refer to sect. 13.7.2 page 83.**

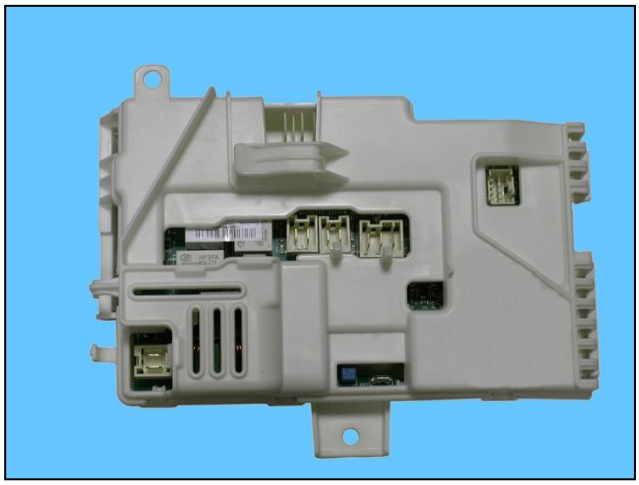
3 STYLING Z3

3.1 EWX13611 General characteristics

The electronic control system consists of two circuit boards:



- Control/display board in a plastic casing fitted to the control panel (the figure illustrates the individual board and the board assembly consisting of board, casing and diffuser).

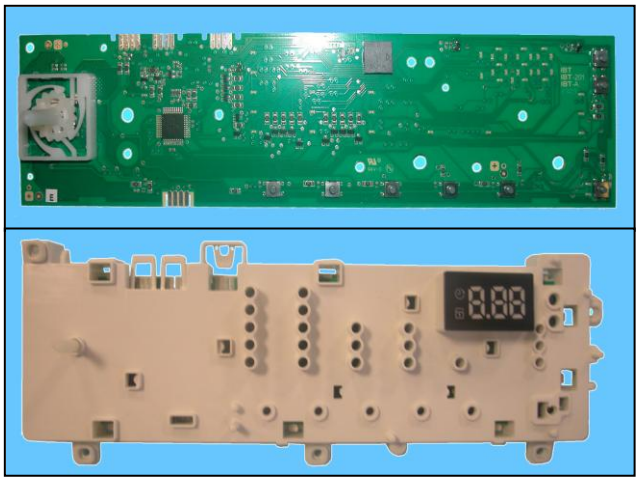


- Main board, located at the rear of the appliance. It powers the electrical components and receives commands from the display board.

Programme selector	▪ 15 positions without main switch (incorporated in the circuit board)
No. buttons	▪ maximum 7 (3 options + 1 start/pause + 1 delayed start + 1 Spin + 1 Temperature)
No. LEDs	▪ Maximum 14 (13 green LEDs + 1 red LED) + 1 display
Serial port	▪ DAAS-EAP communication protocol up to 230400 baud
Power supply voltage	▪ 220/240 V ▪ 50/60 Hz (configurable)
Washing type	▪ Traditional with “Eco-IDB”
Rinsing system	▪ Traditional with “Eco-IDB”
Motor	▪ Collector, with tachometric generator (Universal)
Spin speed	▪ 600 ÷ 1,400 rpm
Anti-unbalancing system	▪ AGS
Water fill	▪ 1 solenoid valve with 1 inlet – 2 outlets
Detergent dispenser	▪ 2 compartments: wash, conditioners
Control of water level in the tub	▪ Electronic/analogue pressure switch
Door safety interlock	▪ Traditional (with PTC)
Heating element heat output	▪ 1,750 W with thermal fuses incorporated
Temperature check	▪ NTC probe incorporated in the heating element
Buzzer	▪ Traditional incorporated in the PCB

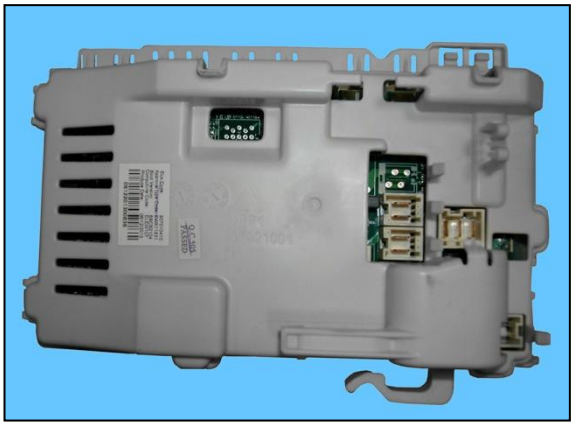
3.2 EWX11831 General characteristics

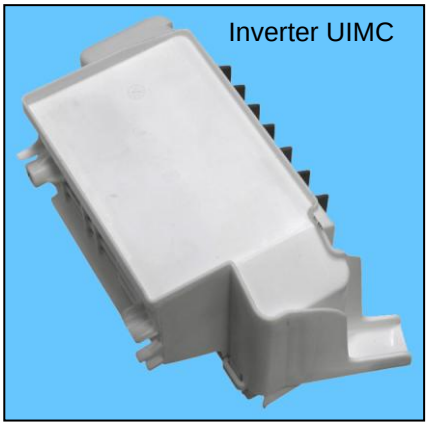
The electronic control system consists of three circuit boards.



- Control/display board in a plastic casing fitted to the control panel (the figure illustrates the individual board and the board assembly consisting of board, casing and diffuser).

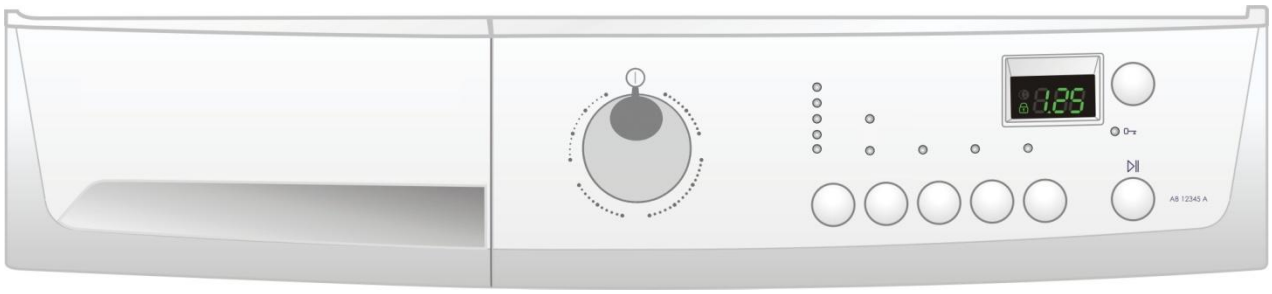
- The main circuit board is positioned at the rear of the appliance and powers the electrical components, receiving commands from the display board as well as communicating with the motor control board (Inverter UIMC).





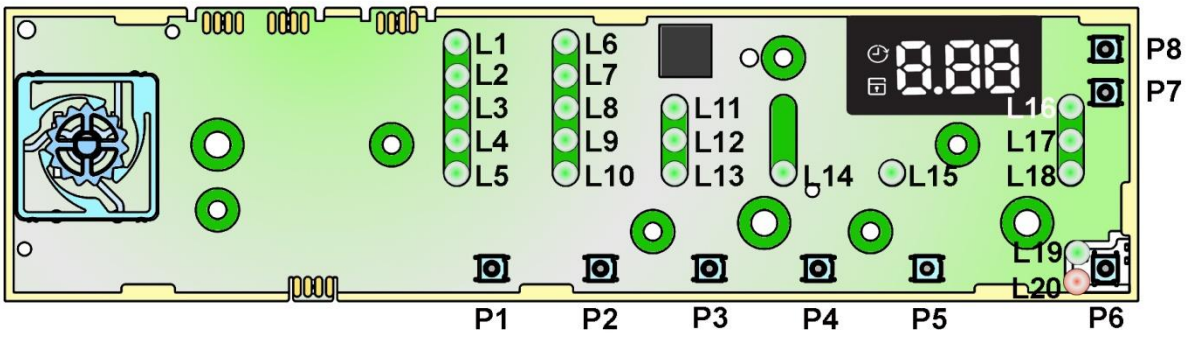
Programme selector	▪ 15 positions without main switch (incorporated in the circuit board)
No. buttons	▪ Maximum 7 (3 options + 1 start/pause + 1 delayed start + 1 Spin + 1 Temperature)
No. LEDs	▪ maximum 14 (13 green LEDs + 1 red LED)+ 1 display
Serial port	▪ DAAS-EAP communication protocol up to 230400 baud
Power supply voltage	▪ 220/240 V ▪ 50/60 Hz (configurable)
Washing type	▪ Traditional with “Eco-IDB”
Rinsing system	▪ Traditional with “Eco-IDB”
Motor	▪ Two-pole asynchronous (three-phase)
Spin speed	▪ 600 ÷ 1,600 rpm
Anti-unbalancing system	▪ AGS
Water fill	▪ 1 solenoid valve with 1 inlet – 2 outlets
Detergent dispenser	▪ 2 compartments: wash, conditioners
Control of water level in the tub	▪ Electronic/analogue pressure switch
Door safety interlock	▪ Traditional (with PTC)
Heating element heat output	▪ 1,750 W with thermal fuses incorporated
Temperature check	▪ NTC probe incorporated in the heating element
Buzzer	▪ Traditional incorporated in the PCB

3.3 Control panel

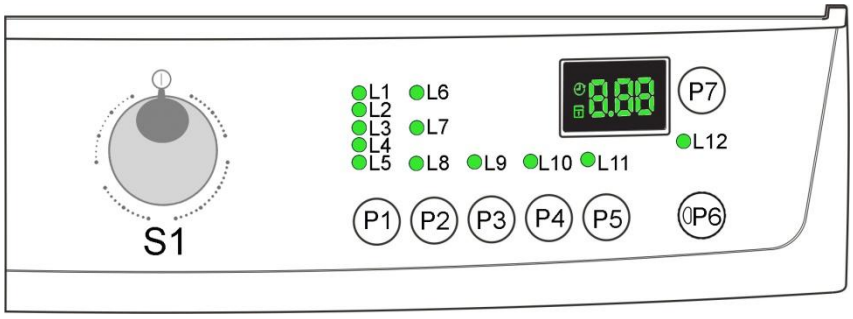


3.3.1 Display board

Positioning of LEDs and buttons

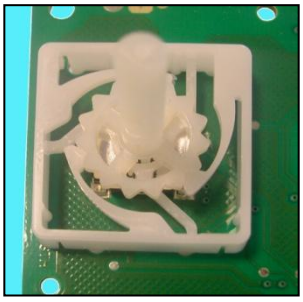


3.4 Control panel configuration



The wash programmes, the functions of the selector dial (where featured) and the individual buttons vary according to the model, since these are determined by the configuration of the appliance.

3.4.1 Programme selector (S1)



The selector is formed by a linear potentiometer. The fifteen positions are determined by a plastic structure fixed around the potentiometer.
There is no ON/OFF switch.
The first position is for the OFF function, where the current programme is cancelled and all the LEDs on the display board are turned off.
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 button.

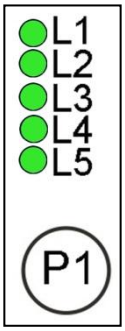
3.4.2 Programme configuration

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.

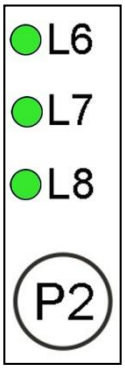
3.4.3 Buttons and LEDs

The functions of each button are defined by the configuration of the appliance.

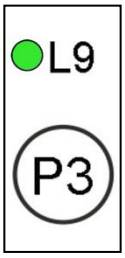


- **Button no. 1**: TEMPERATURE CONTROL
  this button is configurable and is related to LEDs (L1÷L5).
  Press it in sequence to choose the washing temperature among the values listed below: 90°C, 60°C, 40°C, 30°C, 20°C and Cold cycle.

  The initial temperature set for each programme is configurable.
  The temperature of 50°C is not envisaged.



- **Button no. 2**: SPIN SPEED SETTING
  this button is configurable and is related to LEDs (L6÷L8).
  By pressing it in sequence it is possible to select the desired spin speed or exclude it with the rinse hold option.

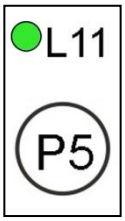


- **Button no. 3**: this button is configurable and is related to LED (L9). Depending on the configuration of the appliance, it can perform the function of:

  super quick, easy-iron, super rinse, rinse hold.

- **Button no. 4**: this button is configurable and is related to LED (L10);
  depending on the configuration of the appliance, it can perform the function of:

  super quick, easy-iron, super rinse, rinse hold.

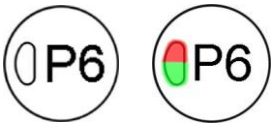


- **Button no. 5**: this button is configurable and is related to LED (L11);
  depending on the configuration of the appliance, it can perform the function of:

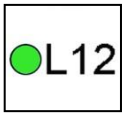
  super quick, easy-iron, super rinse, rinse hold.

- **Button no. 6**: this button is configurable and has the function of START/PAUSE.
  Pressing this button starts a washing cycle, or can pause a washing cycle already under way (there are two LEDs inside:

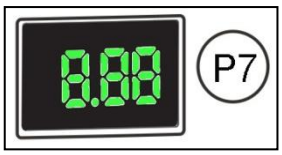
a **green** one which flashes when the appliance is in set-up, pause; it stays on when the cycle is under way and turns off when the cycle has ended;
a **red** one that flashes (150 ms off, 150 ms on) in the event of an alarm or incorrect selection, such as: an incompatible option, an incorrect temperature 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.



- **L12 Door closed:** It lights up when the safety device stops the door opening and switches off when it is possible to open it. It flashes when the device is about to unlock the door (with door interlock with PTC, which needs one or two minutes to open).



- **Button no. 7**: This button is configurable and has the DELAYED START function. During the programme selection phase, a delayed start can be selected, from 30' to 20 hours (30' ☞ 60' ☞ 90' ☞ 2h ☞3h… ☞20h ☞0h) and the time is shown on the Display. During the last hour, the time decreases minute by minute.



3.4.4 Display

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 LED indicating the door remains on and the LED on the START/PAUSE button is turned off. The washing machine continues to operate, rotating the drum once every 2 minutes.

- **Delayed start**, selected on the related button. After the START/PAUSE button is pressed, the countdown starts and the delay time decreases hour by hour, from a delay of 2 hours up to 20 hours (☞ 30'☞ 60'☞ 90'☞ 2h☞ 3h...☞ 20h☞ 0h).

During the last 2 hours, it decreases by 30 mins at a time.

During delayed start, the  icon remains permanently lit.

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

- Wrong choice of an option: 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 indicates an error in the appliance operation; the START/PAUSE button flashes when the code is displayed.

- **Buzzer**

The buzzer emits:

→ one **"beep"** when: selecting programmes, selecting an option, when the START/PAUSE button is pressed to start or pause the cycle.

→ Three **"beeps"** when: an option incompatible with the selected programme is chosen, or when a button is pressed or a dial is turned during a cycle.

→ A particular sequence of **"beeps"** for a two-minute duration when the cycle has terminated.

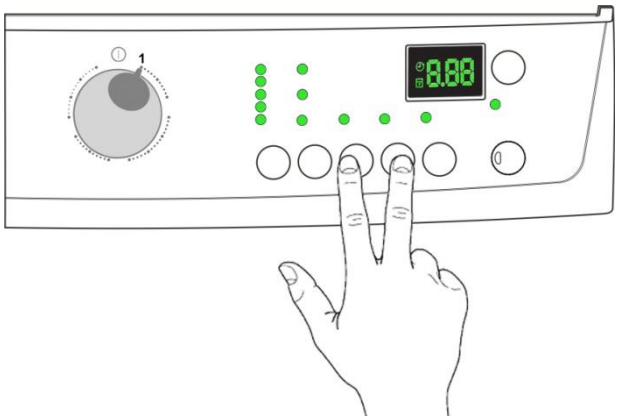
→ A particular sequence of three **"beeps"** to signal an appliance malfunction.

The Buzzer may be configured to sound:

as in the aforementioned cases.
only at the end of the cycle.
only in the event of an alarm.

The volume has a factory preset level and cannot be changed by the user.

In models fitted with a buzzer, the buzzer can be enabled/disabled during programme selection, but alarm signalling remains enabled.

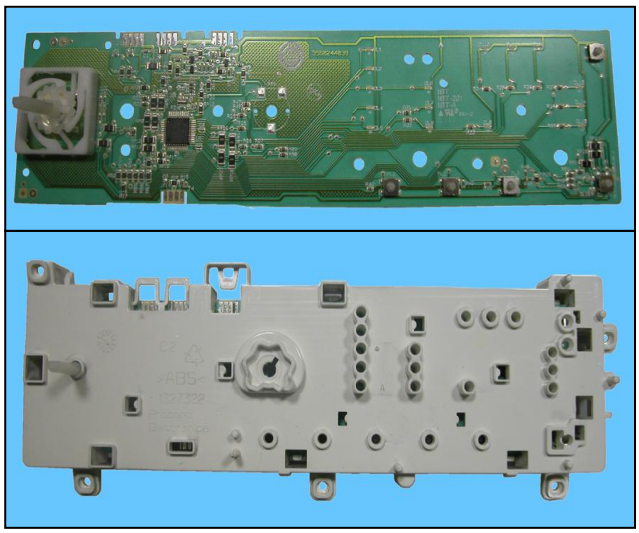


To enable/disable it, press the buttons simultaneously for 5 seconds. A short beep confirms that it has been enabled/disabled.

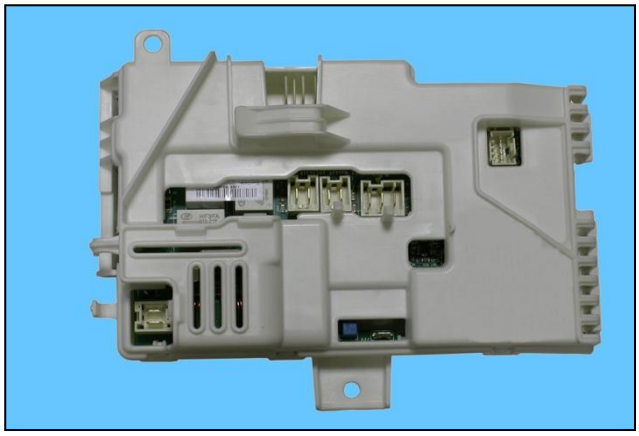
4 Z6 STYLING

4.1 EWX 13611 General characteristics

The electronic control system consists of two circuit boards:



- Control/display board in a plastic casing fitted to the control panel (the figure illustrates the individual board and the board assembly consisting of board, casing and diffuser).

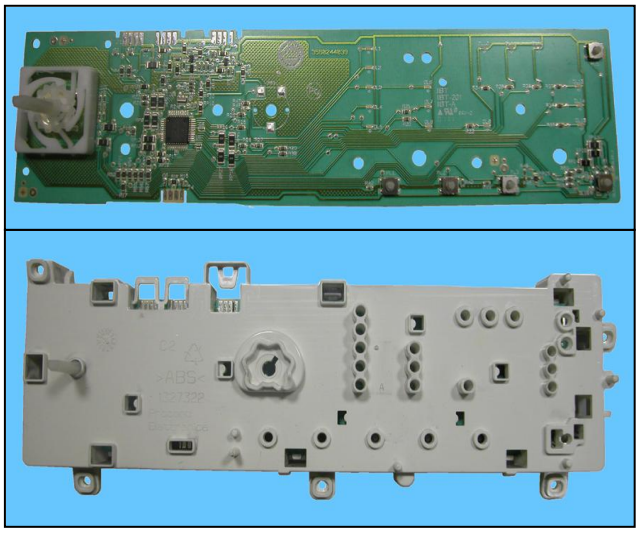


- Main board, located at the rear of the appliance. It powers the electrical components and receives commands from the display board.

Programme selector	▪ 15 positions without main switch (incorporated in the circuit board)
No. buttons	▪ Maximum 5 (1 Spin/Temperature + 2 options + 1 start/pause + 1 delayed start)
No. LEDs	▪ Maximum 16 (15 green LEDs + 1 red LED)
Serial port	▪ DAAS-EAP communications protocol up to 230400 baud
Power supply voltage	▪ 220/240 V ▪ 50/60 Hz (configurable)
Washing type	▪ Traditional with “Eco-IDB”
Rinsing system	▪ Traditional with “Eco-IDB”
Motor	▪ Collector, with tachometric generator (Universal)
Spin speed	▪ 600 ÷ 1,400 rpm
Anti-unbalancing system	▪ AGS
Water fill	▪ 1 solenoid valve with 1 inlet – 2 outlets
Detergent dispenser	▪ 2 compartments: wash, conditioners
Control of water level in the tub	▪ Electronic/analogue pressure switch
Door safety interlock	▪ Traditional (with PTC)
Heating element heat output	▪ 1,750 W with thermal fuse incorporated
Temperature check	▪ NTC probe incorporated in the heating element

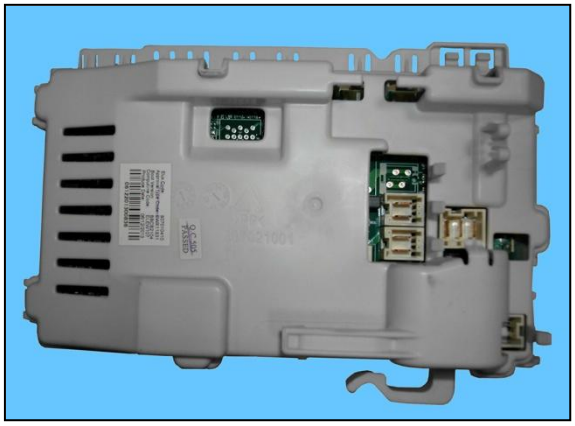
4.2 EWX 11831 General characteristics

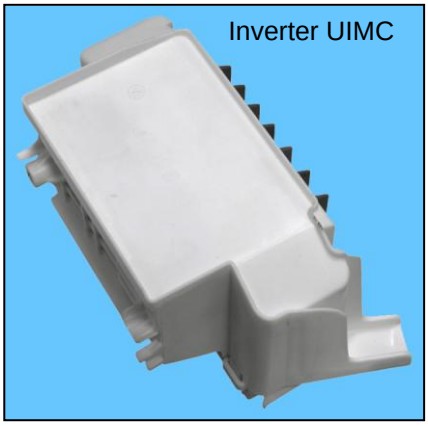
The electronic control system consists of three circuit boards.



- Control/display board in a plastic casing fitted to the control panel (the figure illustrates the individual board and the board assembly consisting of board, casing and diffuser).

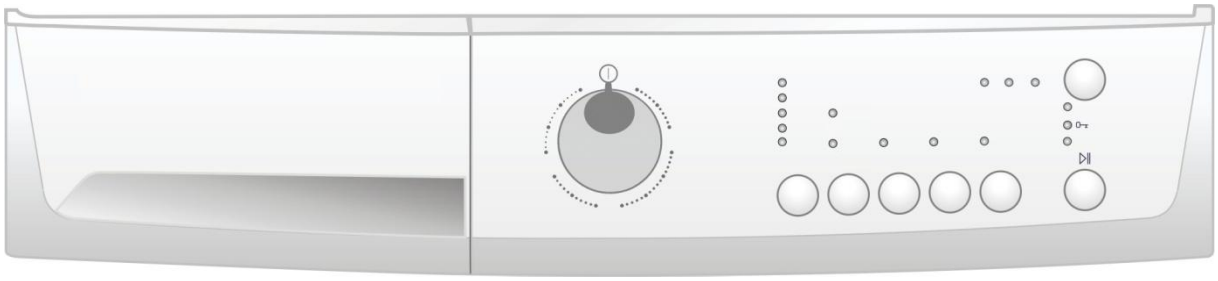
- The main circuit board is positioned at the rear of the appliance and powers the electrical components, receiving commands from the display board as well as communicating with the motor control board (Inverter UIMC).





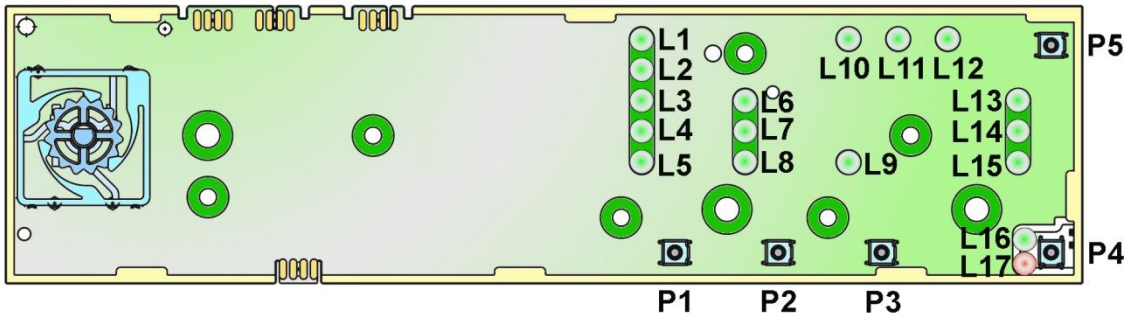
Programme selector	▪ 15 positions without main switch (incorporated in the circuit board)
No. buttons	▪ Maximum 7 (3 options + 1 start/pause + 1 delayed start + 1 Spin + 1 Temperature)
No. LEDs	▪ Maximum 14 (13 green LEDs + 1 red LED)+ 1 display
Serial port	▪ DAAS-EAP communication protocol up to 230400 baud
Power supply voltage	▪ 220/240 V ▪ 50/60 Hz (configurable)
Washing type	▪ Traditional with “Eco-IDB”
Rinsing system	▪ Traditional with “Eco-IDB”
Motor	▪ Two-pole asynchronous (three-phase)
Spin speed	▪ 600 ÷ 1,600 rpm
Anti-unbalancing system	▪ AGS
Water fill	▪ 1 solenoid valve with 1 inlet – 2 outlets
Detergent dispenser	▪ 2 compartments: wash, conditioners
Control of water level in the tub	▪ Electronic/analogue pressure switch
Door safety interlock	▪ Traditional (with PTC)
Heating element heat output	▪ 1,750 W with thermal fuses incorporated
Temperature check	▪ NTC probe incorporated in the heating element
Buzzer	▪ Traditional incorporated in the PCB

4.3 Control panel

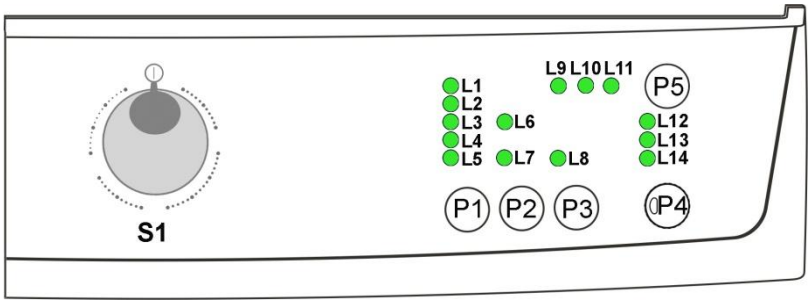


4.3.1 Display board

- Positioning of LEDs and buttons



4.3.2 Control panel configuration



The wash programmes, the functions of the selector dial (where featured) and the individual buttons vary according to the model, since these are determined by the configuration of the appliance.

4.3.3 Programme selector (S1)

See para. 3.4.1 page 11

4.3.4 Programme configuration

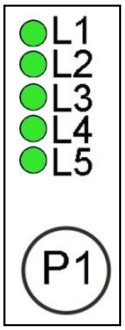
See para. 3.4.2 page 11

4.3.5 Buttons and LEDs

The functions of each button are defined by the configuration of the appliance.

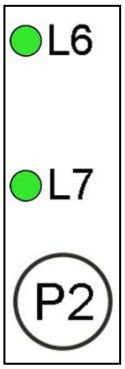
- **Button no. 1**: this button is related to LEDs (L1÷L5).

  pressing the button in sequence alters the temperature of the washing cycle from 90°C to cold cycle.



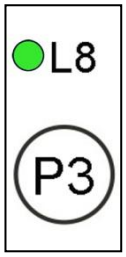
- **Button no. 2**: this button is configurable and is related to LEDs (L6 and L7). Depending on the configuration of the appliance, it can perform the function of:

  super quick, easy-iron, super rinse, rinse hold, spin speed regulation.

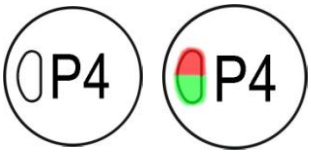


- **Button no. 3**: this button is configurable and is related to LED (L8). Depending on the configuration of the appliance, it can perform the function of:

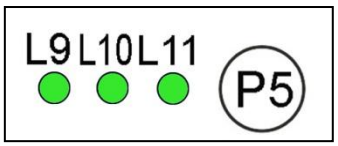
  super quick, easy-iron, super rinse, rinse hold.



- **Button no. 4**: this button is configurable and has the function of START/PAUSE.
  See para. 3.4.3 page 12 (Button 6 START/PAUSE)



- **Button No. 5**: this button is configurable and is related to LEDs (L9÷L11),
  It performs the delayed start function.
  Press it in sequence to choose from one of the three delayed start options: 3h-6h-9h with the related LED coming on.



- **Wash phase indicator LEDs**:

LEDs L12, L13, L14 are configurable and are used as indicators of the wash phases

Three combinations are envisaged.

First combination: The phases of the washing cycle are displayed and the “Extra Rinse” option can be selected by pressing a button;

Second combination: The phases of the washing cycle are displayed along with the status of the “Extra Rinse” option, when the latter can be selected by a key combination;

Third combination: The washing cycle phases are displayed, along with the status of the door and the “Extra Rinse” option can be selected by pressing a button.

Summary table of the three combinations

LED position	First combination	Second combination	Third combination
L12	Wash	Cycle in Progress	Cycle in Progress
L13	Rinses/Spin	Extra Rinse	Door
L14	End of Cycle	End of Cycle	End of Cycle

The meaning of each LED function is described in the following table.

Possible indications	
Wash	Lights up in selection mode if the programme includes the wash phase and during the wash cycle.
Rinses/Spin	Lights up in selection mode if the programme includes rinses and spin and during the execution of these phases.
Extra Rinse	Lights up when this option has been memorised (if included in the cycle) and during rinses.
Cycle in progress	Lights up during execution of the cycle.
End of cycle	Lights up when the programme has completed and after the door has been unlocked.
Door closed	Lights up when the safety device prevents the door opening and switches off when the door 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).

5 COMPATIBILITY BETWEEN WASH PROGRAMMES AND OPTIONS

Programme	Temperature	Maximum Spin (*)	Delayed start	Super Quick	Extra-rinse	Easy Iron	Reduced spin speed	No Spin	Rinse hold
Cotton	95°÷ 0° (40°)	1,400 rpm	√	√	√	√	√	√	√
Cotton + pre-wash	95°÷ 0° (40°)	1,400 rpm	√	√	√	√	√	√	√
Cotton + economy	60°, 40° (60°)	1,400 rpm	√		√	√	√	√	√
Synthetic fabrics	60°, 0° (40°)	1,200 rpm	√	√	√	√	√	√	√
Delicates	40°÷ 0° (40°)	7,00 rpm	√	√	√		√	√	√
Wool/Hand Wash	40°, 0° (30°)	1,200 rpm	√				√	√	√
Jeans	60°, 0° (40°)	1,200 rpm	√			√	√	√	√
Mini/Teddy Bear/Sport Light	30°	700 rpm	√				√	√	
Child	30°, 0° (30°)	700 rpm	√				√	√	
Shoes	30°, 0° (30°)	1,000 rpm	√				√	√	
Blanket	40°, 0° (40°)	700 rpm	√				√		
5 Shirts	30°	900 rpm	√				√	√	√
Mix. 40°	40°	1,400 rpm	√		√	√	√	√	√
Mix. 20° Oko	20°	1,200 rpm	√		√		√	√	√
Prewash	30°		√						
Rinses/Conditioner		1,400 rpm	√		√	√	√	√	√
Spin		1,400 rpm	√				√		
Drainage									
Phases during which an option can be selected									
Selection	√	√	√	√	√	√	√	√	√
Wash cycle pause		√			√	√	√	√	√
Rinse cycle pause									√

The information is purely indicative.
(T°) the default temperature (in parentheses) is displayed by the cycle temperature LED, when selected (Z6 Styling).
(*) the default set speed when a cycle is selected, limited to that declared for the specific model.

5.1 Description of options

- **Rinse hold**

→ Stops the appliance with water in the tub before the final spin cycle.
→ To drain the water, reset the programme and then select a drain or spin cycle.

- **Pre-wash**

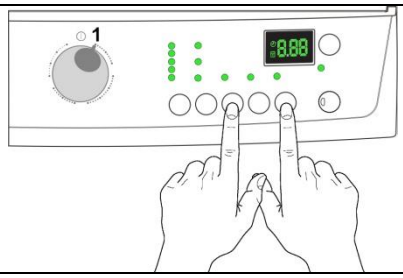
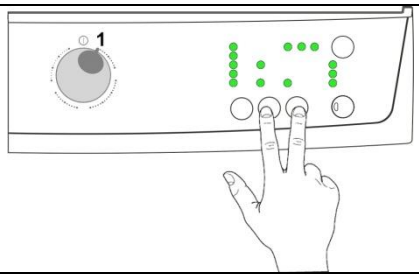
→ Adds a pre-wash phase at the start of the cycle with water heating to 30°C (or cold, if selected).
→ Available in COTTON cycles, performs a short spin before advancing to the wash phase.

- **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 rinse**

→ Adds **two** rinses in the COTTON cycle, adds **one** rinse in the SYNTHETIC FABRICS - DELICATES cycles
→ Cancels the end of wash spin and the first two intermediate spins.
→ The other intermediate spins are limited to 450 rpm with the final spin at maximum speed.

ENABLING SUPER RINSE	
Appliances that do not envisage this option associated with a button can enable it through a key combination (see instruction manual).	
Z3	Z6
	
During the selection phase, press the two buttons shown in the figure simultaneously for at least 5 seconds until the related LED comes on. This option also remains enabled during subsequent cycles. To disable it, press the two buttons simultaneously for at least 5 seconds until the related LED is turned off.	

- **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

- **No spin**

→ It eliminates <u>all</u> the spin phases
→ It adds **three** rinses to the COTTON cycle and **one** to the SYNTHETIC FABRICS cycle

- **Super quick**

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

- **Delayed start**

→ Adds a pause before the start of the programme. The delay time is indicated by LEDs or the Display (see page 13 or page 19 button 7/5, for Display or LED display, respectively).

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

- **Reduced spin speed**

Styling Z6

It can be linked to buttons with 2÷5 LEDs, (the possible combinations are shown below):

→ Maximum - maximum declared spin speed.

→ Reduction 1 - reduction of the spin speed to between the maximum speed and the minimum speed (400 rpm).

→ Reduction 2 - reduction of the spin speed to between the speed of reduction 1 and the minimum speed (400 rpm).

→ Automatic reduction - reduces the maximum speed for the programme by half, but not less than 400 rpm.

→ No spin - excludes all spin cycles.

→ Rinse hold - excludes only the final spin, but not the intermediate spins and ends the cycle with water in the tub.

A further spin reduction can be obtained by selecting the “Easy-Iron” option in cotton programmes when the selected programme envisages a spin speed of more than 900 rpm.

The following tables contain the possible configurations of the “Spin” button depending on the combination of LEDs.

Button with 5 LEDs						
Maximum spin speed (rpm)	600/700	800/900	1,000÷1,400	1,000÷1,400	1,300÷1,400	1,400
Intermediate 1	500	700	900	900	1,100	1,200
Intermediate 2	400	500	700	700	900	900
Intermediate 3	No speed	No speed	No speed	500	700	700
Last selection	Rinse hold	Rinse hold	Rinse hold	No spin or Rinse hold	No spin or Rinse hold	No spin or Rinse hold

Button with 4 LEDs			
Maximum spin speed (rpm)	600/700	800/900	1,000÷1,400
Intermediate 1	500	700	900
Intermediate 2	400	500	700
Last selection	No spin Or Rinse hold	No spin or Rinse hold	No spin or Rinse hold

Button with 3 LEDs			
Maximum spin speed (rpm)	600/700	800/900	1,000÷1,400
Intermediate 1	500	700	900
Intermediate 2	400	500	700

Button with 2 LEDs	
Intermediate 1	Automatic reduction
Intermediate 2	No spin or Rinse hold

Styling Z3
It can be combined with buttons with 3 LEDs. The combination is the same as that described for the previous version.
The following tables contain the possible configurations of the “Spin” button depending on the combination of LEDs:

Button with 3 LEDs and “Rinse hold” option combined with this button				
Maximum spin speed (rpm)	600	700	800	900÷1400
Intermediate 1	400	500	600	700
Intermediate 2	No spin or Rinse hold	No spin or Rinse hold	No spin or Rinse hold	No spin or Rinse hold

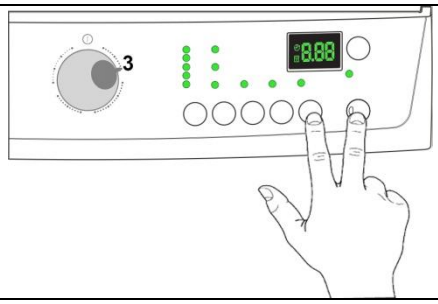
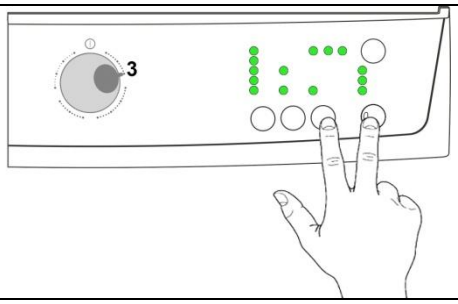
Button with 3 LEDs and “Rinse hold” option not combined with this button					
Maximum spin speed (rpm)	600/700	800	900÷1000	1000÷1400	1300÷1400
Intermediate 1	500	600	700	900	1100
Intermediate 2	400	400	500	700	700

When a programme is selected, the LED corresponding to the configured spin speed comes on.
If the “Rinse hold” option is combined with another button and it is selected, all the LEDs will be turned off.

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:
The interactive mode consists of selecting one of the programmes, adding any options and, once the start button has been pressed, the appliance will only perform certain of the phases of the programme, 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.

Z3	Z6
	

- Set the selector dial to position 0 (zero).
- Press the **START/PAUSE** button and the nearest **option button** simultaneously (as shown in the figure).
- Holding down both buttons, switch the appliance on by turning the programme selector dial by **three positions clockwise**.
- Hold the buttons down until the LEDs start to flash (at least 3 seconds).

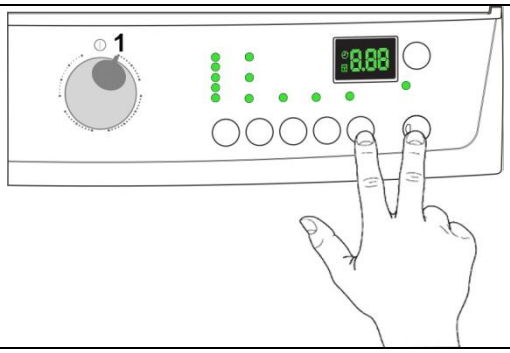
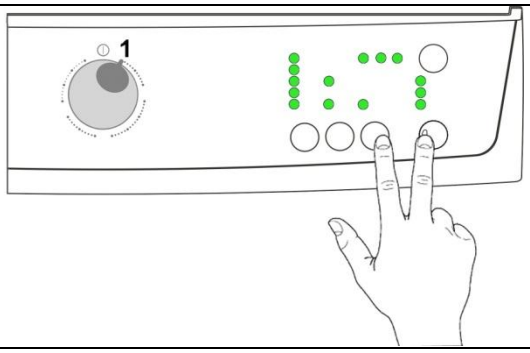
Where a display is fitted, the message “DEM” is shown for 2 seconds.

6.1 Exiting DEMO mode

Unplug the appliance from the mains socket.

7 DIAGNOSTICS SYSTEM

7.1 Accessing diagnostics

Z3	Z6
	

- Set the selector dial to position 0 (zero).
- Press the **START/PAUSE** button and the nearest **option button** simultaneously (as shown in the figure).
- Holding down the buttons, switch the appliance on by turning the programme selector **one position clockwise**.
- Hold the buttons down until the LEDs start to flash (at least 2 seconds).

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.

7.2 Quitting the diagnostics system

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

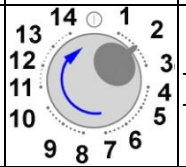
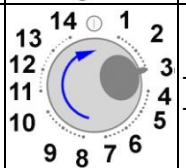
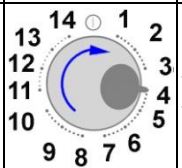
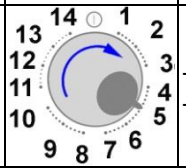
7.3 Phases of the diagnostics test

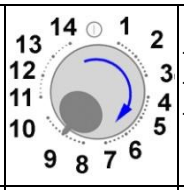
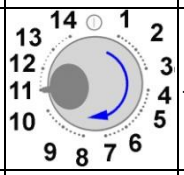
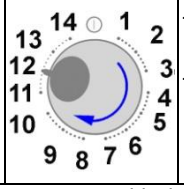
Irrespective of the type of electronic board and of the selector configuration, once the diagnostics system has been activated, turn the selector dial **clockwise** to run a check of the various components and read the alarms (as described in table 1)**.**

A selector control code is displayed at the same time : in the Z3 styling, on the display for **two** seconds, before displaying the contents of the last column in the table below, whereas in the Z6 styling the code is displayed by the LEDs coming on for **three** seconds (see table 2).

All alarms are enabled in the diagnostic cycle.

TABLE 1

Selector position		Components activated	Working conditions	Function tested	When there is a Display
1		- All the LEDS light up in sequence. - When you press a button, the corresponding group or LED lights up and concurrently the buzzer sounds.	Always active	User interface functions	
2		- Door safety interlock - Wash solenoid valve	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to wash compartment	 Water level in the tub (mm)
3		- Door safety interlock - Pre-wash solenoid valve	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill directly to tub	 Water level in the tub (mm)
4		- Door safety interlock - Pre-wash and wash solenoids	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to conditioner compartment	 Water level in the tub (mm)
5		- Door safety interlock - Third Solenoid valve	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to Third solenoid valve compartment	 Water level in the tub (mm)
6		- Door safety interlock - Fourth solenoid valve (hot water if there is one)	Door closed Water level above the heating element. Maximum time 5 mins.	Water fill to Fourth solenoid valve compartment	 Water level in the tub (mm)
7		- Door safety interlock - Wash solenoid valve if the water level in the tub does not cover the heating element - Heating element	Door closed Water level above the heating element Maximum time 10 mins up to 90°C. **(*)**	Warming up	 Temperature in °C measured using the NTC probe.
8		- Door safety interlock - Wash solenoid valve if the water level in the tub does not cover the heating element - Motor (55 rpm clockwise, 55 rpm anticlockwise, pulse at 250 rpm)	Door closed Water level above the heating element.	Check for leaks from the tub.	 Drum speed in rpm/10

9		- Door safety interlock - Drainage pump - Motor up to 650 rpm then at maximum spin speed (**)	Door closed Water level lower than anti-boiling level for spinning	Drain, calibration of analogue pressure switch and spin	 Drum speed in rpm/10
10	----	----	----	----	
11		- Reading/Deleting the last alarm	-----	----	
12 **÷** **14**		- All the LEDS light up in sequence. - When you press a button, the corresponding group or LED lights up and concurrently the buzzer sounds.	Always active	User interface functions	

(*) 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.

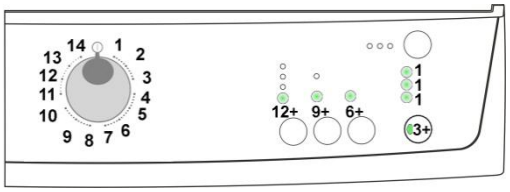
7.4 Selector efficiency check

During diagnostic testing, it is possible to check the efficiency of the selector, even on appliances with no display.

7.4.1 Programme selector

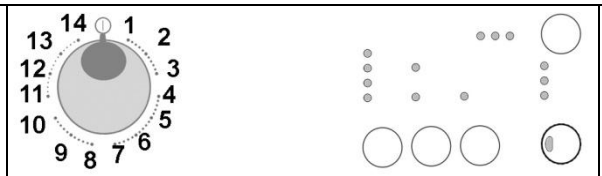
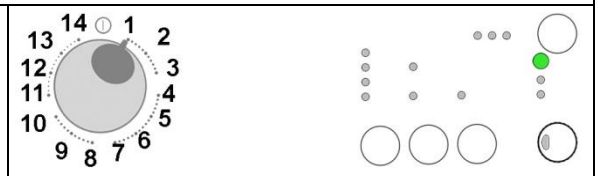
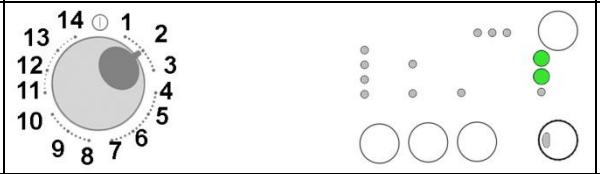
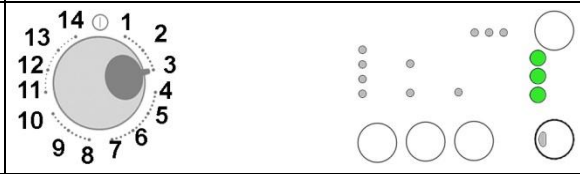
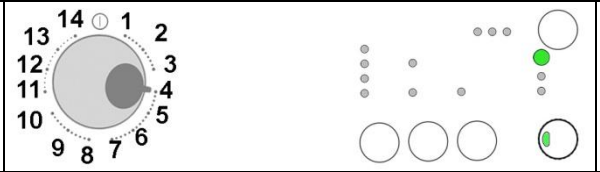
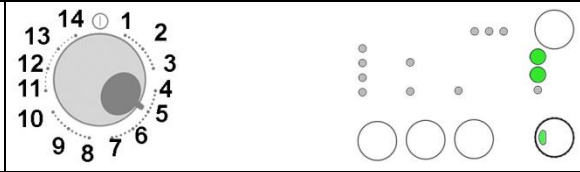
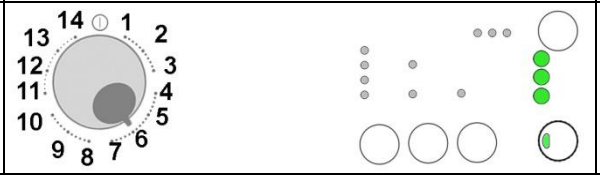
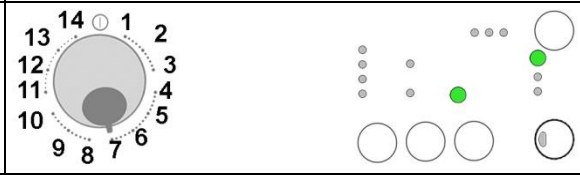
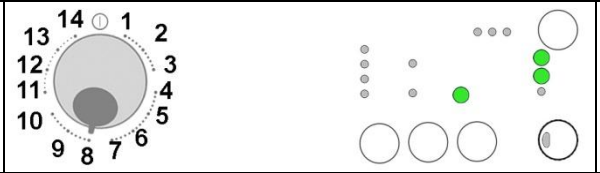
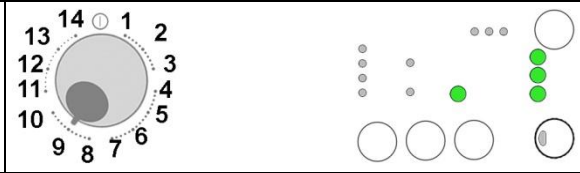
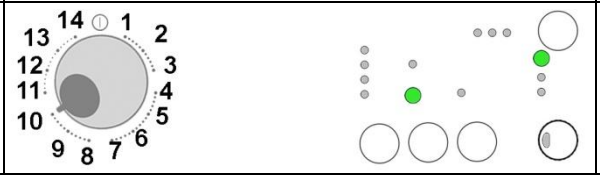
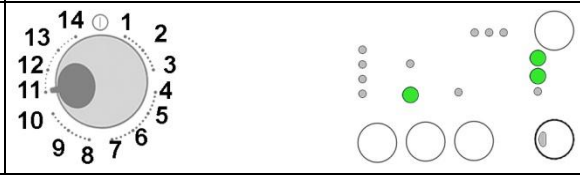
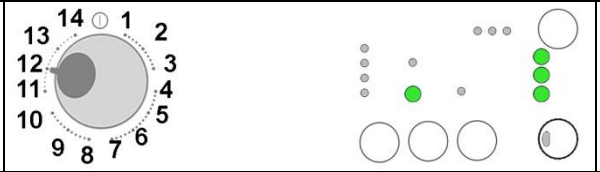
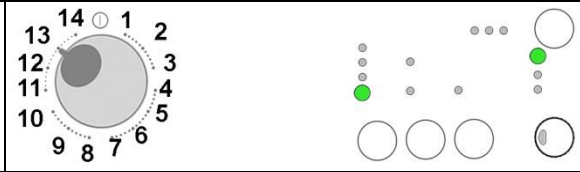
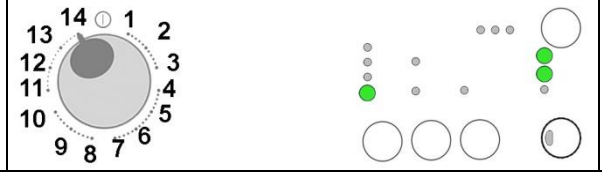
In the control panel illustrated below, the LEDs (lit) are combined with values.

When the dial is turned, some LEDs light up, and by summing up the values with which they are combined, you obtain the position of the dial (if the selector dial is efficient).



The table below includes all the possible selector control combinations:

TABLE 2

0		**1**	
2		**3**	
4		**5**	
6		**7**	
8		**9**	
10		**11**	
12		**13**	
14			

8 ALARMS

8.1 Displaying user alarms

8.1.1 Styling Z3

The alarms are displayed by the flashing red LED of the START/PAUSE button and simultaneously through the Display.

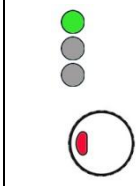
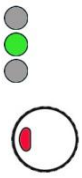
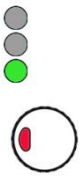
The alarms displayed to the user are listed below:

- **E10 - Water fill difficulty (tap closed)**
- **E20 - Drain difficulty (filter dirty)**
- **E40 - Door open**

8.1.2 Styling Z6

The alarms are displayed by the flashing red LED of the START/PAUSE button and by one of the three LEDs above the START/PAUSE button.

The table below illustrates the various combinations of LED lightings.

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

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

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

- **EH0 – Voltage or frequency outside the normal values**

These are displayed to the user, but technical assistance is required to remedy them.

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

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

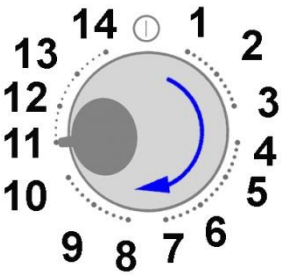
The water in the tub is below a certain level.
The water temperature is lower than 55°C.
The motor has stopped.

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.

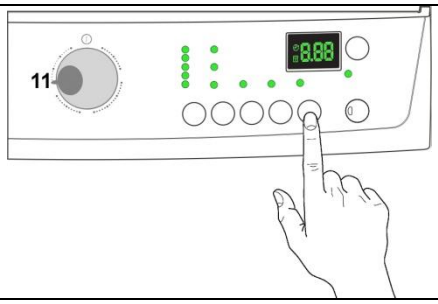
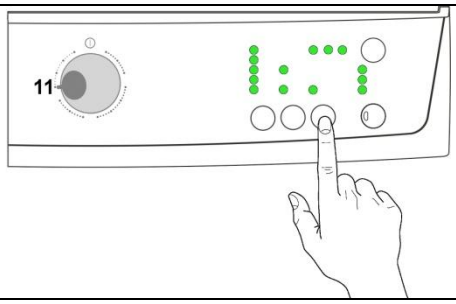
8.2 Reading the alarms

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



- Enter the diagnostic mode.
- Irrespective of the type of PCB and configuration, turn the programme selector knob **clockwise** to the **eleventh position.**

- The last alarm is displayed.
- To display the previous alarms, press the button to the left of the START/PAUSE button in sequence (as shown in the figure).

Z 3	Z6
	

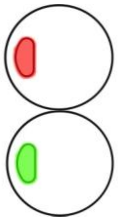
- To return to the last alarm, press the START/PAUSE button

8.2.1 Displaying the alarm

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

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

These two LEDs can be found on all models.



Notes:

The first letter of the alarm code **"E"** (Error) is not displayed, since this letter is common to all alarm codes.

Alarm code families are expressed in hexadecimals; and therefore the letters:
A is represented by **10** flashes
B/H 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

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

the sequence of four flashes of the START/PAUSE button with the red light indicates the first number E**4**3;

the sequence of three flashes of the START/PAUSE button with the green light indicates the second number E4**3**.

START/PAUSE button with red light			START/PAUSE button 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**			
	0.5			2.5	Pause
	1.5	Pause			

8.2.3 Behaviour of the alarms during diagnostic testing

All alarms are enabled during diagnostic testing of the components.

8.2.4 Rapid reading of alarms

The last alarm can be displayed even if the programme selector is not in the tenth position (diagnostics) or if the appliance is in normal operating mode (e.g. during execution of the wash programme):

Press the **START/PAUSE** button and the nearest **option button** simultaneously (as if you were entering DIAGNOSTIC mode) for at least 2 seconds: the LEDs initially switch off, and then display the flashing sequence indicating the last alarm.

The alarm continues to be displayed for the amount of time required, and then the display returns to its normal operation.

The alarm reading system is as described in sect. No. 8.2.2 page 32.

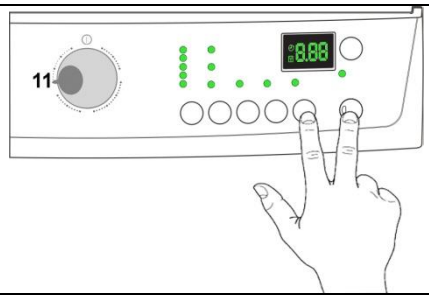
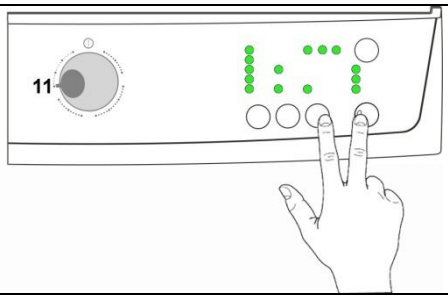
→ While the alarm is being displayed, the appliance continues to perform the cycle or, if in the programme selection phase, it maintains the previously selected options in memory.

8.2.5 Deleting the last alarms

Before deleting any alarms, make a note of the last alarm on the “Service Order” form.

Delete them after reading them, to check whether the alarms re-occur during the diagnostic cycle.

Delete them after repairing the appliance, to check whether they re-occur during testing.

Z 3	Z 6
	
• Select diagnostic mode, turn the programme selector to the **eleventh** position (reading of alarms). • Press the **START/PAUSE** button and the nearest **option button** simultaneously (as shown in the figure). • Hold down the buttons until the LEDs stop flashing and the LCD display shows “E00” (at least 5 seconds).	

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

9 ALARM SUMMARY TABLE

Alarm	Description	Possible fault	Machine status/action	Reset
E00	**No alarm**			
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/fouled/improperly positioned; Drain filter clogged/fouled; Wiring faulty; Drain pump faulty; Pressure switch faulty; Main PCB faulty.	Cycle is paused (after 2 attempts)	START/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	**Malfunction in drain pump triac sensing circuit (incorrect microprocessor voltage input)**	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 (pressure switch signal frequency out of limits)**	Wiring; Electronic pressure switch; Main PCB;	Cycle stops with door locked	RESET
E32	**Calibration error of the electronic pressure switch (The electronic pressure switch generates a signal with unstable frequency during the drain phase)**	Drain pipe kinked/clogged/improperly positioned; Solenoid valve faulty; Drain filter clogged/fouled; Drain pump faulty; Pressure chamber; Pressure switch water circuit leaks; Pressure switch; 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
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	ON/OFF RESET
E41	**Door open (after 20 sec.)**	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 Door still locked after 4' 25".**	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

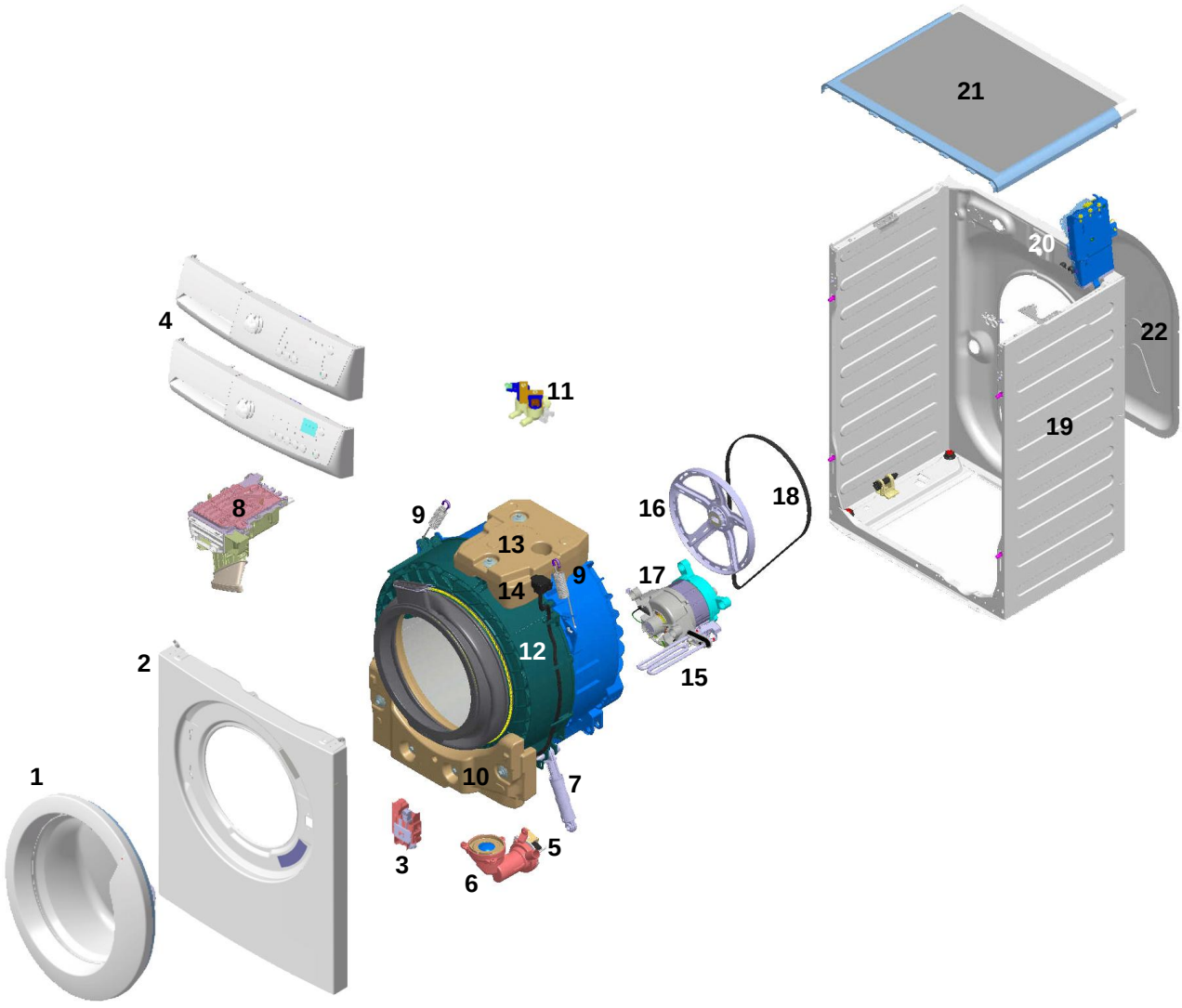
Alarm	Description	Possible fault	Machine status/action	Reset
E44	**Faulty "sensing" by door delay system**	Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET
E45	**Faulty "sensing" by triac on door delay system (wrong microprocessor input voltage)**	Main circuit board faulty.	(Safety 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	**Motor triac "sensing" circuit faulty (incorrect microprocessor input voltage)**	Main circuit board faulty.	Cycle blocked	RESET
E54	**Motor relay contacts sticking (voltage level high when the relay switches to OFF)**	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
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 relay status)**	Main PCB faulty;	Safety water fill Cycle stops with door closed.	ON/OFF RESET

Alarm	Description	Possible fault	Machine status/action	Reset
E68	**Current leakage to ground (value of mains voltage different from main value)**	Earth leakage between heating element and earth.	The heating phase is skipped	START/RESET
E69	**Heating element interrupted**	Wiring faulty; Heating element for washing interrupted (thermal fuse open); Main circuit board 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 relay status)**	Earth leakage between heating element and earth. Main circuit board 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	START/RESET
E83	**Error in reading selector**	Main PCB faulty (Incorrect configuration data).	Cycle cancelled	START/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

Alarm	Description	Possible fault	Machine status/action	Reset
E9C	**Display board configuration error**	Display board	----------	START ON/OFF RESET
EC1	**Electronically controlled valve blocked with operating flowmeter**	Faulty wiring; Faulty/blocked solenoid, PCB faulty,	Cycle stops with door locked Drain pump continues to operate (5 min. on, then 5 min. off. etc.)	RESET
EC4	**AGS current sensor faulty.**	Main board faulty.	Spin speed reduced to safety speed of 150 rpm	RESET
EF1	**Drain filter clogged (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 coil overheating/broken.	Appliance drain	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	----------
EB1/EH1	**Appliance power supply frequency out of limits**	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal frequency	ON/OFF
EB2/EH2	**Supply voltage too high**	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions.	ON/OFF
EB3/EH3	**Supply voltage too low**	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions.	ON/OFF
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

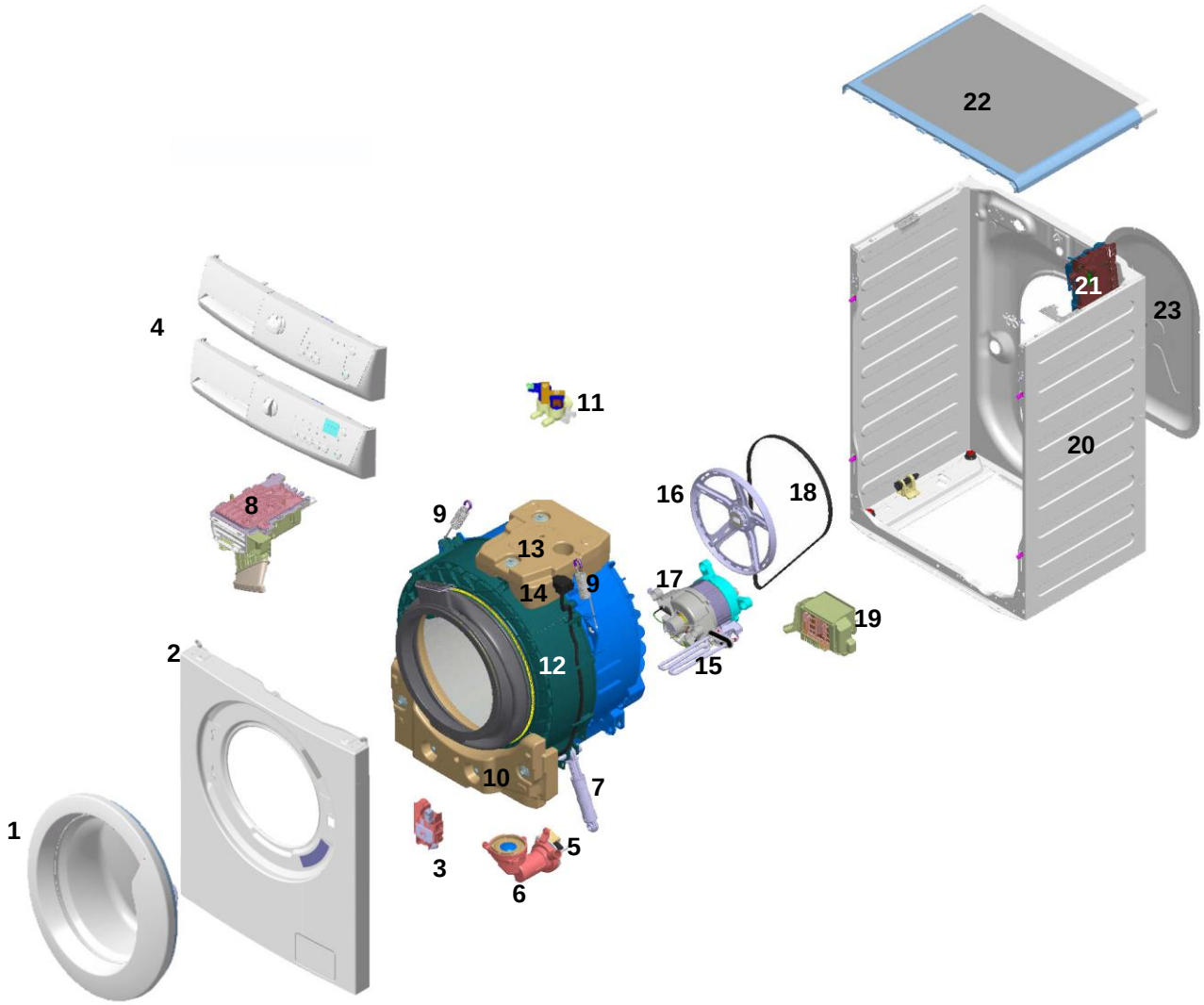
10 TECHNICAL CHARACTERISTICS

10.1 Construction characteristics (universal motor)



1. Door
2. Front panel
3. Door Lock
4. Control panel
5. Drainage pump
6. IDB (with drain filter)
7. Shock absorbers
8. Detergent dispenser
9. Washing unit suspension springs
10. Front counterweight
11. Solenoid valves
12. Washing unit
13. Upper counterweight
14. Analogue pressure switch
15. Heating
16. Pulley
17. Motor
18. Belt
19. Back unit casing
20. Main electronic circuit board
21. Worktop
22. Back panel

10.2 Construction characteristics (three-phase motor, Inverter)



1. Door
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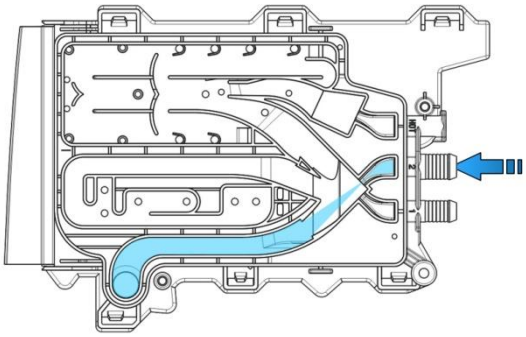
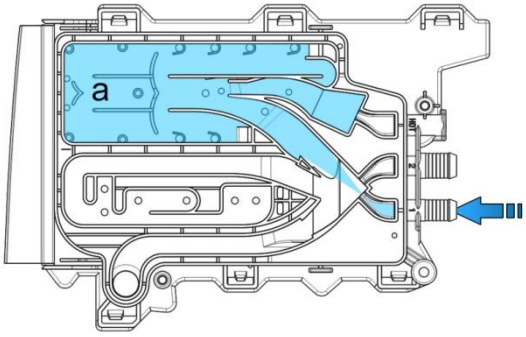
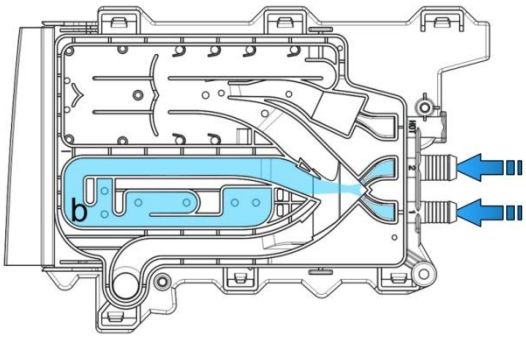
6. IDB (with drain filter)
7. Shock absorbers
8. Detergent dispenser
9. Washing unit suspension springs
10. Front counterweight
11. Solenoid valves
12. Washing unit
13. Upper counterweight
14. Analogue pressure switch
15. Heating
16. Pulley
17. Motor
18. Belt
19. Inverter motor control board
20. Back unit casing
21. Main electronic circuit board
22. Worktop
23. Back panel

10.3 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.

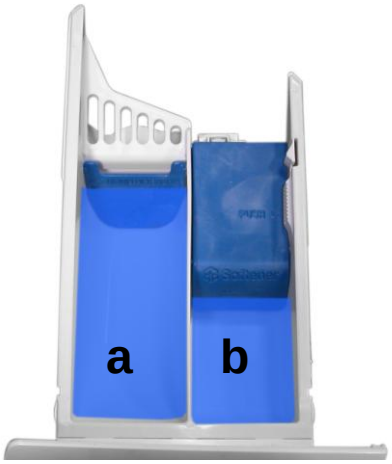
Operating principle of the conveyor.

Water fill directly to tub (pre-wash solenoid) There is no pre-wash compartment. If necessary, the detergent must be introduced directly into the drum.	
Water fill to wash compartment (wash solenoid) 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).	
Water fill to conditioner compartment (pre-wash and wash solenoid valves) In all models: compartment “b” is used to contain the conditioner, which is removed with the water of the last rinse.	

10.4 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.

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

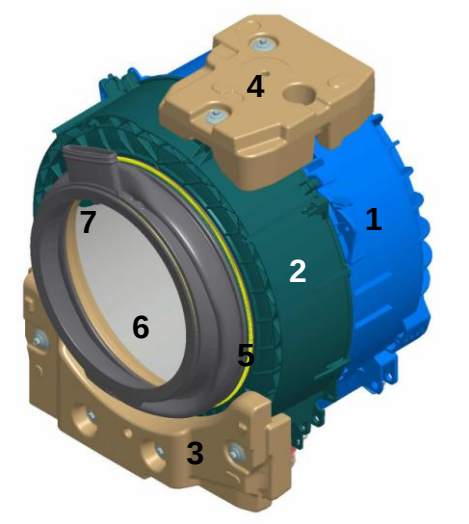
To modify the position of the flap, pull the detergent dispenser out (see page 68).

Flip the flap down to use liquid detergent.

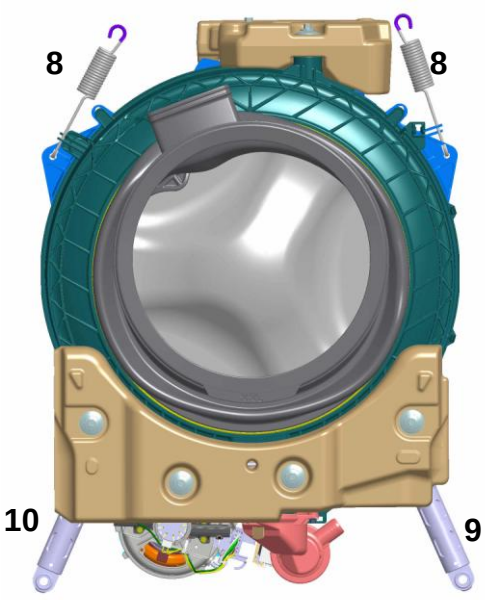
For further details, read the instruction manual.

10.5 Washing unit

WASHING UNIT		
Type	Load capacity (cottons) max.	Drum volume
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.

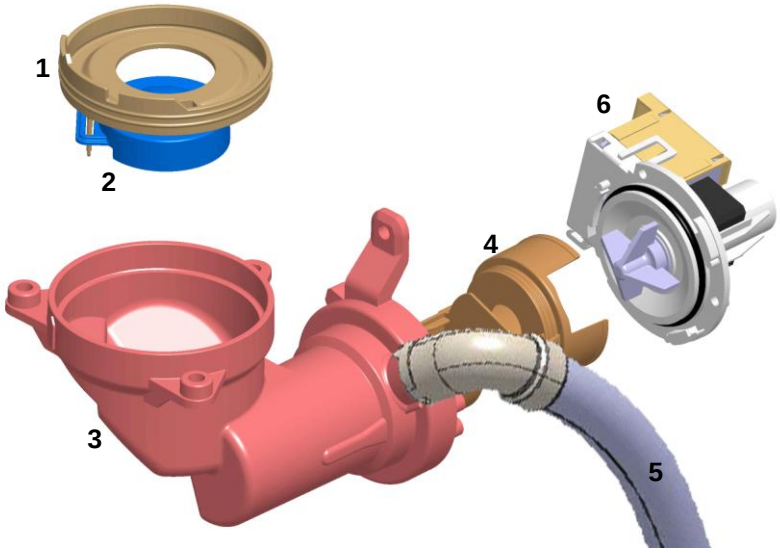


The washing unit is suspended by two coil springs (8) attached to the top crosspiece, and the oscillations are dampened by two shock absorbers, one on the right (9) and one on the left (10) (looking straight at the front of the appliance).

10.6 Water circuit

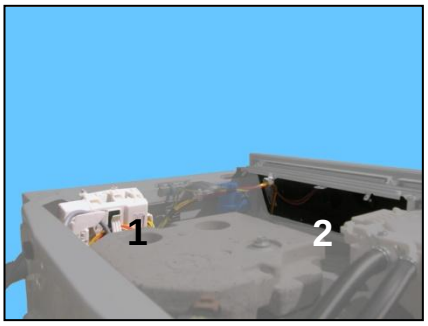
10.6.1 OKO/IDB version drain circuit

1. Diaphragm ring
2. Floating valve
3. IDB (Integrated Drain Body)
4. Filter or needle trap
5. Drain pipe
6. Drainage pump



For further details, see see para. 13.7.3 page 83

10.7 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.

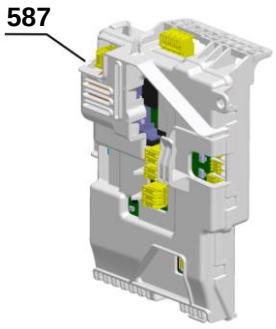
10.7.1 Programming/Updating the main circuit board

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).

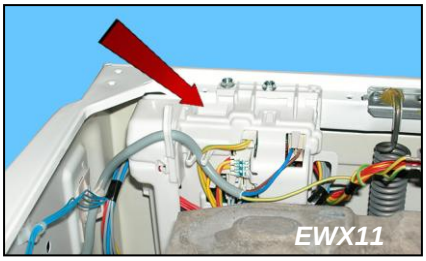
In the Service Notes the main circuit board (587) is identified with two spare parts codes:

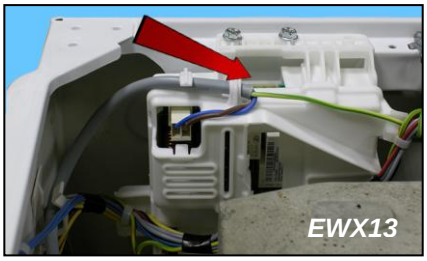
- Code 973 914… identifies the pre-programmed board.
- Code 132… identifies the unprogrammed board.



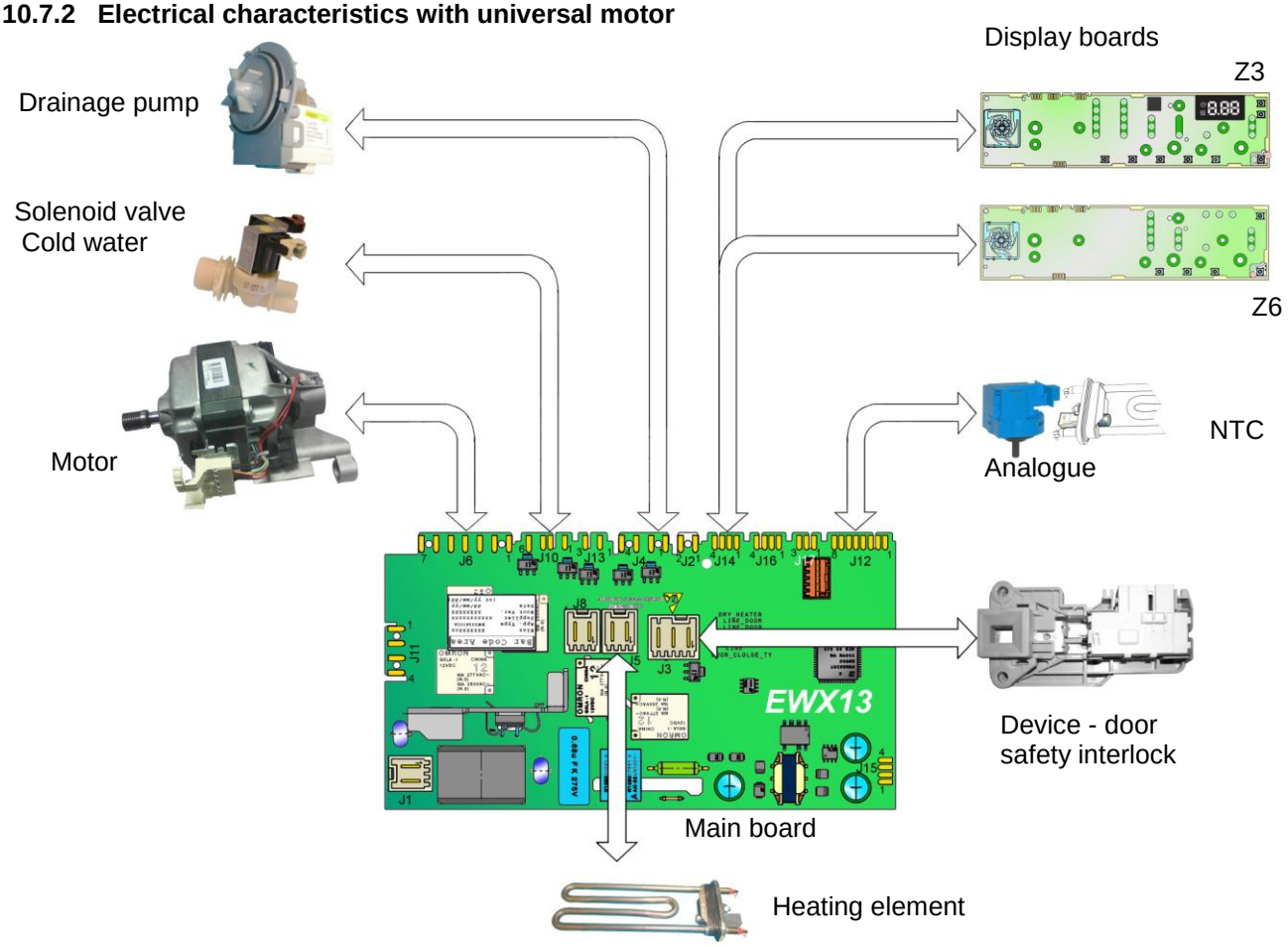
The circuit board can be programmed/updated using the **Sidekick** application. For further information, please refer to the instructions provided/illustrated in the course entitled << **Sidekick Guide** >> at the link (http://electrolux.edvantage.net) on the Electrolux Learning Gateway portal.

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

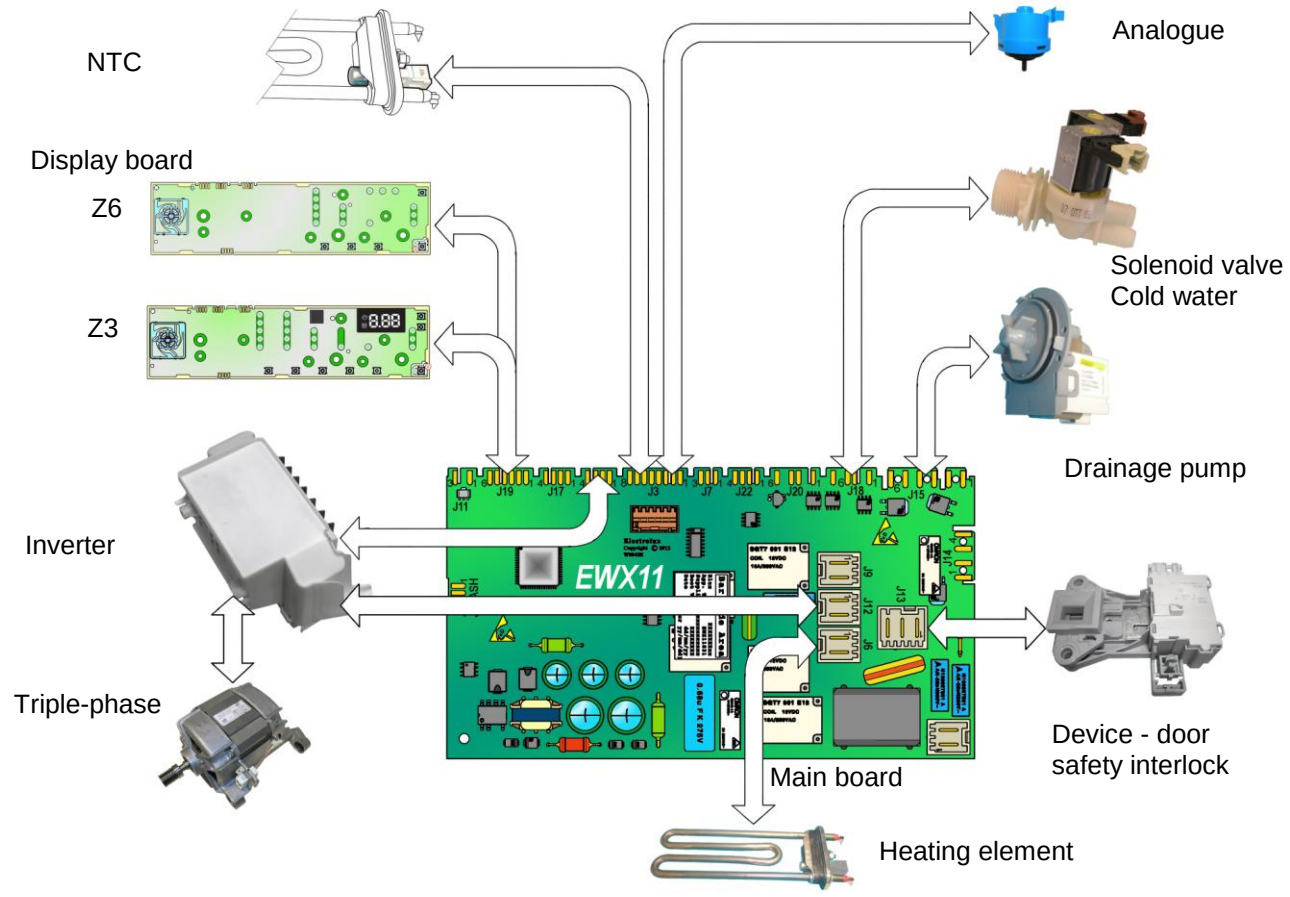




10.7.2 Electrical characteristics with universal motor



10.7.3 Electrical characteristics with three-phase motor and Inverter



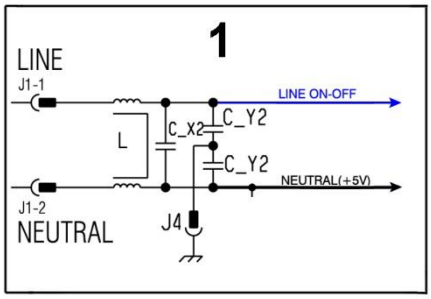
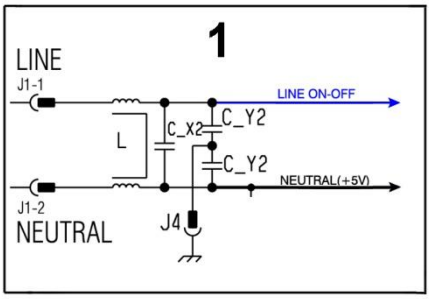
11 ELECTRICAL COMPONENTS

	• **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.

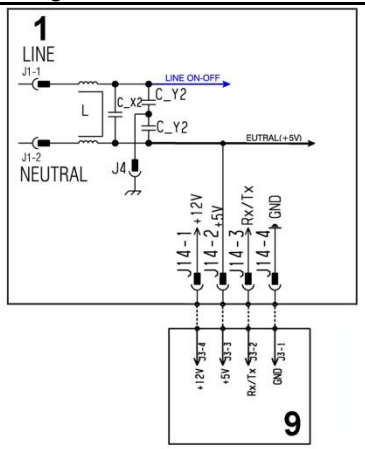
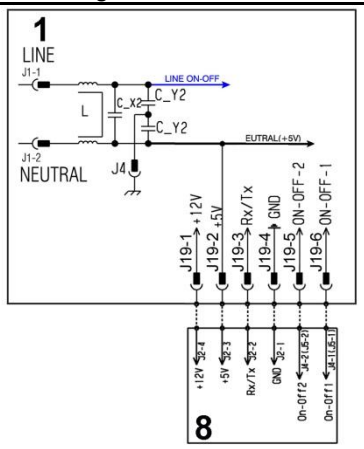
Diagram with universal Motor	Diagram with Inverter
	
1. Main electronic circuit board	*1. Main electronic circuit board*

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.

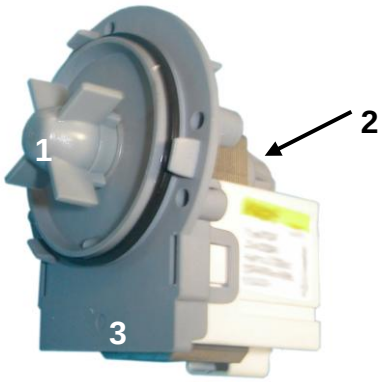
The programmes can be selected by touching the related touch sensor, which can also be used to: select options, start or pause the appliance.
The buzzer - where featured - is powered by the display board.

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

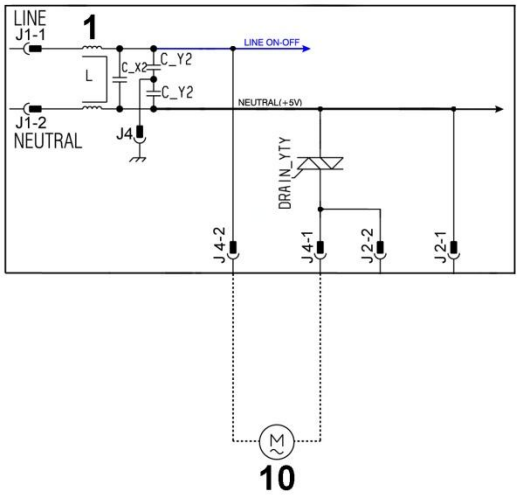
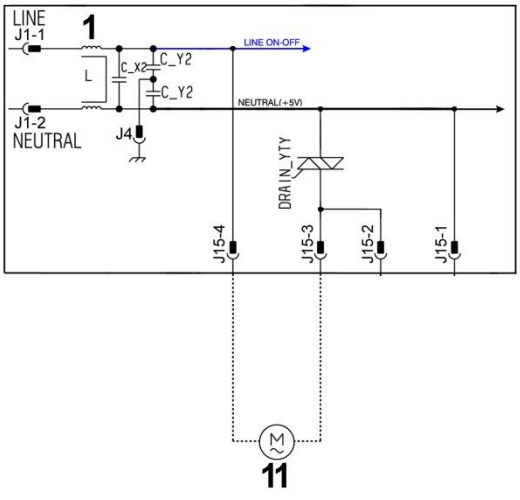


1. Wheel
2. Rotor
3. Stator

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.

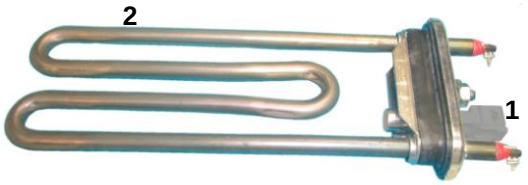
Diagram with universal Motor	Diagram with Inverter
	
1. Main electronic circuit board *10. Drainage pump*	*1. Main electronic circuit board* *11. Drainage pump*

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...)**

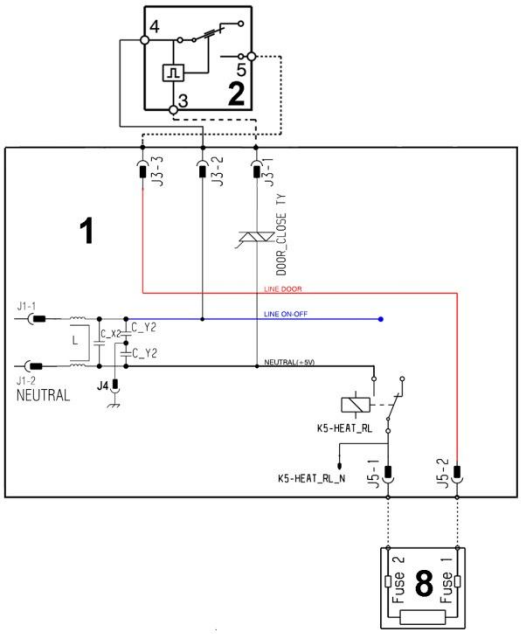
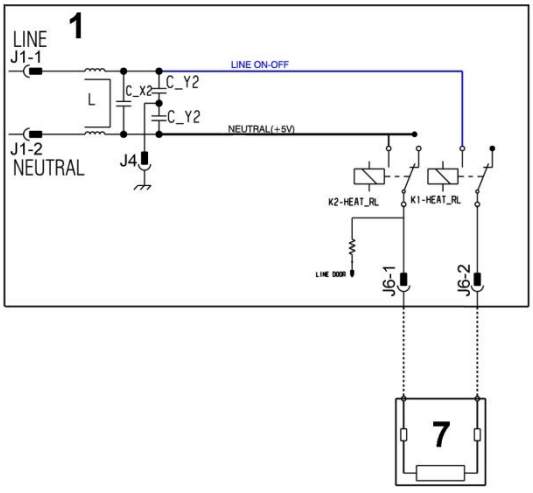
11.4.1 General characteristics

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.

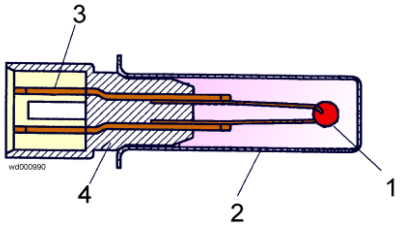
It is powered by the relays located on the circuit board. It is fitted with two thermal fuses which trip if the temperature of the heating element exceeds the values for which they were calibrated.
(In the event of a fault an alarm will be displayed - see table of alarms).

Diagram with universal Motor	Diagram with Inverter
	
1. Main electronic circuit board *2. Door safety interlock* *8. Heating element*	*1. Main electronic circuit board* *7. Heating element*

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...)**

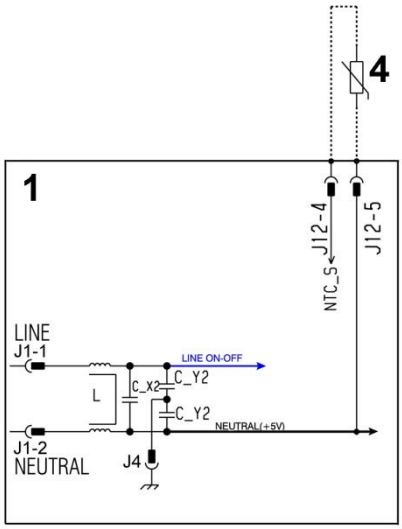
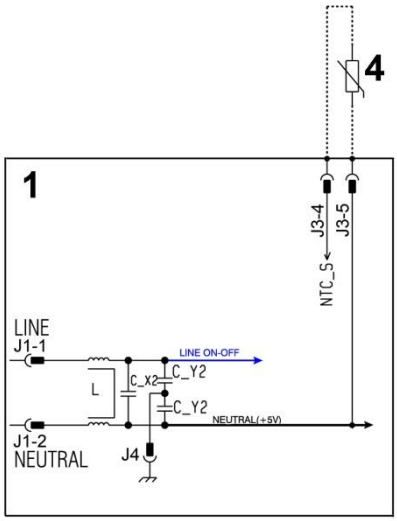
11.5.1 General characteristics



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.

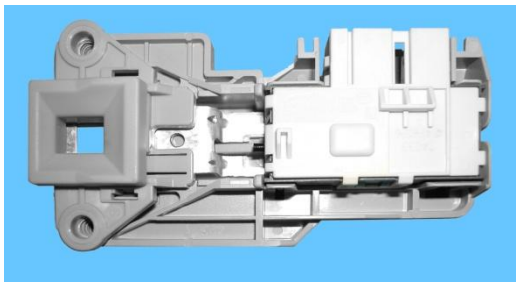
The temperature of the water is controlled by the circuit board by means of an NTC temperature probe incorporated in the heating element.

Diagram with universal Motor	Diagram with Inverter
	
1. Main electronic circuit board *4. NTC probe*	*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

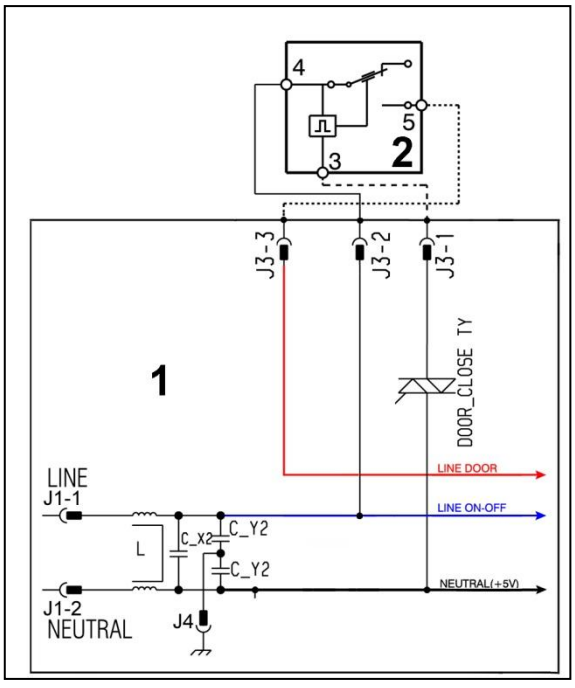


An electromechanical device is used as the door safety interlock, with the following functions:

- 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

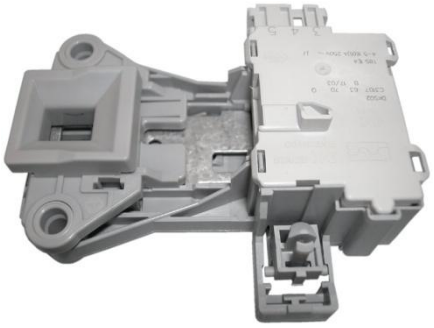
When the washing programme is started by pressing the start/pause button, the bi-metal PTC (contact 3) is powered by the triac on the circuit board (J5-3): after 2÷4 seconds, the switch (4-5) powering the electrical components of the washing machine is closed.



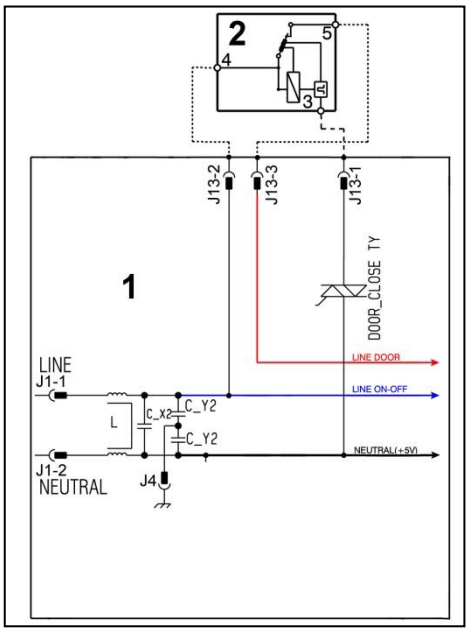
1. *Main electronic circuit board*
2. *Door safety interlock - Traditional*

11.7 Instantaneous door safety interlock (EWX11…)

11.7.1 General characteristics

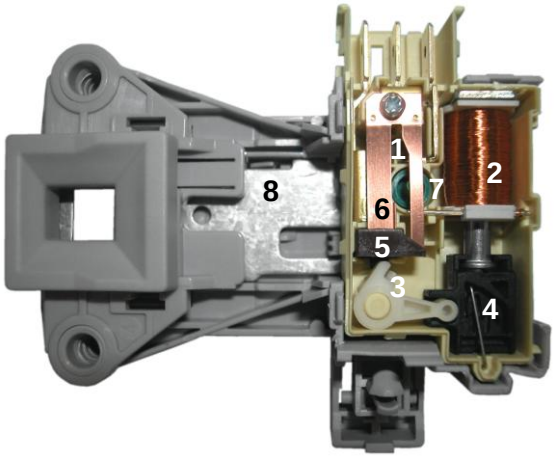


The instantaneous door interlock allows the door to be opened as soon as the drum stops, if the conditions described further are met.



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 40ºC.

– **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 (see para. 13.1 page 65).
Move the washing unit towards the rear of the appliance.
Push the door delay system lever (shown by the arrow fig. 1).
At the same time, pull the handle to open the appliance door (fig. 2).

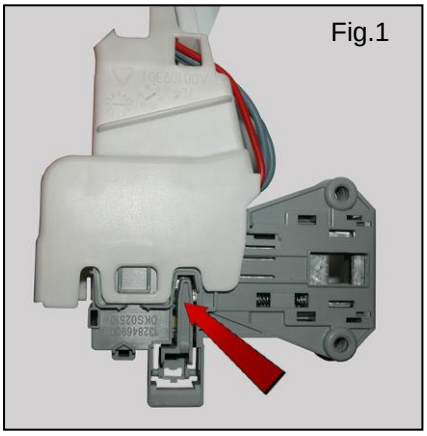


Fig.1

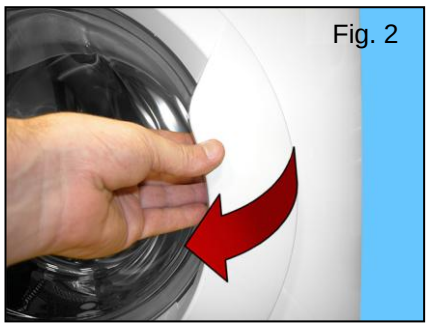


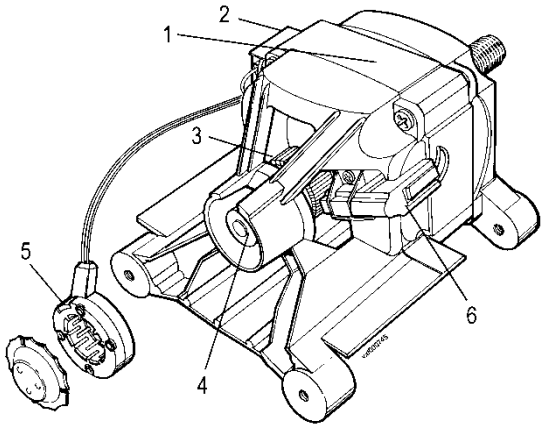
Fig. 2

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*

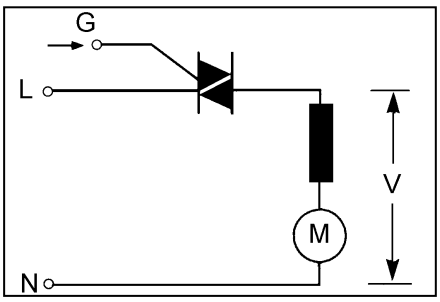


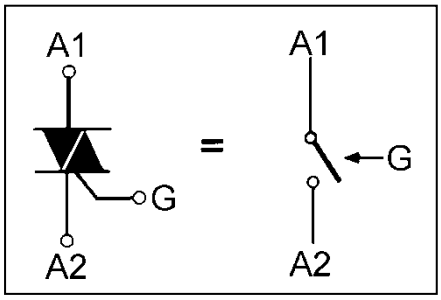
11.8.2 Operating principle

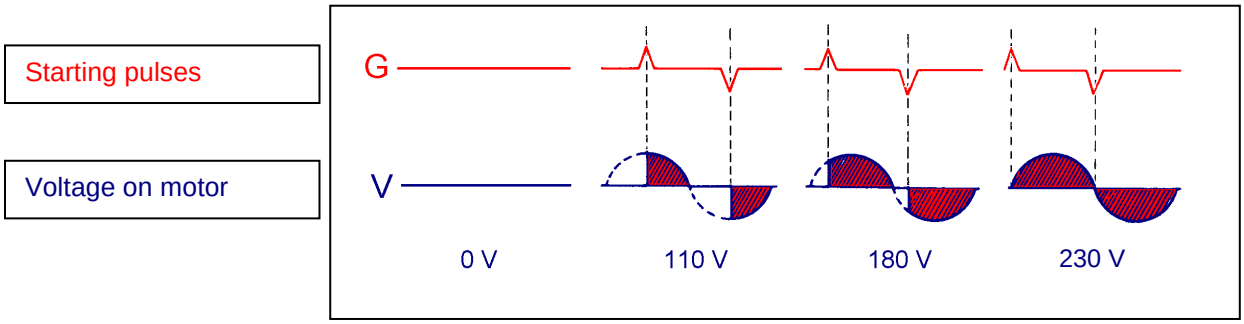
The stator winding is connected in series to the rotor winding (serial excitation).
Every section of the rotor winding is connected to a pair of collector blades (also referred to as a switching device). The electrical contact between the collector and the fixed circuit is made by two static brushes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



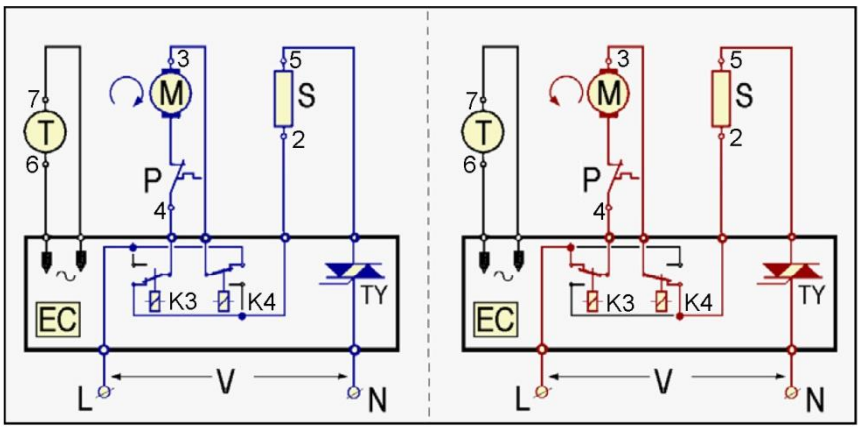




11.8.2.2 Direction of rotation of the motor

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.

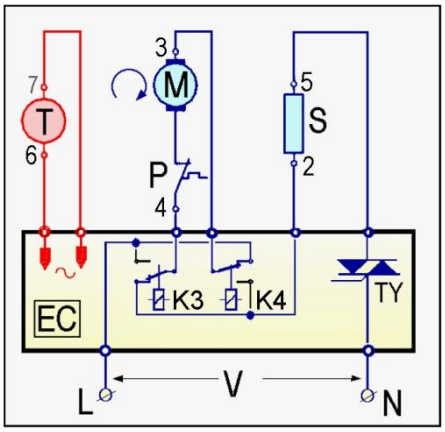
EC *Electronic control*
P *Overheating cut-out (motor)*
S *Stator*
M *Rotor*
T *Tachometric generator*
TY *Triac*
K3,4 *Inversion relay*



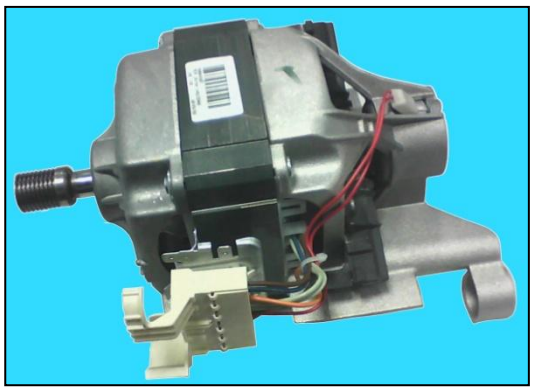
11.8.2.3 Tachometric generator

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.

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

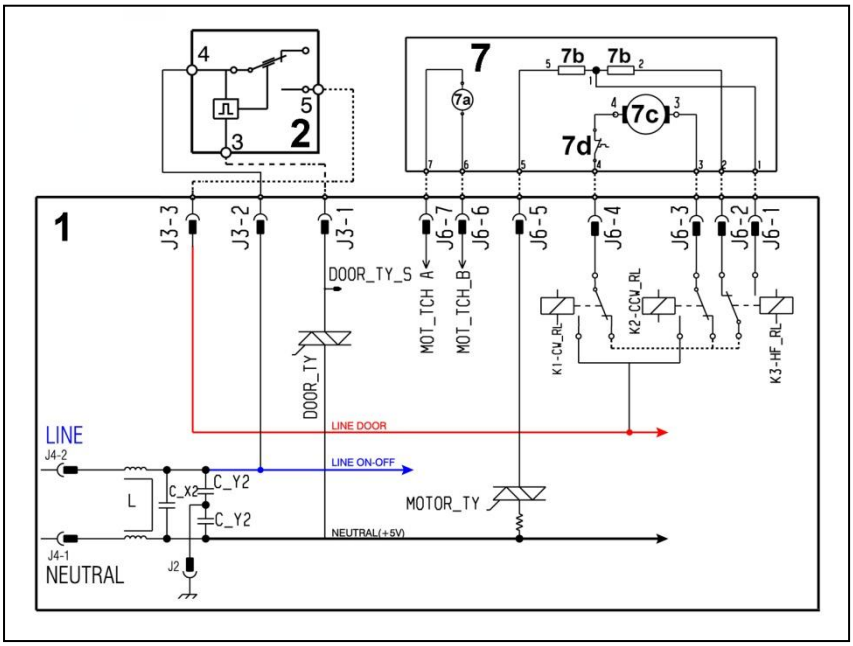


11.8.3 Power supply to motor



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.

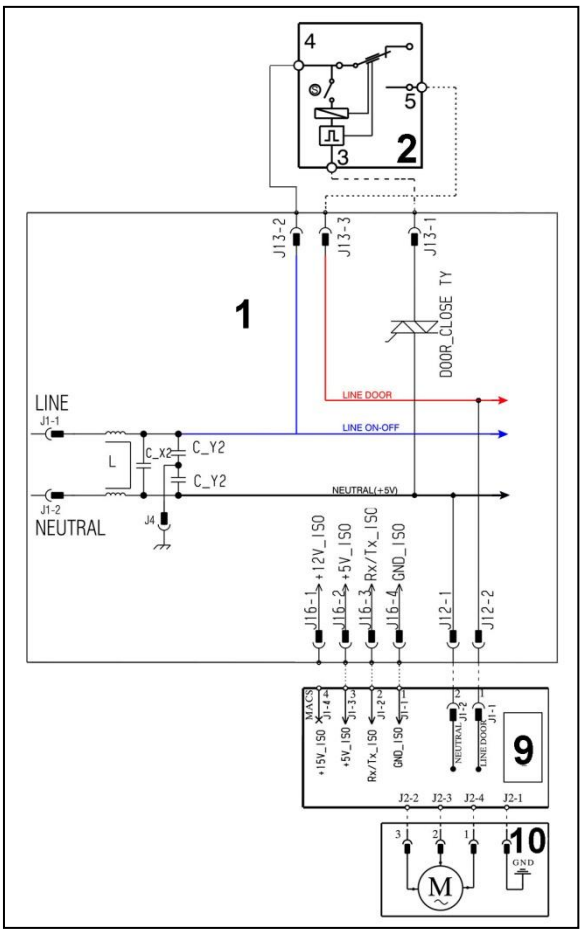
1. Main electronic circuit board
2. Door safety interlock
7. Universal motor
7a. Tachometric generator (motor)
7b. Stator (motor)
7c. Rotor (motor)
7d. Thermal cut-out (motor)



11.9 Three-phase asynchronous motor - Inverter

11.9.1 General characteristics

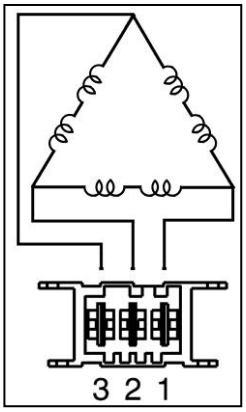
1. Main electronic circuit board
2. Door safety interlock
9. Inverter
10. Motor



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 ~ ±7% (contacts 2-3)

Coil x ohm 6.43 ~ ±7% (contacts 1-2)

Coil z ohm 6.43 ~ ±7% (contacts 1-3)

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

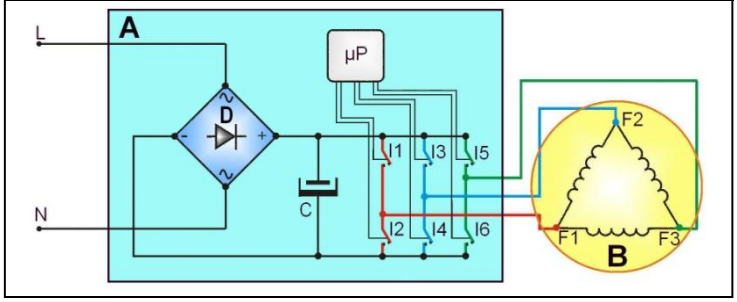
11.10 Inverter

11.10.1 General characteristics

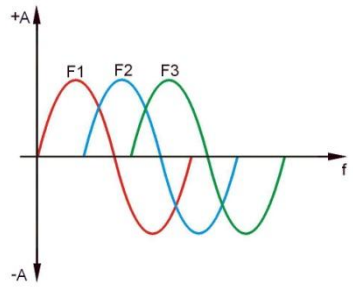
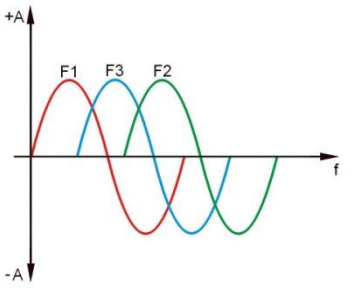
The EWX11831 electronics use a new asynchronous motor, with 2 poles, three-phase, with high performance and low noise levels.

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

“INVERTER” operating diagram



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.

Clockwise rotation of the motor	Anti-clockwise rotation 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.

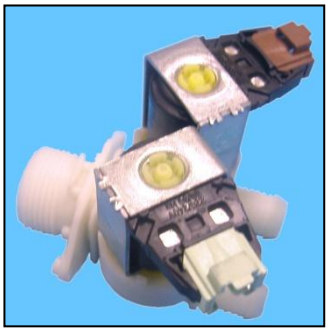
11.11 Anti-foam control system

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.

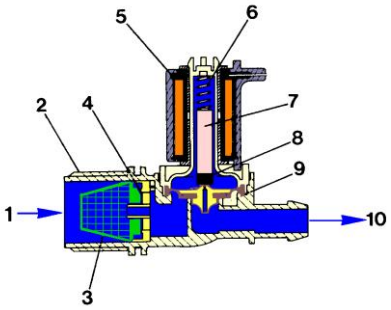
11.12 Solenoid valves



11.12.1 General characteristics

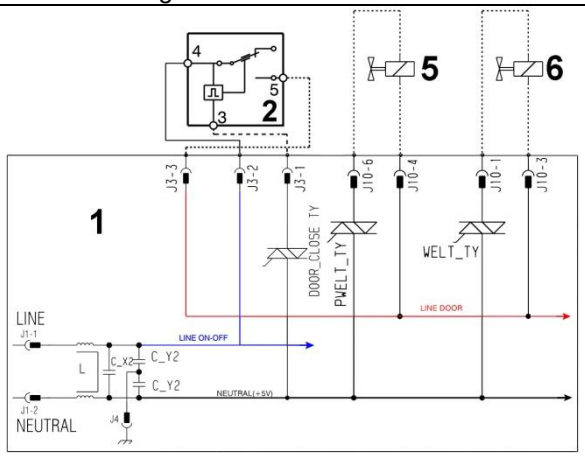
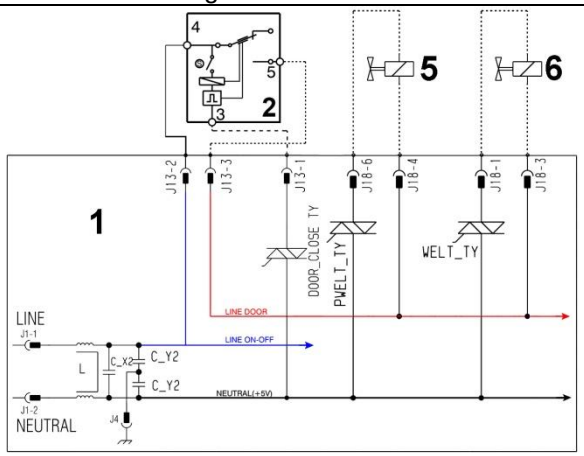
This component introduces water into the detergent dispenser and is controlled electrically by the main circuit board via Triac. The level of water in the tub is controlled by the analogue pressure switch.

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.

Diagram with universal Motor	Diagram with Inverter
	
1. *Main electronic circuit board* 2. *Door safety interlock* 5. *Pre-wash solenoid valve* 6. *Wash solenoid valve*	1. *Main electronic circuit board* 2. *Door safety interlock* 5. *Pre-wash solenoid valve* 6. *Wash solenoid valve*

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

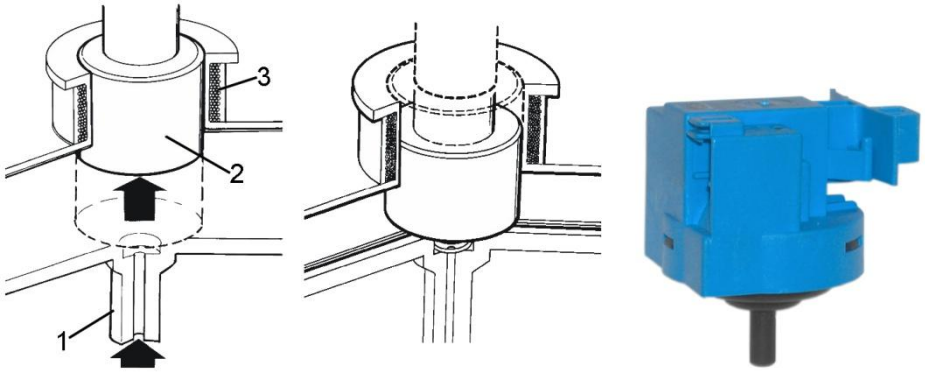
If the flow sensor does not generate a signal during the water fill phases, even though power is being supplied to the solenoid valve, the cause of this condition may be a closed water tap or clogged filter on the solenoid valve (with ensuing low water pressure). If this occurs, only a WARNING will be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

11.13 Analogue pressure switch

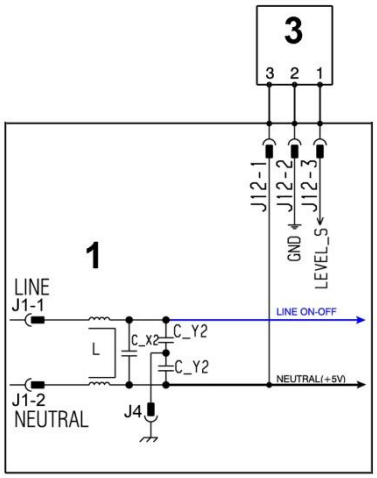
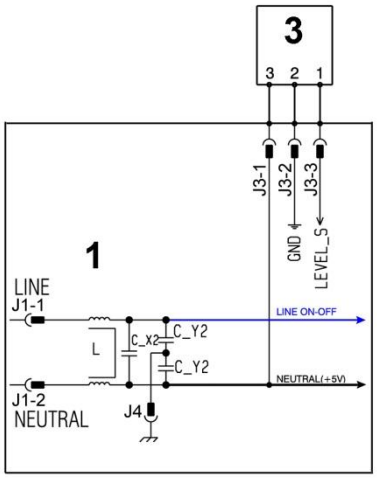
11.13.1 General characteristics

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.

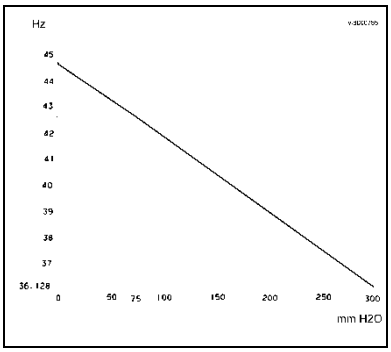
1. *small pipe*
2. *core*
3. *oscillating coil*



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

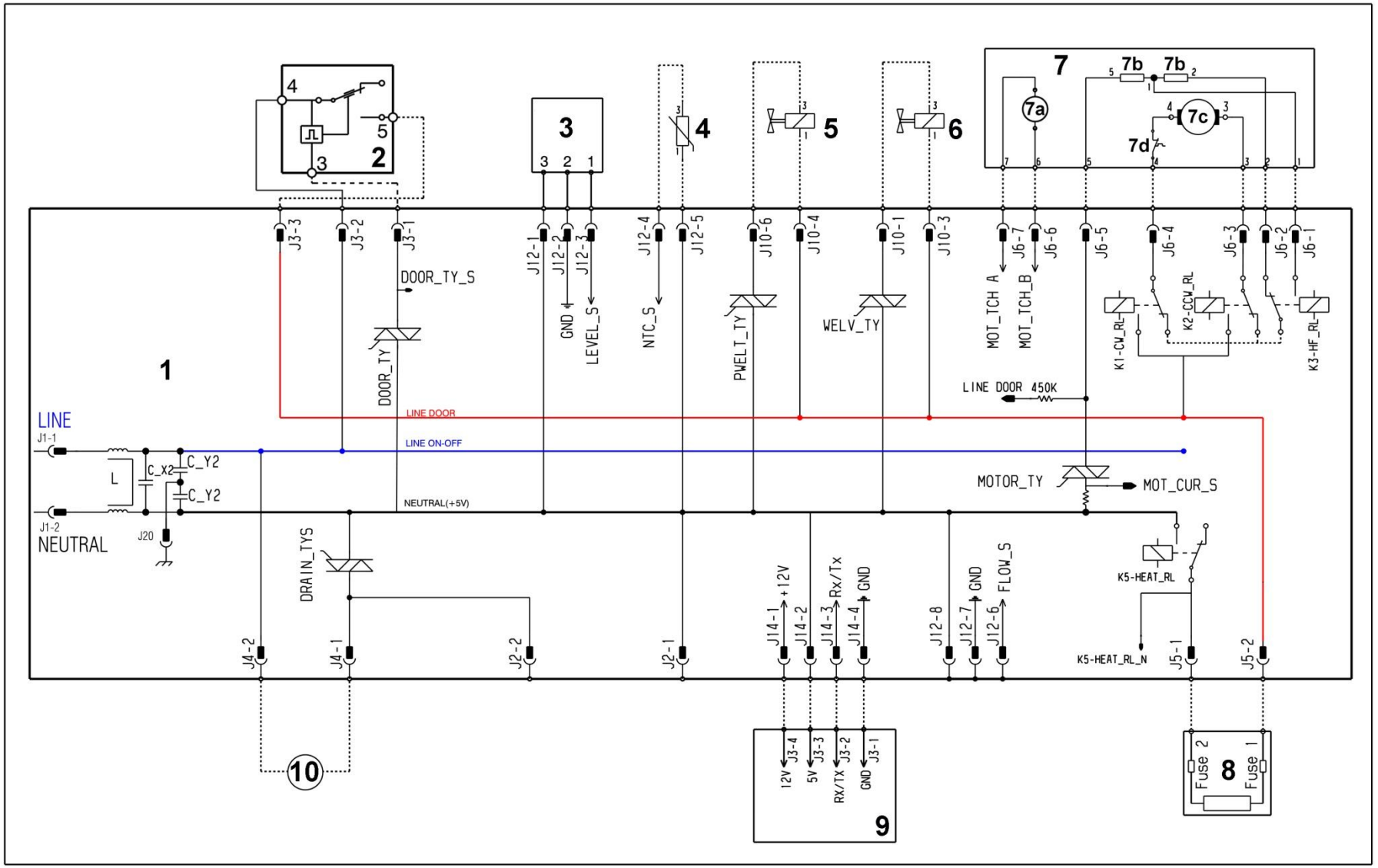
Operating frequency variation according to the quantity of water in the tub.



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

12 DIAGRAM

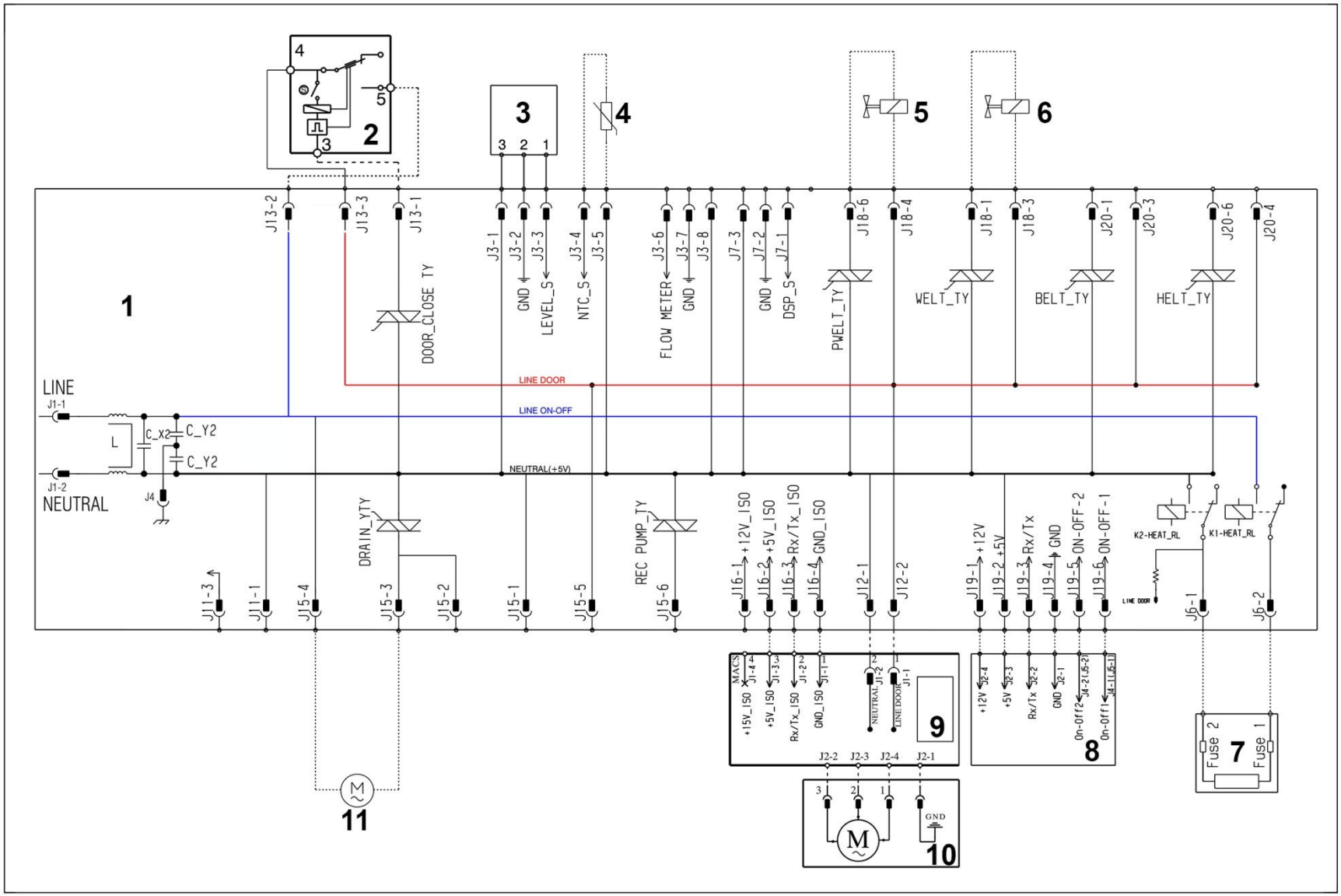
12.1 Operating Circuit Diagram EWX13611 (with universal motor)



12.2 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		

12.3 Operating Circuit Diagram EWX11831 (with three-phase motor)



12.4 Key to operating circuit diagram EWX11831 (with three-phase motor)

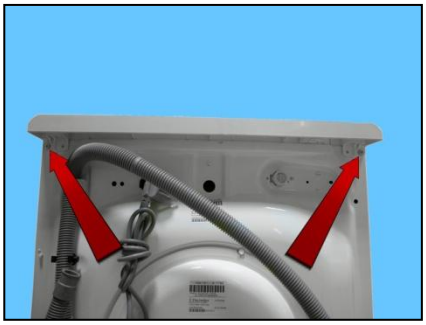
Appliance electrical components	PCB components	
1. Main electronic circuit board		
2. Door safety interlock (instantaneous)		
3. Electronic pressure switch	DRAIN_YTY	Drain pump Triac
4. NTC (washing)	DOOR_TY	Door interlock Triac
5. Pre-wash solenoid valve	DOOR_CLOSE_TY	Door interlock Triac
6. Wash solenoid 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)

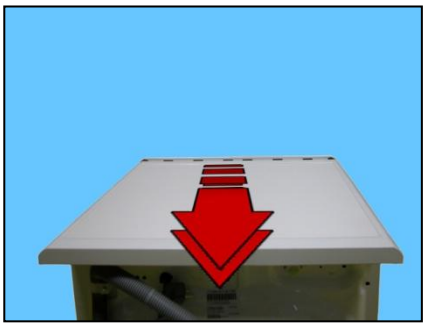
Make sure you wear gloves, because parts of the cabinet are sharp

13.1 Worktop

Remove the screws that secure it to the back panel.

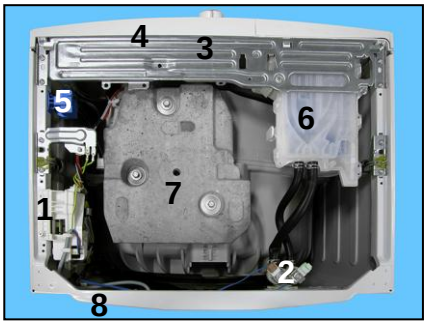


Pull it out from the back.



13.2 From the worktop, you can access

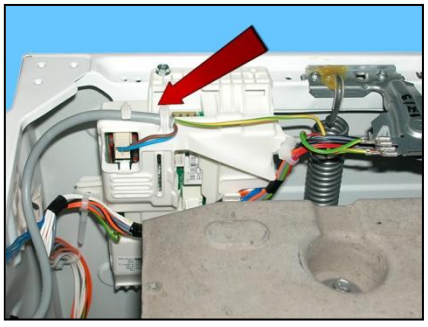
1. Main board
2. Solenoid valve
3. Display board/light diffuser/buttons/buttons springs assembly
4. Control panel
5. Analogue pressure switch
6. Detergent dispenser
7. Upper counterweight
8. Cable clamp



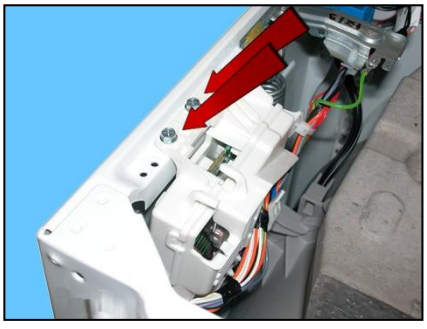
13.2.1 Main board

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

Remove the worktop (see relevant paragraph).

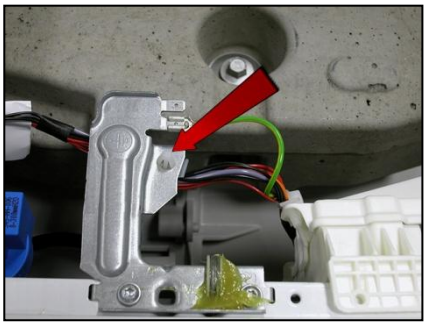


Remove the power cable from the hooks that hold it close to the board.
Slide off the connector.



Unfasten the two screws securing it to the cabinet.

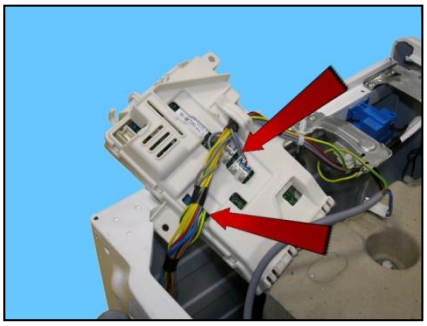
Remove the clamp that secures the wiring to the spring support bracket.



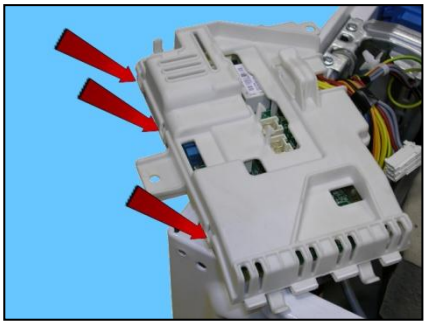
Using a pair of pliers, remove the clamps that secure the wiring to the power board assembly container (indicated by the arrows).

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).

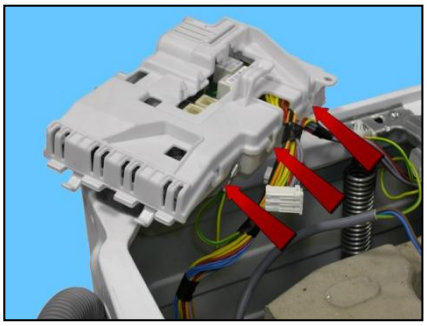
Remember to use the anti-sliding kit.



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



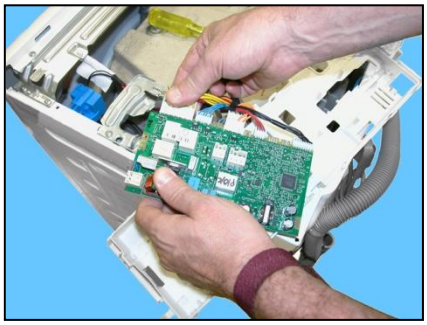
and on the other.



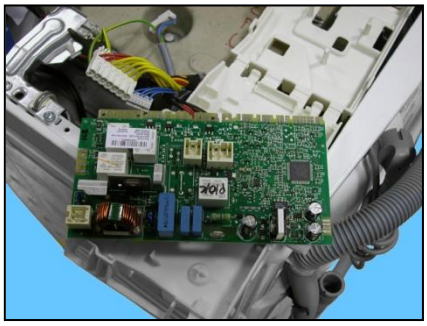
Lift the lid.

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

Remove the connectors.



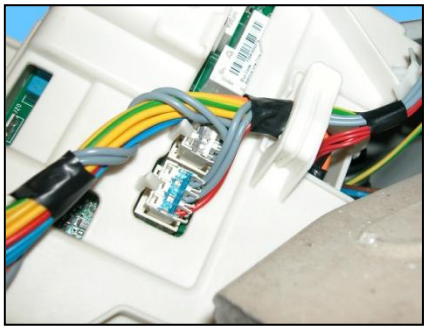
Board



When reassembling.

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.

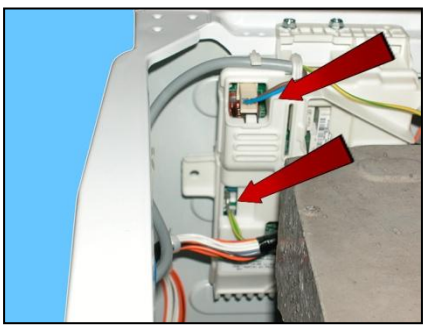
Fit the connectors into their proper slots and arrange the wiring as shown in the figure.



Before securing the side clamp:

Restore the earth connection, fit the power supply connector

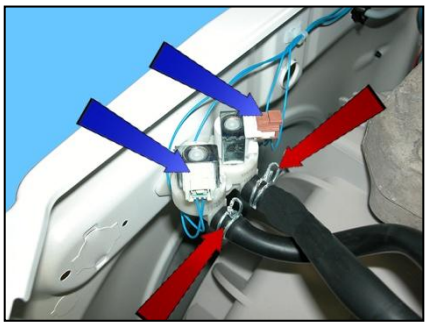
and insert it between the two hooks.



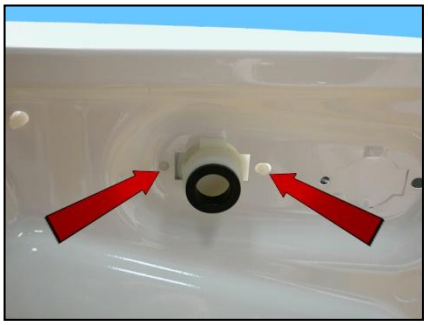
13.2.2 Solenoid valve

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.

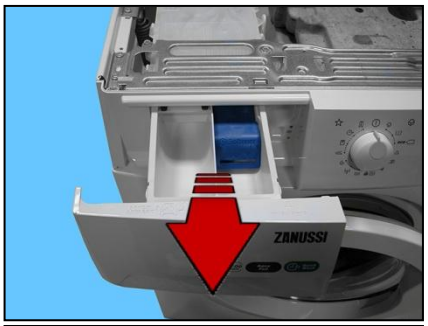


Unscrew the water fill pipe from the solenoid valve.
Push the two retainers indicated by the arrows towards the inside of the appliance.
At the same time, turn the solenoid valve to remove it.



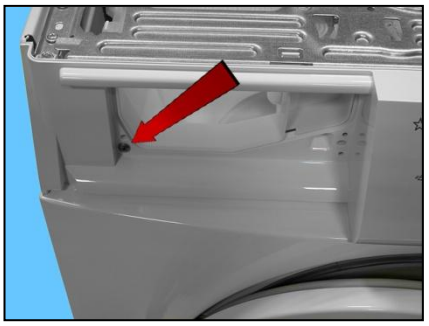
13.2.3 Control panel

Remove the worktop (see relevant paragraph).

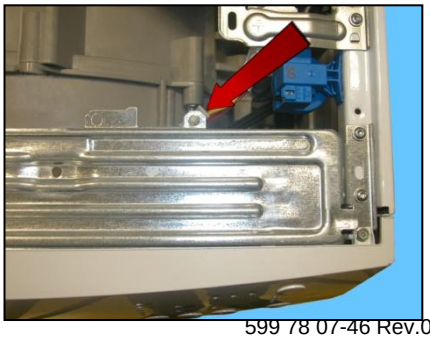


Pull the detergent drawer out and at the same time press the right-hand side indicated by the arrow.

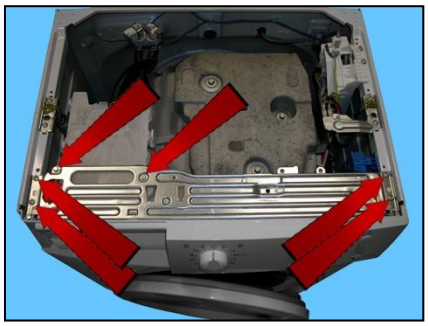
Remove the screw securing the control panel to the conveyor.



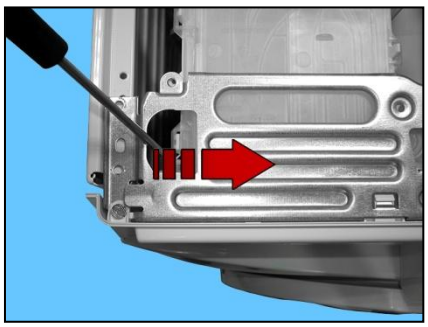
If necessary pull the clamp out.



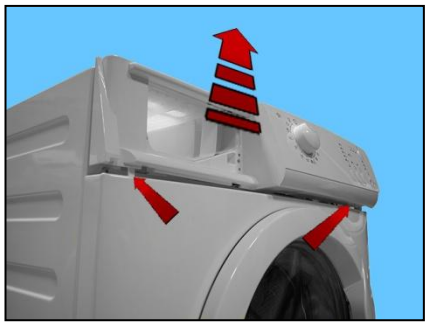
Remove the four screws securing the crossbar to the sides of the cabinet.
Remove the two screws securing the detergent drawer to the crossbar.



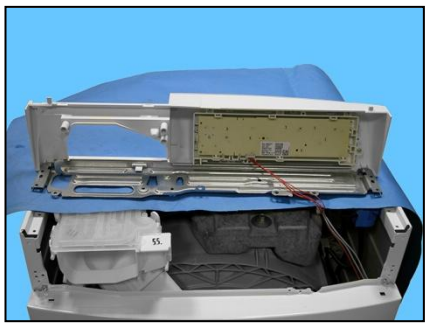
Release the anchor tab securing the detergent drawer to the crosspiece.



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



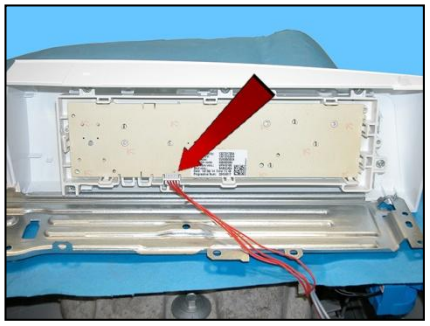
Remove the control panel and position it as shown in the figure, making sure to introduce protection to prevent scratching.



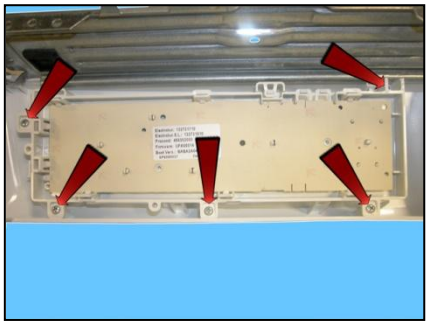
13.2.4 Display board/light diffuser/buttons/buttons springs assembly

Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).

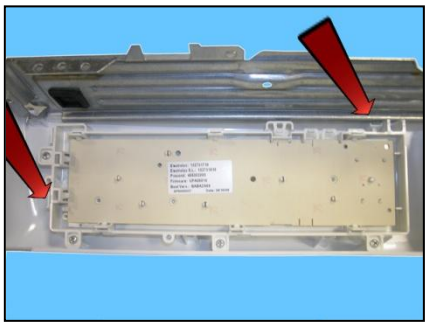
Rotate the control panel on itself.
Remove the connector connecting the display board.



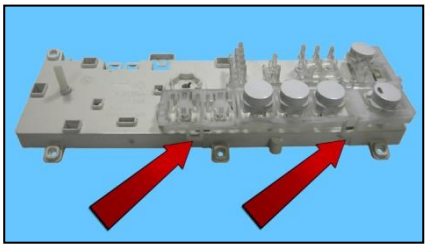
Remove the screws securing the display board assembly to the control panel.



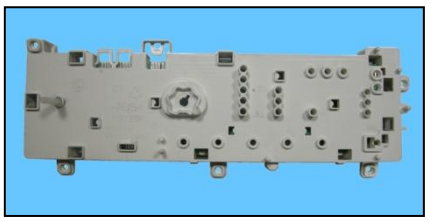
Release the hooks securing the display board assembly to the control panel.



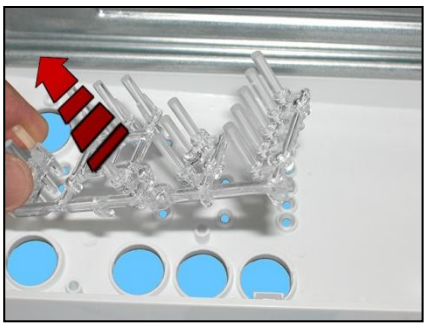
Remove the display board and spring assembly.



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



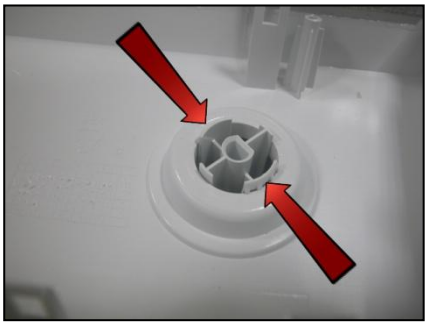
The light diffuser is inserted into the control panel holes; lift it to remove.



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

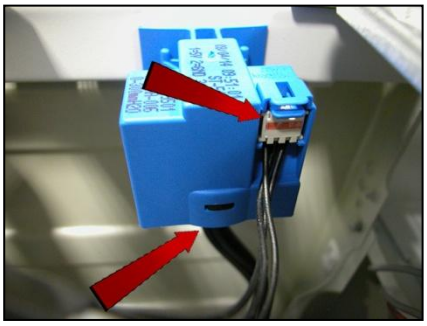
To remove the dial:
Tighten the two tabs which secure it to the control panel and remove it.



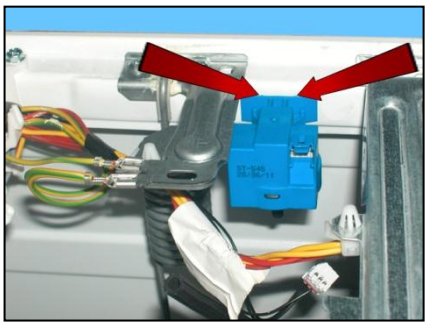
13.2.5 Analogue pressure switch

Remove the worktop (see relevant paragraph).

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



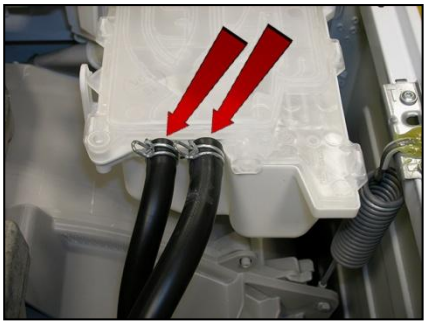
Tighten the two tabs which secure it to the cabinet and remove it.



13.2.6 Detergent dispenser

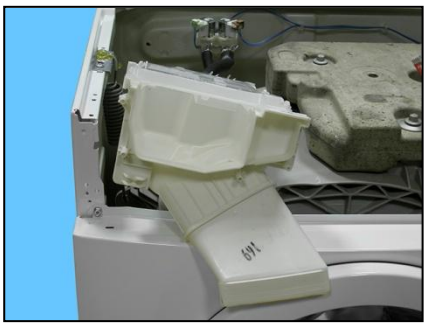
Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).

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.

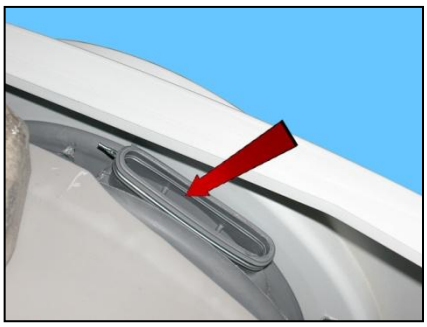


For reassembly.

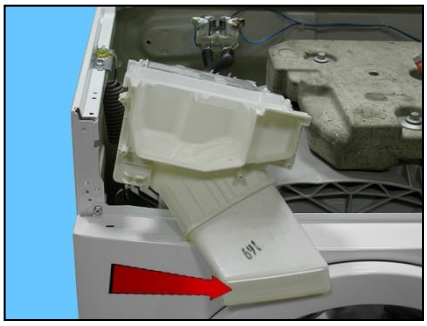
After completing all the steps in the reverse order.

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

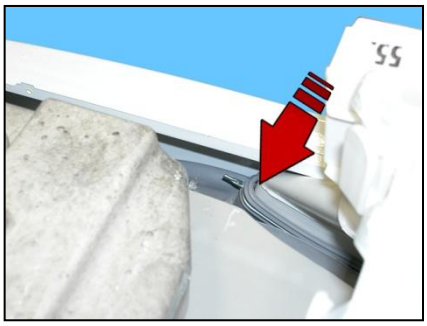
Reposition the clamp in its seating in the pocket of the porthole bellows seal (close it if it is open).
Lubricate the inside of the pocket.



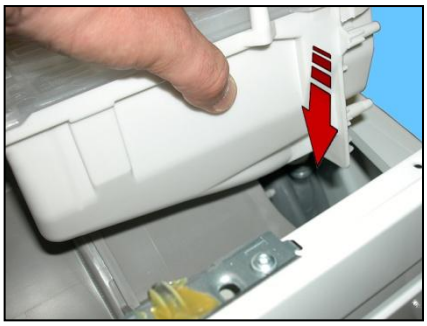
Also lubricate the outside of the detergent dispenser assembly, which should be inserted into the pocket.



First task to perform:
Gently insert the part of the detergent dispenser indicated by the arrow into the pocket of the bellows seal.



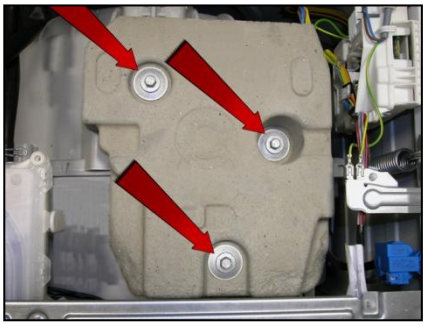
Second task:
With one hand inside the porthole, hold the bellows seal pocket form and gently insert the rest of the detergent dispenser.



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.

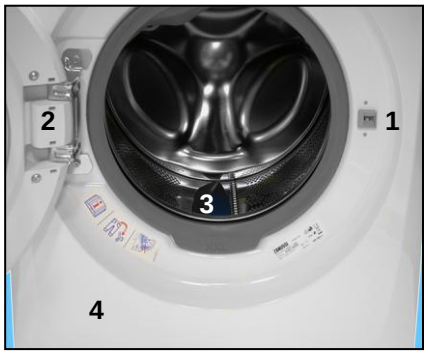
When reassembling:
If the tub assembly is new, tighten the screws at a torque of 20 Nm.
If the tub assembly is new, tighten the screws at a torque of 15 Nm.

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.

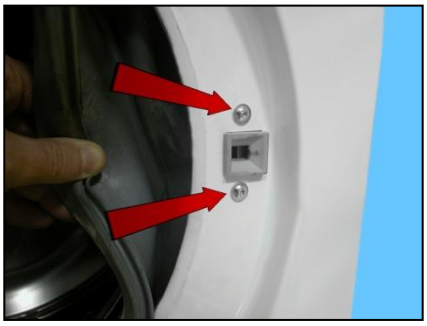
13.3 Accessing the front part



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

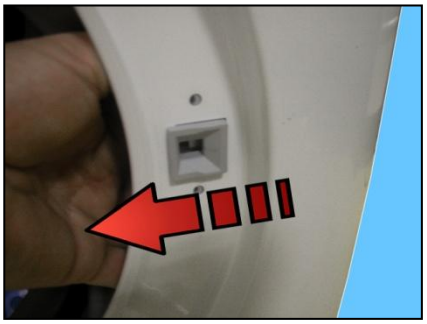
13.3.1 Door safety device (with incorporated flange)

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

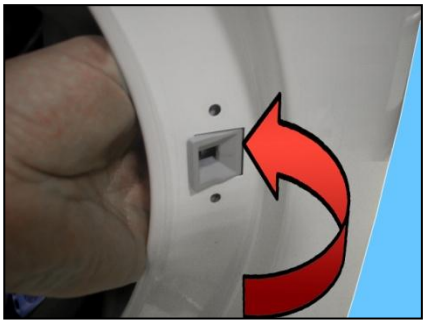


Unfasten the two screws securing the door safety interlock to the front panel.

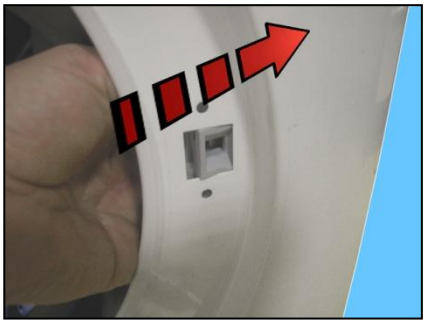
Take the device and move it to the left.



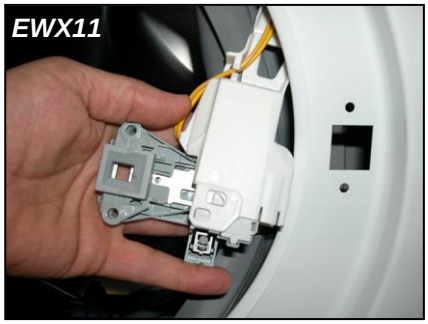
Turn it towards the inside (right-hand side of the flange).



Pull it out towards the right and remove it.



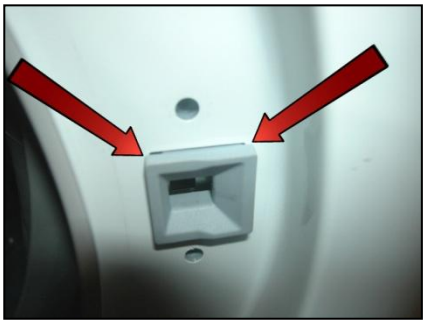
Pull out the wiring protection from the door safety device.
Disconnect the connector.



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

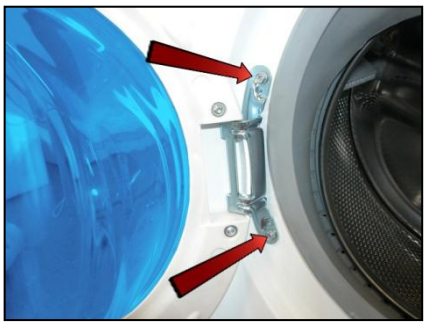
Before tightening the screws to secure the door safety device to the front panel, make sure the flange is positioned properly on the outside as indicated by the arrows.

Tighten the screws at a torque of 2.5 Nm.

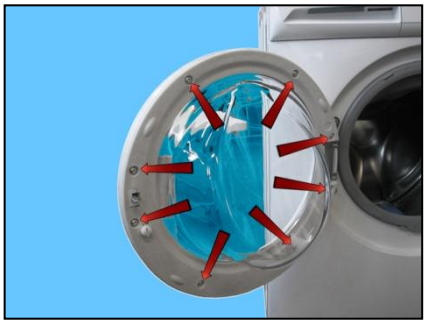


13.3.2 Door and Door Hinge

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.

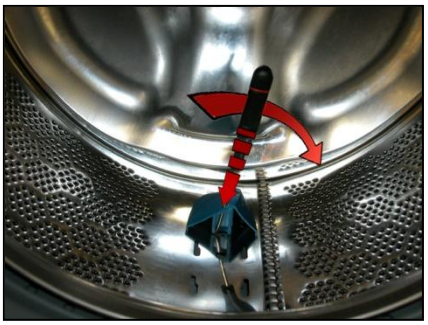
To release the blade from the drum:

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.

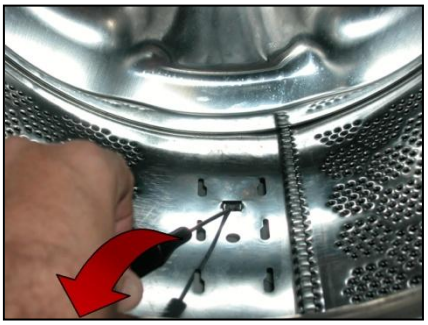
With the screwdriver tilted towards the right
push the left-hand tab downwards.



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

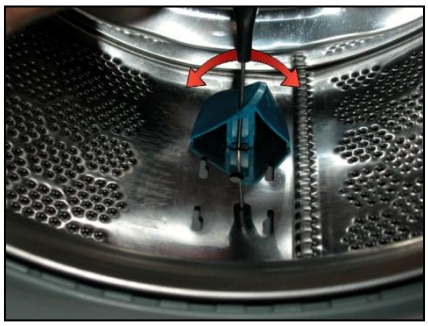
Reassembling the blade onto the drum.

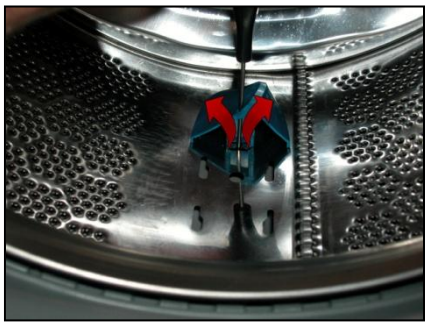
Before securing the new blade
insert a flat-tip screwdriver beneath the lock tabs and raise them a little.



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

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.
Move to the left and right.





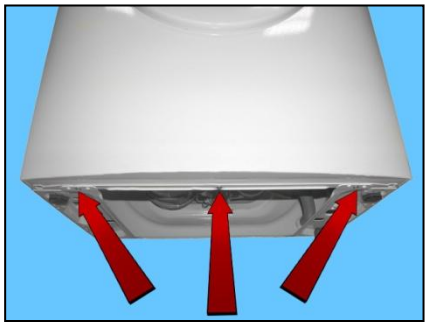
To move the tabs up (as shown by the arrows) and insert them inside the blade, securing it to the drum (as shown in the figure).

13.3.4 Front panel

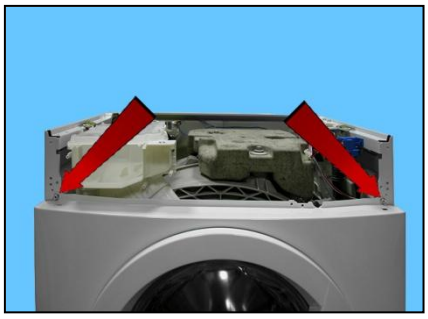
Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).
Remove the plastic ring, remove the door bellow seal from the front panel.
Unfasten the screws securing the door safety interlock (see related paragraph).

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).



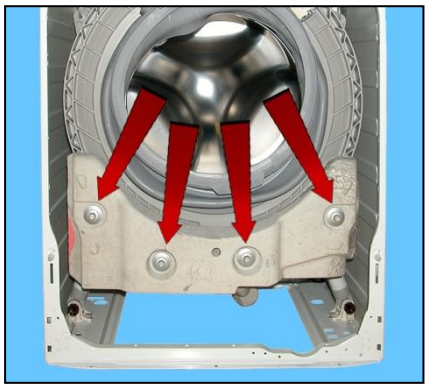
Remove the front panel.

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

1. Front counterweight
2. Bellow seal
3. Welded tub assembly
4. 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).
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

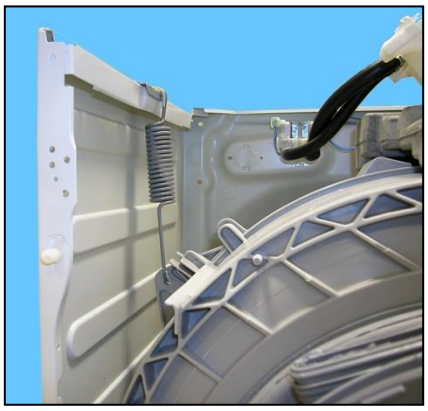
Remove the worktop (see relevant paragraph).
Remove the iron ring securing the bellow seal to the front panel.
Release the door safety device (see relevant paragraph).
Remove the front panel (see relevant paragraph).
Pull out the detergent dispenser from the bellows seal detergent inlet pocket.
Take 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

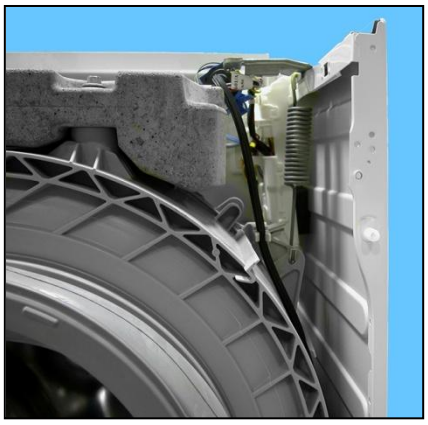
Empty the drain circuit
Remove the worktop (see relevant paragraph).
Remove the front panel (see relevant paragraph).
Remove the detergent tray (see relevant paragraph).
Remove the upper counterweight (see relevant paragraph).
Remove the front counterweight (see relevant paragraph).
Remove the back panel (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

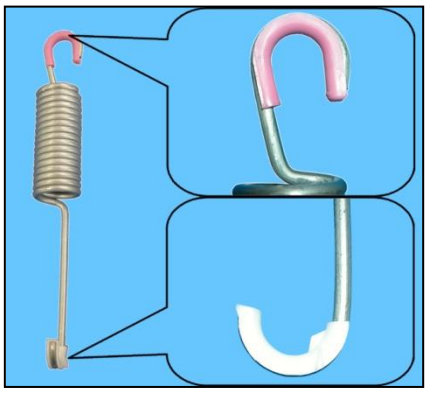
Attach the spring as shown in the figure: the shortest leg faces towards the side, whereas the longest leg faces towards the welded tub.



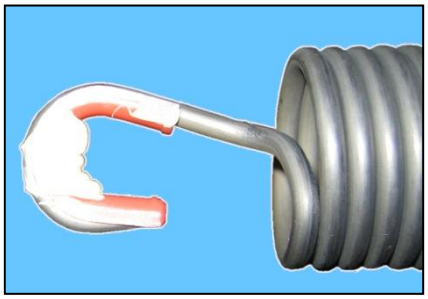
- Right spring

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).
Spare bushings are available, under the following codes:



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



Apply some grease on either end of the spring.
Use grease Code 5026 24 16-00/6

13.5 Accessing the rear part

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

13.6 Back panel

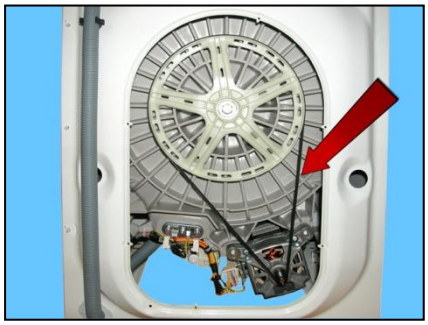
Loosen the screws that fix it to the cabinet.

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

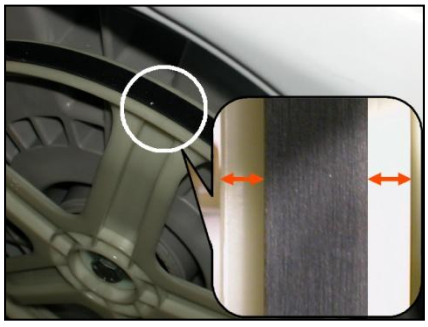
13.6.1 From the back panel, you can access

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

13.6.1.1 Belt

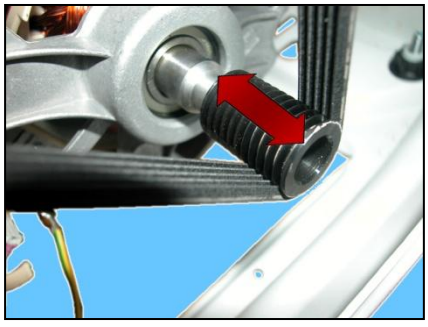


Remove the back panel (see relevant chapter).
Hold the belt, and by turning the pulley, remove it.



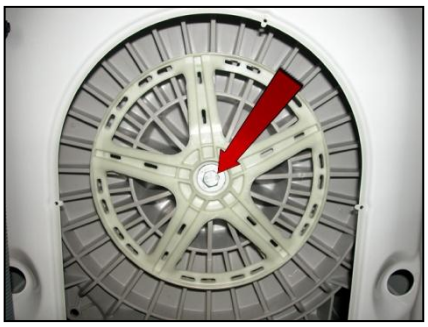
When reassembling:
Position the belt and align it with the centre of the pulley (∅ 273 mm) as shown in the figure.

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



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

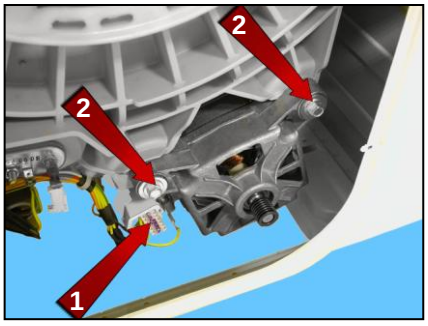
13.6.1.2 Plastic pulley (∅ 273 mm)



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.

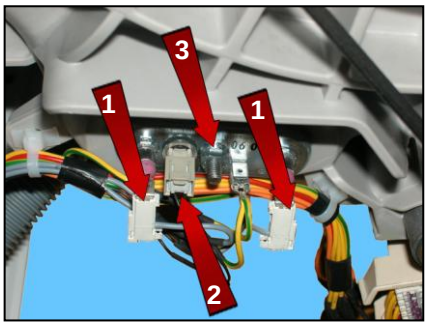
13.6.1.3 Motor



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.
When reassembling, tighten the screws at a torque of 11.5 Nm.

13.6.1.4 Heating

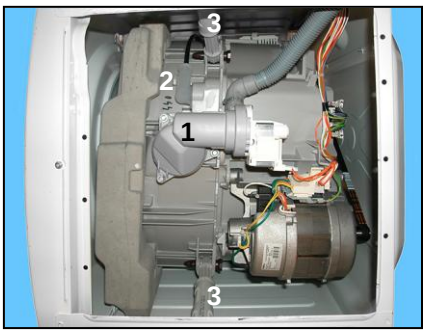


Remove the back panel (see relevant chapter).

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

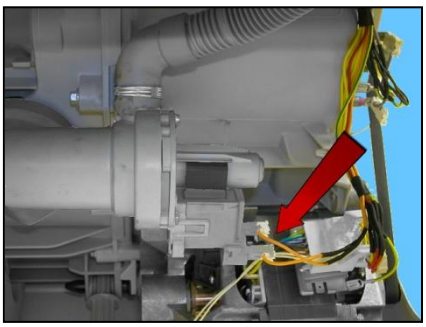


1. Drain water circuit
2. Pressure chamber
3. Shock absorbers

13.7.1 Drain water circuit

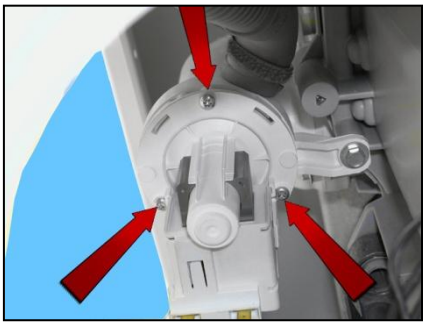
- Drainage pump

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).



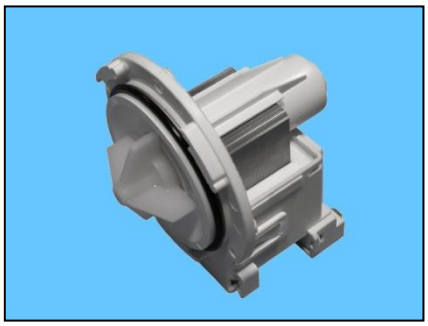
Disconnect the connectors.

Before removing the pump, make sure the drain circuit is empty.
Place a protection over the motor to avoid any water drops from falling into it.

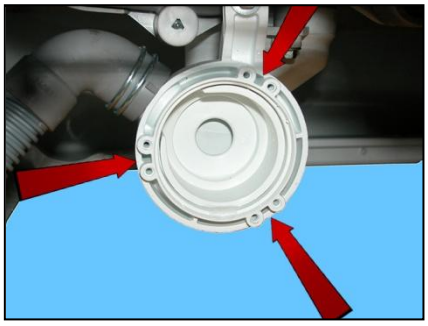


Loosen the three screws which secure it to the new IDB drain circuit (see para. 13.7.3 page 83).

When reassembling:
tighten the screws at a torque of 1.5 Nm.

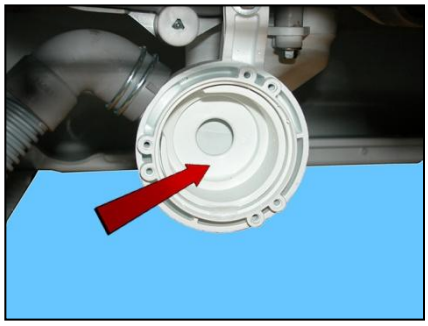


Pump



Once you have removed the pump, you will see that the IDB features six slots, if three of the slots are damaged, you can use the other three.

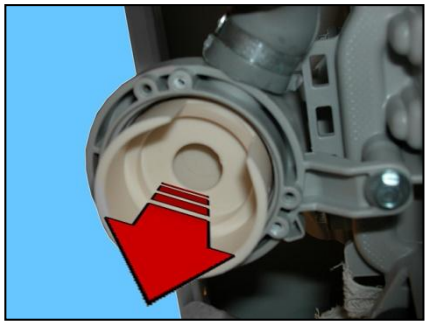
And the fluff filter is in the centre of the IDB.



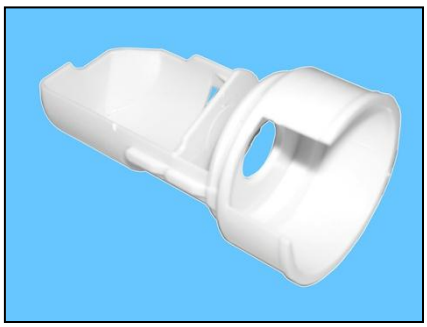
When reassembling, repeat the same steps in the reverse order, tightening the screws at a torque of 1.5 Nm.

13.7.2 Drain filter

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).
Remove the pump (see relevant paragraph).



Take the filter out of its seat (IDB).

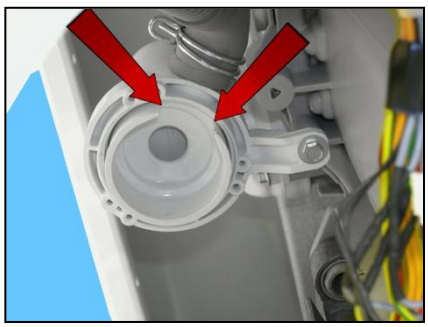


Filter or needle trap.

When inserting the filter in its seat, make sure the indented part (shown by the arrows) is facing towards the drain pipe.

If inserted incorrectly, it will be difficult to insert the filter completely in its seat.

If the filter has not been inserted or if it has been positioned incorrectly, the appliance will report the alarm E21.



13.7.3 IDB (Integrated Drain Body)

Remove the drain pump (see relevant paragraph).

Pull out the main drain pipe.
Remove the screws that secure it to the welded tub.

Once you have removed the outside of the IDB attached to the welded tub, the diaphragm assembly with the floating valve remains.

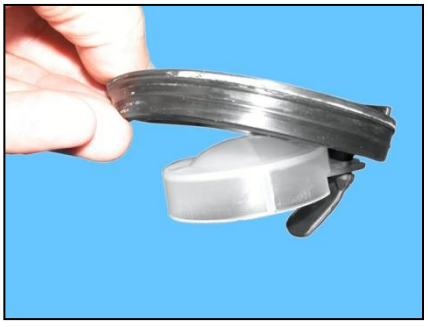
Remove the diaphragm assembly.

IDB complete with diaphragm assembly.

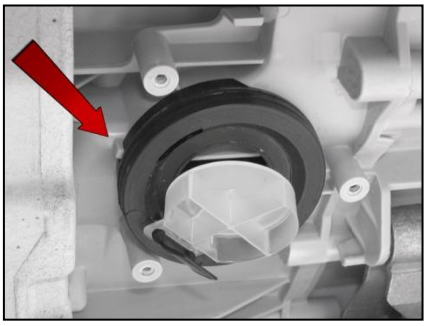
Diaphragm assembly seen from the welded tub part.

The side window - referred to as the “vent” (shown by the arrow) allows you to keep the drain circuit balanced to achieve good performance.

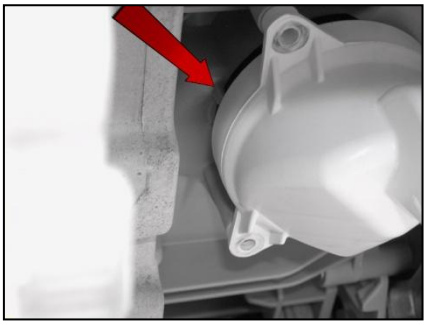
Diaphragm assembly seen from the IDB side.



When reassembling



place the diaphragm assembly and floating valve in the drain hole of the welded tub.
Make sure the reference mark is positioned correctly in the seal diaphragm assembly seat.



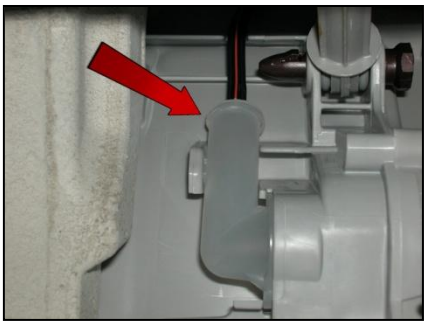
When positioning the IDB lid, make sure it fits as far as it can go against the reference point.

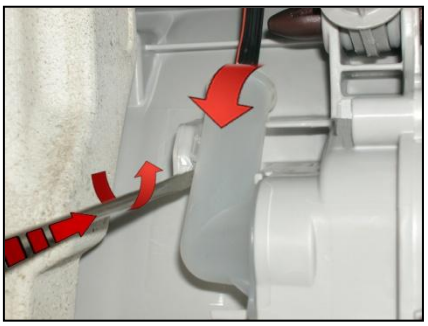
When reassembling

repeat the same steps in the reverse order, tightening the screws at a torque of 5 Nm.

13.7.4 Pressure chamber

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



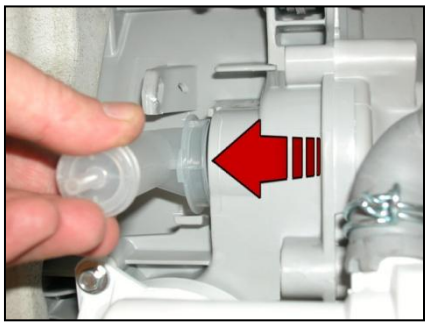


Insert a flat-tip screwdriver between the pressure chamber and the hook securing it to the welded tub.
Turn it anti-clockwise while at the same time removing the chamber.
Take care not to damage it.

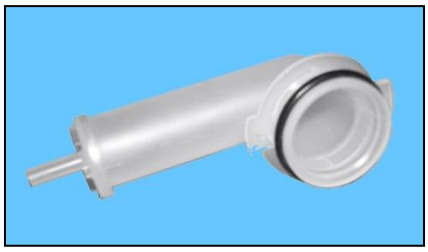
Remove the pipe connecting to the analogue pressure switch.

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

Remove it.



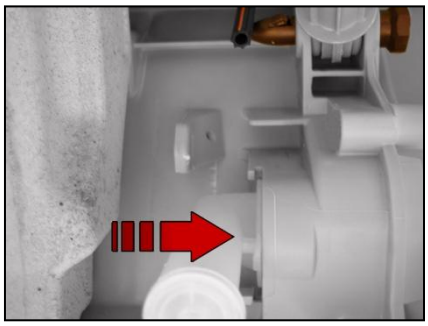
Pressure chamber



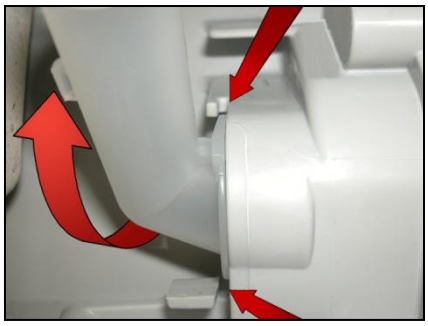
Detail of the pressure chamber set into the welded tub.

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.

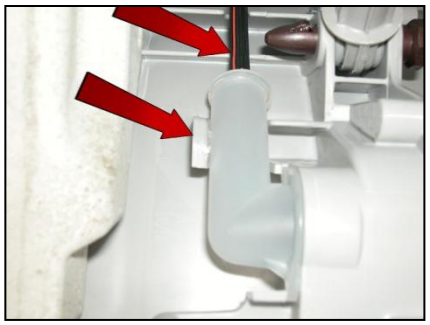


Turn it and make sure that the two tabs slot into the purpose-provided runners (shown by the arrows).



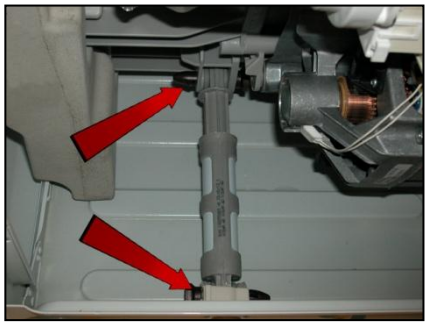
As shown in this picture

insert the pipe and secure the pressure chamber.

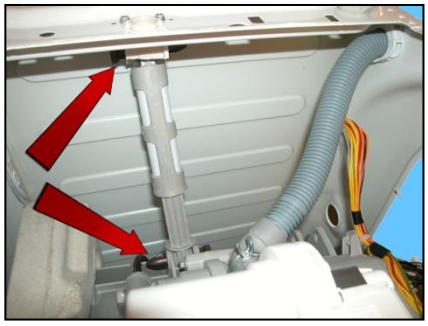


13.7.5 Shock absorbers

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



Right-hand shock absorber from the rear.

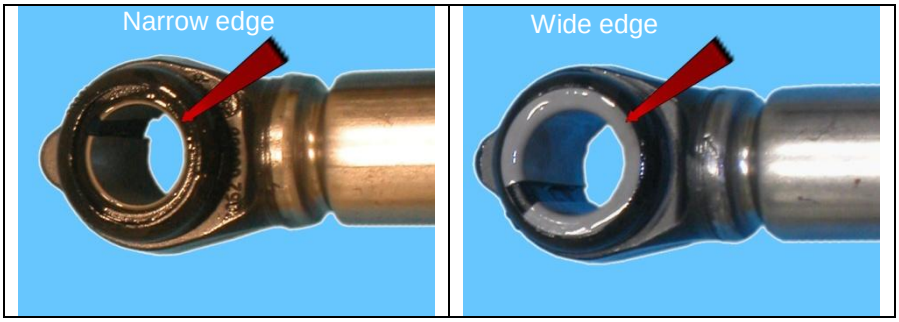


Left-hand shock absorber from the rear.

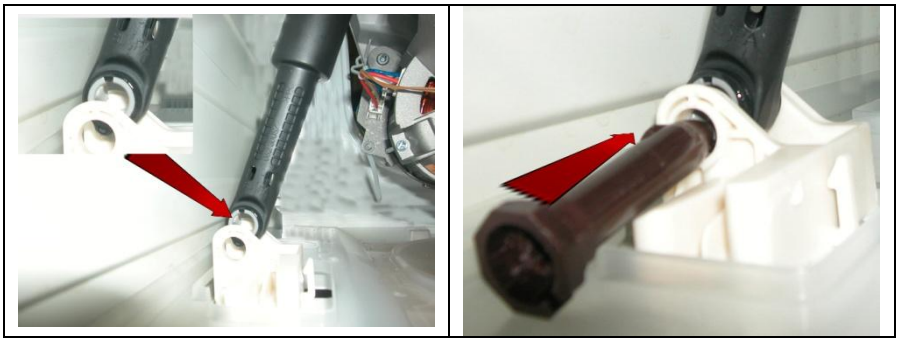
13.7.6 Shock absorber pin

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).

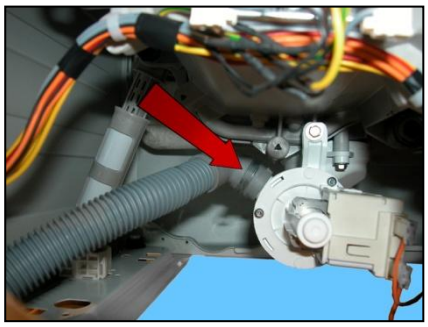
13.7.7 Main drain pipe

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.

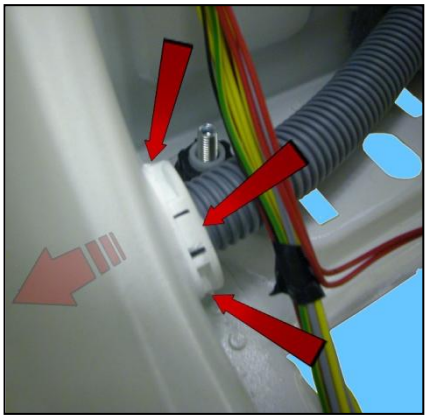
Remove the back panel (see relevant chapter).

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

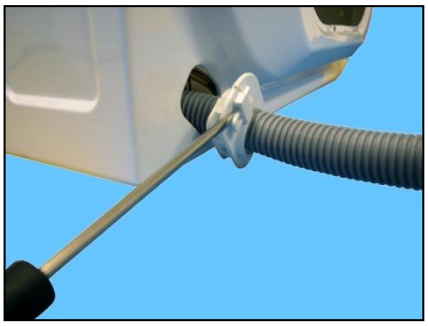
If the clamp breaks, replace it with one featuring the same characteristics.



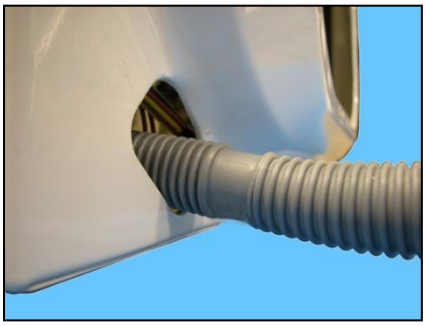
Remove the pipe fastener that secures it to the cabinet by pressing the three hooks (indicated by the arrows) and pull it out at the same time.



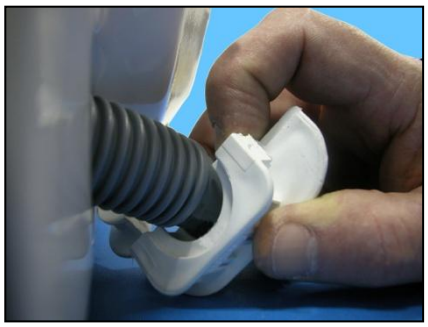
Insert a screwdriver to open up the cabinet pipe fastener.



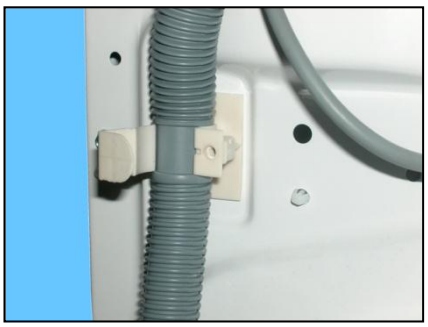
When refitting the pipe, make sure that the non-corrugated part



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.

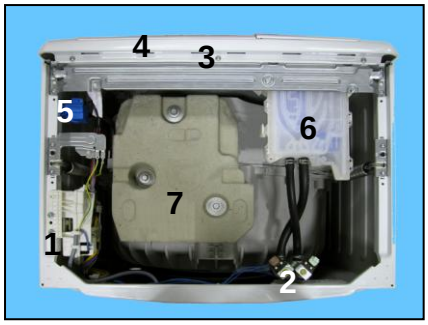
14 ACCESSIBILITY (appliances with INVERTER motor control)

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

14.1 Worktop

See para. 13.1 page 65

14.2 From the worktop, you can access

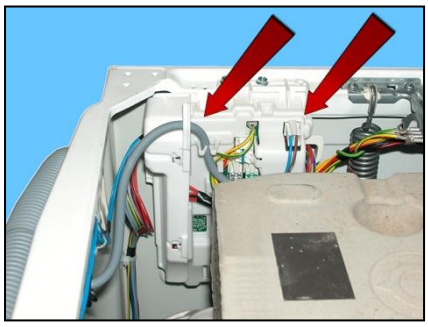


1. Main board
2. Solenoid valve
3. Display board/light diffuser/buttons/buttons springs assembly
4. Control panel
5. Analogue pressure switch
6. Detergent dispenser
7. Upper counterweight

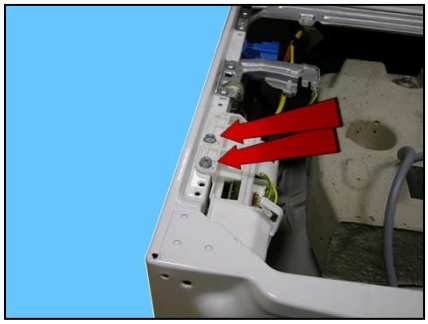
14.2.1 Main board

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

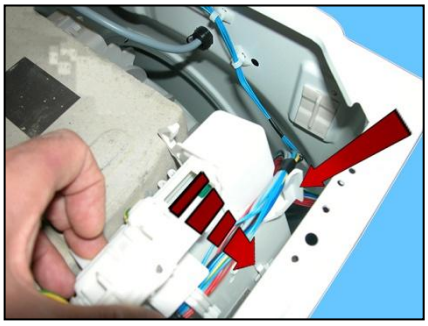
Remove the worktop (see relevant paragraph).



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

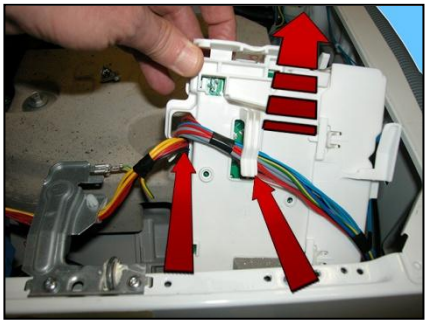


Unfasten the two screws securing it to the cabinet.



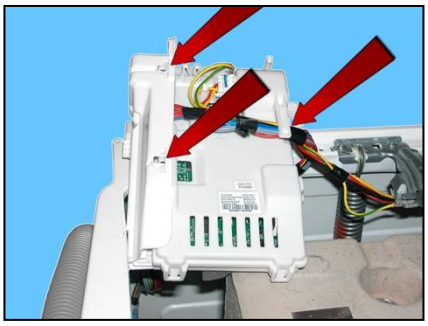
Lower the power board assembly to remove the wiring from the hook shown by the arrow.

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



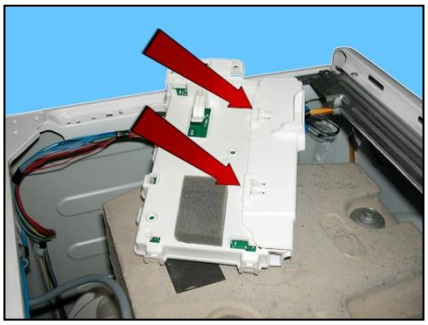
Position it as shown in the figure.

Remove the wiring from the hook.

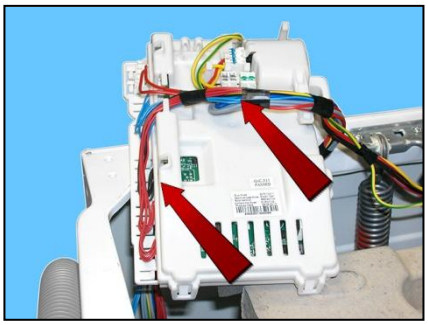


To remove the protection from the connectors:
disconnect the hooks securing it on one side.

and on the other.

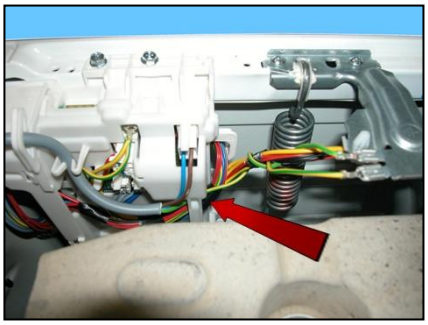


remove the connectors.



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

See para. 13.2.2 page 68

14.2.3 Control panel

See para. 13.2.3 page 68

14.2.4 Display board assembly

See para. 13.2.4 page 69

14.2.5 Analogue pressure switch

See para. 13.2.5 page 71

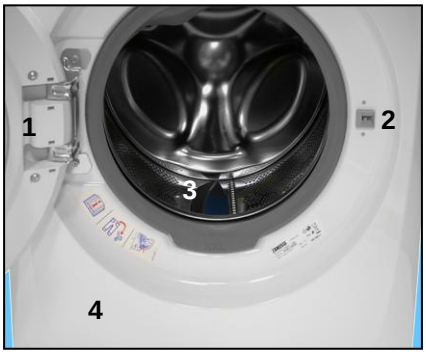
14.2.6 Detergent dispenser

See para. 13.2.6 page 71

14.2.7 Upper counterweight

See para. 13.2.7 page 73

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

See para. 13.3.1 page 73

14.3.2 Door - Door hinge

See para. 13.3.2 page 75

14.3.3 Blade

See para. 13.3.3 page 75

14.3.4 Front panel

See para. 13.3.4 page 77

14.4 From the front panel, you can access

1. The front counterweight
2. Bellow seal
3. The welded tub assembly
4. The tub suspension springs

14.4.1 Front counterweight

See para. 13.4.1 page 78

14.4.2 Bellow seal

See para. 13.4.2 page 78

14.4.3 Welded tub assembly

See para. 13.4.3 page 78

14.4.4 Tub suspension springs

See para. 13.4.4 page 79

14.5 Accessing the rear part

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

14.5.1 Back panel

See para. 13.6 page 80

14.6 From the back panel, you can access

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

14.6.1 Belt

See para. 13.6.1.1 page 80

14.6.2 Plastic pulley (∅ 273 mm)

See para. 13.6.1.2 page 81

14.6.3 Motor

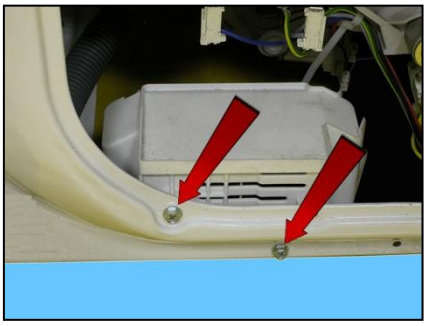
See para. 13.6.1.3 page 81

14.6.4 Heating

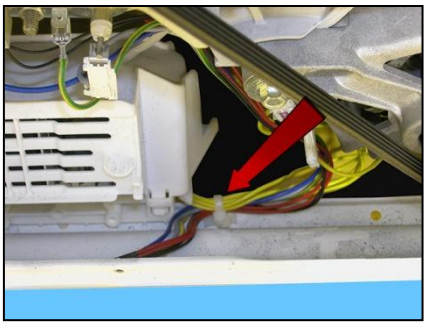
See para. 13.6.1.4 page 81

14.6.5 UIMC

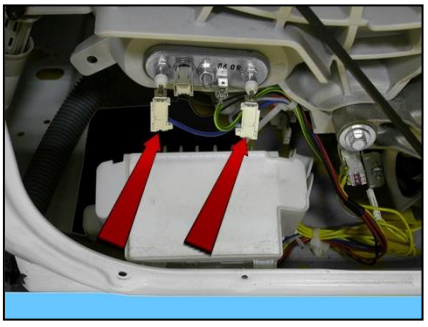
Remove the back panel (see relevant chapter).



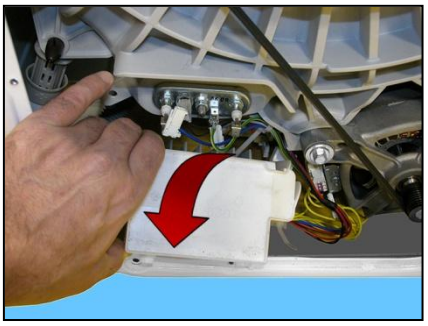
Loosen the two screws that fix it to the rear cabinet.



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

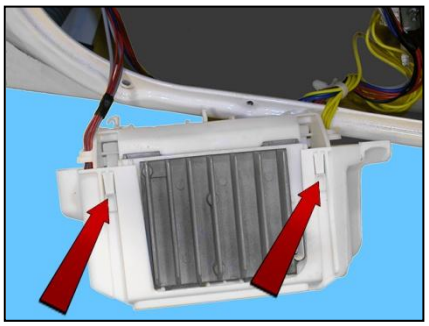


Remove the heating element connectors.

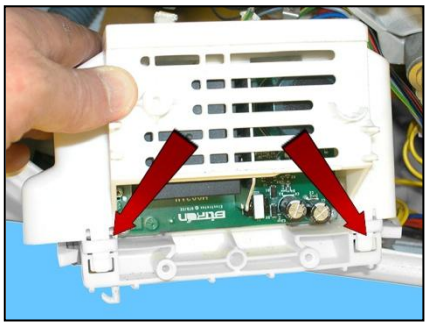


Pushing the washing unit towards the inside of the appliance remove the UIMC.

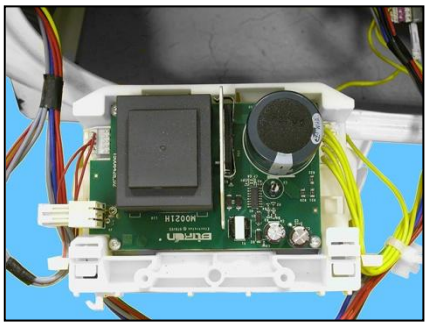
Release the two hooks securing the connectors protection on one side.



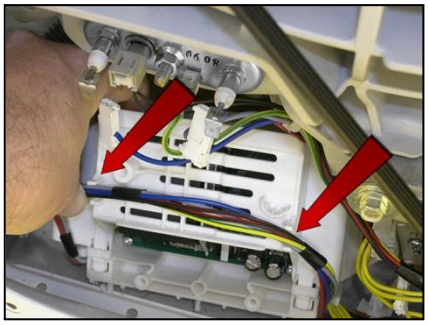
And on the other



remove the connectors protection.



Remove the connectors.



When reassembling, repeat these steps in the reverse order.

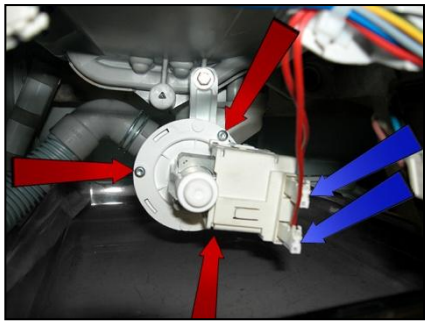
Making sure the wiring is positioned inside the UIMC runners to avoid damaging it.

14.6.6 Drainage pump

Empty the drain circuit.

Remove the back panel (See para. 13.6 page 80).
Remove the UIMC (See para. 14.6.5 page 94).

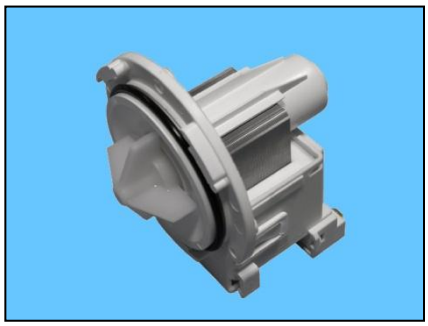
Place cloths or a receptacle under the pump.



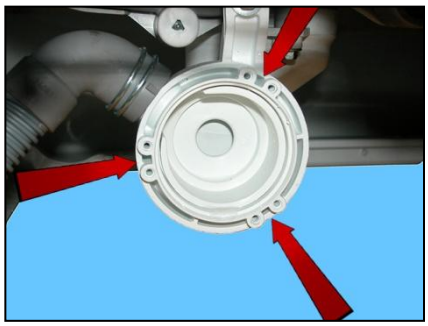
Remove the connectors (blue arrows).
Remove the three screws securing it to the IDB (red arrows).

When reassembling, repeat the same steps in the reverse order and tighten the screws at a torque of 1.5 Nm.

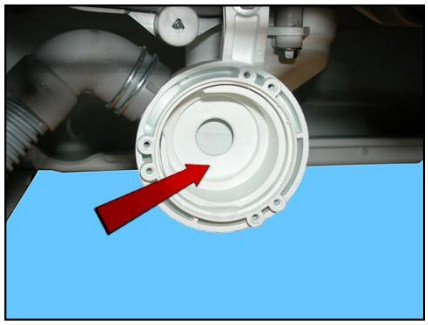
Drainage pump.



Once you have removed the pump, you will see that the IDB features six slots, to secure the pump, if three of the slots are damaged, you can use the other three.



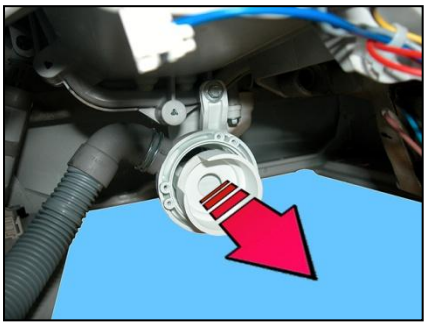
And the fluff filter is in the centre of the IDB.



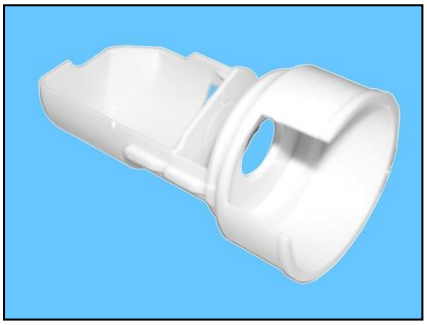
When reassembling, repeat the same steps in the reverse order, tightening the screws at a torque of 1.5 Nm.

14.6.7 Drain filter

Remove the back panel (see relevant chapter).
Remove the UIMC (see relevant chapter).
Remove the drain pump (see relevant chapter).

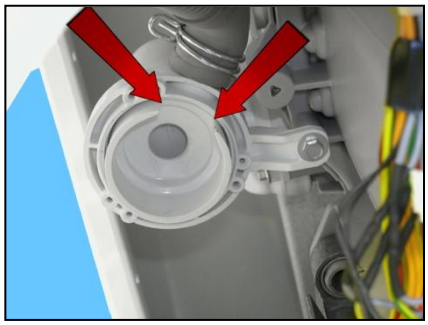


Remove the fluff filter (in some cases this may be difficult).



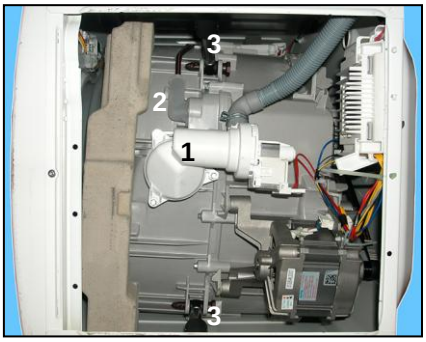
Filter or needle trap.

When inserting the filter, make sure the part shown by the arrows is facing towards the drain pipe.



If the filter has not been inserted or if it has been positioned incorrectly, the appliance will report the alarm E21.

14.7 From the base of the appliance, you can access

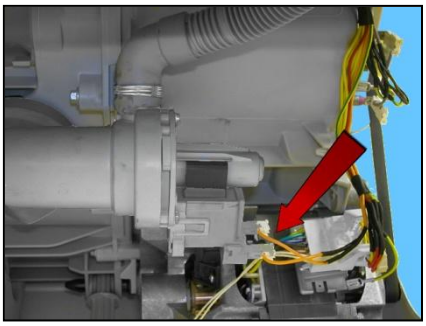


1. Drain water circuit
2. Pressure chamber
3. Shock absorbers

14.7.1 Drain water circuit

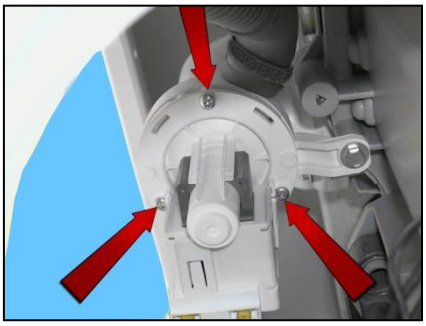
Drainage pump

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).



Disconnect the connectors.

Before removing the pump, make sure the drain circuit is empty.
Place a protection over the motor to avoid any water drops from falling into it.

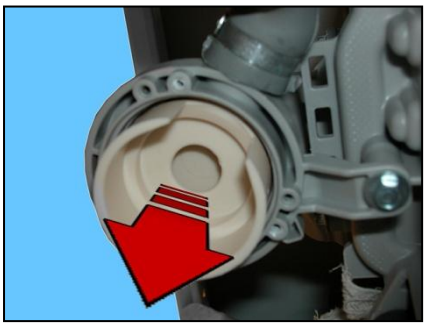


Loosen the three screws which secure it to the new drain circuit (IDB).

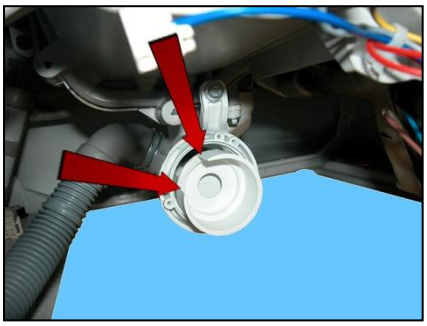
When reassembling
tighten the screws at a torque of 1.5 Nm.

Drainage filter

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).
Remove the pump (see relevant paragraph).



Take the filter out of its seat (IDB).



When inserting the filter in its seat, make sure the indented part (shown by the arrows) is facing towards the drain pipe.

If inserted incorrectly, it will be difficult to insert the filter completely in its seat.

If the filter has not been inserted or if it has been positioned incorrectly, the appliance will report the alarm E21.

14.7.2 IDB (Integrated Drain Body)

See para. 13.7.3 page 83

14.7.3 Pressure chamber

See para. 13.7.4 page 85

14.7.4 Shock absorbers

See para. 13.7.5 page 87

14.7.5 Main drain pipe

See para. 13.7.7 page 88

REVISION:

Revision	Date	Description	Written by	Approved by:
00	09/2014	Document creation	DMM	XX – 0X/2014