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Washer dryers

With electronic control
system

EWX11831

EWX14931

UIMC / EMC14

Characteristics
functional/technical

**NEW
COLLECTION**

SERIES

**7
G50...**

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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 EWX11831 / EWX14931 electronic control system.

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.

Mode with "Zero watt" circuit

Some appliances are fitted with a circuit (in the main circuit board) called Zero Watt (0 Watt with an actual consumption ~50mW) which cuts off the power supply to the appliance:

- a. When you press the ON/OFF button to turn off the appliance, the Zero Watt circuit is triggered and cuts off the supply voltage after a few seconds, just long enough to secure the washing machine (motor off, door locked, etc...), the cycle and any options selected are reset, so that the next time the appliance is turned on, it is ready to perform the programme.
(To open the door, you will have to wait one or two minutes for the door safety lock to be released).

- b. 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 and the Zero Watt circuit which cuts off the supply voltage is triggered (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.

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 example: refer to the indications provided/illustrated in the <<metrater>> course at the address (<http://electrolux.edvantage.net>) on the Electrolux Learning Gateway portal.**
- **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.**
- **Warning the sensors located in the display board could be at a potential of 220 Volts.**
- **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 (see the relevant paragraph).**
- **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.**

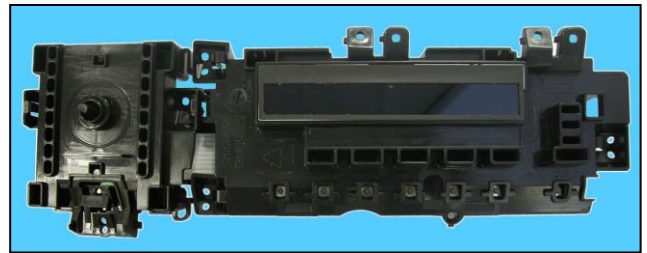
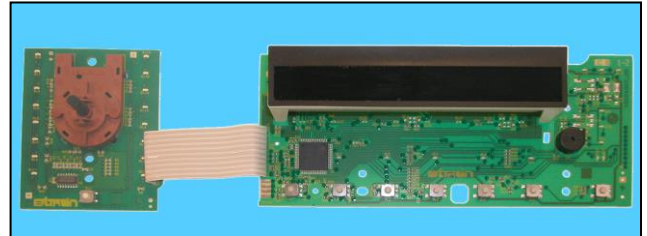


3 SERIES 7

3.1 General characteristics

The EWX11831 / EWX14931 electronic control system consists of two circuit boards, the motor control system (inverter) and a further board for the part dedicated to drying.

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



- ↪ The main circuit board is positioned at the rear of the appliance, receives commands from the display board, powers the electrical components as well as communicating with the motor control board (Inverter) and it also communicates with the board which controls the drying phase.

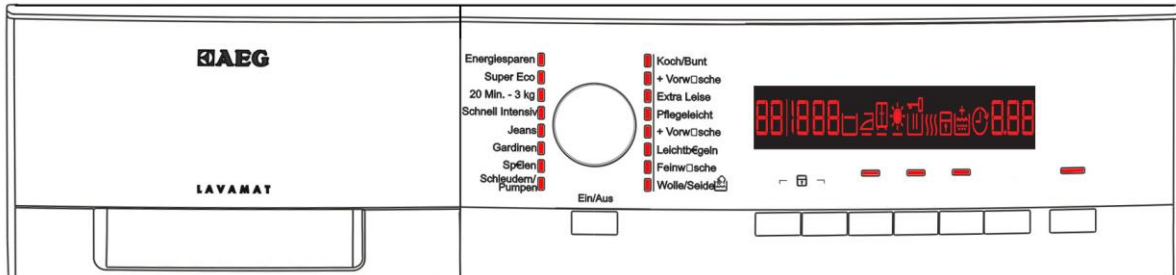
3.1.1 General characteristics

No. buttons	<ul style="list-style-type: none"> maximum 8 (6 options + start/pause + ON/OFF)
No. LEDs	<ul style="list-style-type: none"> maximum 21 + LCD
Programme selector	<ul style="list-style-type: none"> 16 positions (incorporated in the circuit board)
Serial port	<ul style="list-style-type: none"> DAAS-EAP communication protocol up to 115,200 baud
Power supply voltage	<ul style="list-style-type: none"> 220/240V 50/60 Hz (configurable)
Washing type	<ul style="list-style-type: none"> Traditional with "Eco-ball" sphere Jet-System
Rinsing system	<ul style="list-style-type: none"> Traditional with "Eco-ball" sphere Jet-System
Motor	<ul style="list-style-type: none"> Two-pole asynchronous (three-phase)
Spin speed	<ul style="list-style-type: none"> 400 – 400 1600 rpm
Anti-unbalancing system	<ul style="list-style-type: none"> AGS
Cold water fill	<ul style="list-style-type: none"> 1 solenoid valve with 1 inlet – 2 or 3 outlets
Hot water filling	<ul style="list-style-type: none"> 1 solenoid valve with 1 inlet – 1 outlet
Detergent dispenser	<ul style="list-style-type: none"> 3 compartments: pre-wash/stains, wash, conditioner
Control of water level in the tub	<ul style="list-style-type: none"> Electronic/analogue pressure switch
Door safety interlock	<ul style="list-style-type: none"> Instantaneous
Heating element heat output, washing	<ul style="list-style-type: none"> 1950W with thermal fuses incorporated
Heating element heat output, drying	<ul style="list-style-type: none"> 600W + 600W (where featured) 1000W (where featured)
Temperature control, washing	<ul style="list-style-type: none"> NTC probe incorporated in the heating element
Temperature control, drying	<ul style="list-style-type: none"> NTC
Buzzer	<ul style="list-style-type: none"> Traditional incorporated in the PCB
Sensors	<ul style="list-style-type: none"> Water fill gauge (2 – 12 l/m flowmeter) Water control

3.2 Control panel

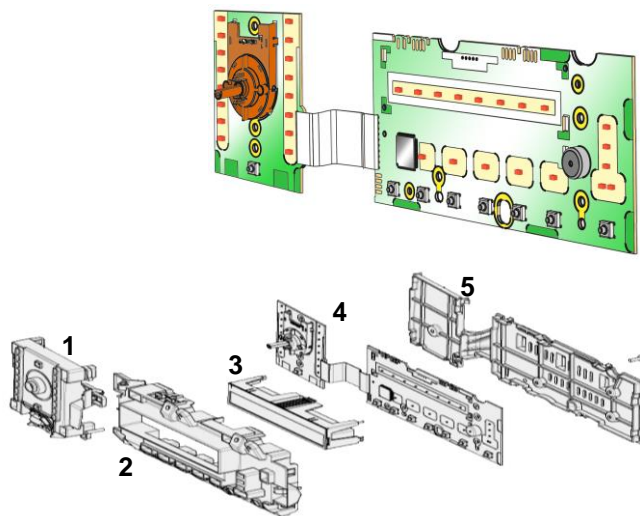
3.2.1 Styling

- Max. 8 buttons
- 16 position programme selector
- 21 LEDs
- LCD



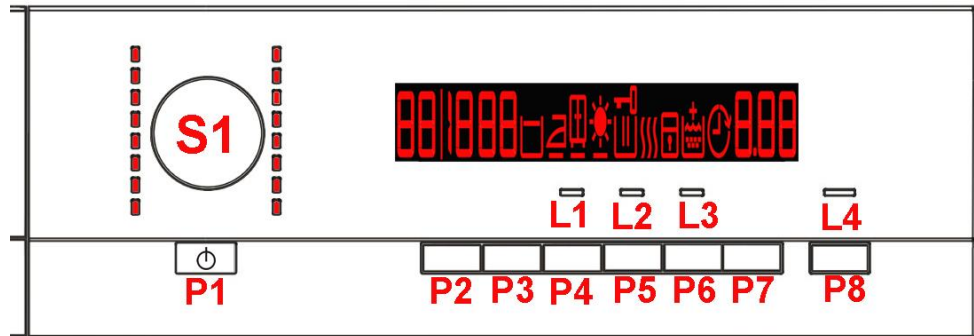
- Positioning of LEDs and buttons
- Display board assembly, exploded view

1. Selector board protection
2. Display board protection
3. LCD screen
4. Display board and selector board
5. Rear protection



3.2.2 Control panel configuration

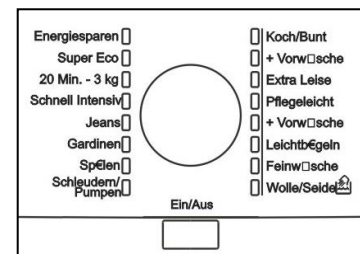
The description below applies to both versions (washing machines and washer dryers), unless specified with Washing machines or Washer Dryers.



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

3.2.2.1 Programme selector (S1)

The selector used is of the HI-FI type (the dial has no index and no reset position, the programme selected is indicated by the fact that the corresponding LED lights up). The number of positions cannot be configured. There are always 16 (in all three stylings) and they are bound to the number of LEDs that indicate the washing programmes. The programmes can be configured to perform different washing cycles (e.g.: water level, drum movement, no. of rinses and the washing temperature to be selected according to the type of garments). The selector can be turned both clockwise and anti-clockwise. For each programme, the compatible options and other parameters are defined.



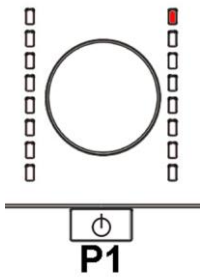

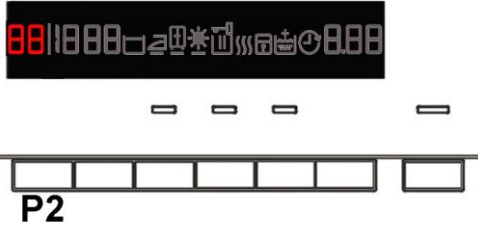


3.2.2.2 Programme configuration





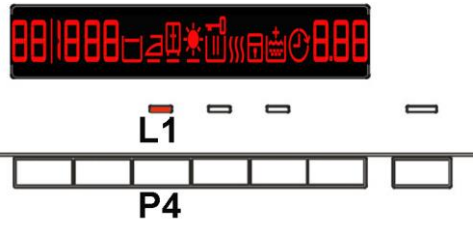

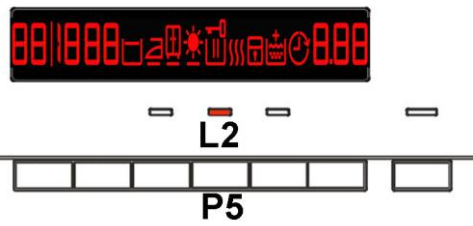
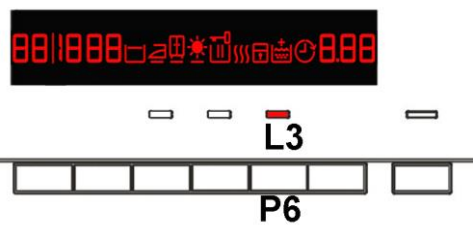
The table below lists the parameters that can be used to define the washing programmes.

Types of fabric	Cottons/linen, Synthetics, Delicates, Wool, Hand-wash, Shoes, Jeans, Duvet, Silk.
Special programmes	Soak, Miniprogramme, Easy-Iron, Conditioner, Rinses, Delicate rinses, Drain, Delicate spin, Spin, Drying.
Temperature	Normal, Maximum: the initial temperature is the one set for the washing programme selected.
Spin	Normal, Minimum, Maximum.
Options (Normal/Possible)	Rinse Hold, Pre-wash, Stains, Extra Rinse, Normal, Daily, Super quick, Spin reduction, No spin.
Programme phases	Pre-wash, Wash, Rinses, Spin, Delay Start, Dryness.

3.2.2.3 Pushbuttons – LEDs and LCD

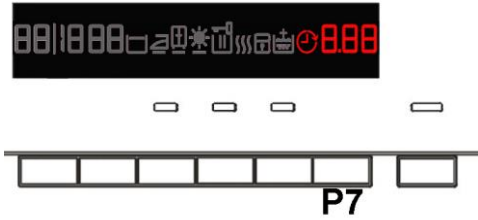
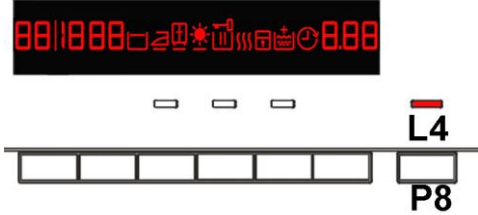
The functions of each button are defined by the configuration of the appliance.

<ul style="list-style-type: none"> Button no. 1: ON/OFF This button is always present, whatever the styling. <ul style="list-style-type: none"> Press it to turn the appliance on, at the same time the buzzer will sound a tone (if enabled) and the LCD display lights up (the lighted symbols are the ones for the programme). To switch the appliance off, press and hold the button for approximately 1 second, after which the buzzer will sound a tone (if enabled), the LCD display and the LEDs will switch off, all the options selected and any programme that is running will be cancelled. <p>The operation of the ON/OFF depends on the configuration of the main circuit board. It can cut the appliance off from the electricity mains completely (0 Watt circuit) or set the appliance to low energy consumption mode (without 0 Watt circuit) in which case you will need to take the plug out of the socket to cut off the electricity supply completely.</p>	
<ul style="list-style-type: none"> Button no. 2: TEMPERATURE This is related to the part of the LCD display in which the washing cycle temperature is shown. The starting temperature shown on the LCD display is the one set for the programme selected. Press this button in sequence to lower the temperature, when the lowest temperature is reached the selection will start again from the highest one available for the programme. <p>The temperatures available (displayed in °C) are: 95°C, 60°C, 50°C, 40°C, 30°C, 20°C, cold cycle.</p> <p>the cold cycle is displayed by two dashes. </p>	
<ul style="list-style-type: none"> Button no. 3: SPIN SPEED This is related to the part of the LCD display in which the washing cycle spin speed is shown. The starting speed shown on the LCD display is the one set for the programme selected. Press this button in sequence to lower the speed, when the lowest temperature is reached the next selection is "Rinse hold" and the relevant symbol will light up  (if compatible with the programme selected). This is also lit during the "Extra silent" programme. The next selection will be the highest speed available for the programme. <p>The spin speeds are: 1600–1400–1200–1000–800–600–400– "Rinse Hold" cycle. When no speed is selected, or the "Rinse Hold" cycle is selected, the LCD display shows three dashes " - - - ".</p>	






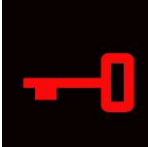




<ul style="list-style-type: none"> Button no. 4: OPTION This button is configurable and is related to LED (L1). Depending on the configuration of the appliance, it can perform the option of: <ul style="list-style-type: none"> Automatic Drying In the cotton programmes, press this button to select from three different drying levels: <p>“iron dry”  “wardrobe dry”  and</p> <p>“extra dry”  .</p> Delicate programmes (synthetics) only envisage a single drying level: “cupboard dry”  . Concurrently, the related LED L1 lights up and the corresponding symbol is displayed on the LCD. <p>When the automatic drying option is selected at the end of a wash cycle, the spin speed must not be less than 1,000 rpm. The maximum drying time is 300 minutes.</p> 	
<ul style="list-style-type: none"> Button no. 5: OPTION This button is related to LED (L2), and performs the option of: <ul style="list-style-type: none"> Time-controlled drying  Press this button to enable the drying phase, which initially lasts 10 minutes; every time it is pressed, the drying time is extended by 5 minutes for a maximum of 250 minutes for cotton cycles and 250 minutes for synthetic cycles. <p>When the time-controlled drying option is selected at the end of a wash cycle, the spin speed must not be less than 1,000 rpm in the cotton programmes and not less than 800 rpm in the synthetic programmes.</p> 	
<ul style="list-style-type: none"> Button no. 6: OPTION This button is related to LED (L3), and performs the option of: <ul style="list-style-type: none"> Time Save Press this button to enable/disable the option associated with it and turn the LED on/off respectively, at the same time the programme time is updated (on the three digit display). 	









The following options can also be configured on the appliances:

- Time Save: with two 2 levels, corresponding to: Daily and Super Quick. Press once for the Daily function, the relevant LED lights up, press twice for the Super Quick function, the relevant LED will remain on fixed and at the same time the three digit display will vary the cycle time.
- Stains is an alternative option for the same button.

<ul style="list-style-type: none"> Button no. 7: DELAYED START 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. To cancel the delayed start time after the cycle has been started, set the washing machine to pause using the START/PAUSE button and cancel the option. 	
<ul style="list-style-type: none"> Button no. 8: START/PAUSE This button is used to START the appliance or to PAUSE it. It is related to LED L4 which flashes when the appliance is in pause, whereas it produces a fixed light when the appliance is performing a washing cycle. 	

The information described below also appears on the LCD:

<ul style="list-style-type: none"> Programme phases: The three icons shown have the following meanings, respectively: <ul style="list-style-type: none"> – Wash/Prewash/Steam  – Rinse  – Spin  They are lit during the setting phase to display which phases are included in the programme. During the programme the icon for the phase in progress flashes, and when the phase has ended it remains lit continuously. The same applies when the machine is in pause during the cycle. The Wash/Prewash/Steam icon also lights up during the steam phase, in appliances which feature this programme. 	
<ul style="list-style-type: none"> Padlock: The icon lights up when the “child lock” is on. It indicates that all the buttons are disabled to prevent children from modifying, starting or pausing the cycle; Press any button or turn the selector dial during its activation and the icon will flash. To enable/disable this function, a key combination needs to be pressed. It may be silk-screen printed on the control panel or described in the instruction manual. 	
<ul style="list-style-type: none"> Door lock: Lights up when the safety device stops door opening and switches off when the door can be opened. Flashes when the device is about to unlock the door (with door interlock with PTC, which needs one/two minutes to open). 	
<ul style="list-style-type: none"> Washing programme time It is displayed after a washing programme has been selected. This corresponds to the time required for the maximum wash load for each type of programme. After the programme has started, the time decreases (and is updated) minute by minute. 	
<ul style="list-style-type: none"> 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 minimum delay of 2 hours to a maximum of 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. 	
<ul style="list-style-type: none"> Selection incorrect Display of the flashing writing “Err” for a second. Appears on selecting option that is incompatible with the programme selected, or when the selector is turned while a cycle is running. 	

<ul style="list-style-type: none"> • End of cycle End of the programme is indicated by a permanently lit zero (when the door can be opened). • Appliance stopping with water in the tub, at the end of Programmes with the RINSE HOLD option, this is displayed by a permanently lit zero. The LED indicating the door remains on and the LED of the START/PAUSE button is turned off. The washing machine continues to operate, rotating the drum once every 2 minutes. 	
<ul style="list-style-type: none"> • Alarm code Indicates an error in the appliance operation. Simultaneously to the displaying of the code, the START/PAUSE button flashes. 	
<ul style="list-style-type: none"> • Calculate amount of washing Only for appliances with PROPORTIONAL programmes. After starting the washing programme the dot starts to flash. At this point the washing machine calculates the amount of washing inside the drum. When this phase ends the dot lights up fixed and the three digits display the programme time. 	
<ul style="list-style-type: none"> • Automatic drying Shown by three symbols with three drying levels Description: see Button no. 4 on page 12. 	
<ul style="list-style-type: none"> • Programme phases <ul style="list-style-type: none"> – Wash phase  – Drying phase  	
<ul style="list-style-type: none"> • Extra-rinse Appliances which do not feature the button and related LED for the Extra rinse option can enable/disable this option by pressing a key combination (which may be silk-screen printed on the control panel or described in the instruction manual). This option is enabled/disabled during programme selection and is confirmed by the related symbol being turned on/off. The option remains enabled even after the appliance has been turned off (for subsequent programmes). 	

3.2.2.4 Buzzer

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

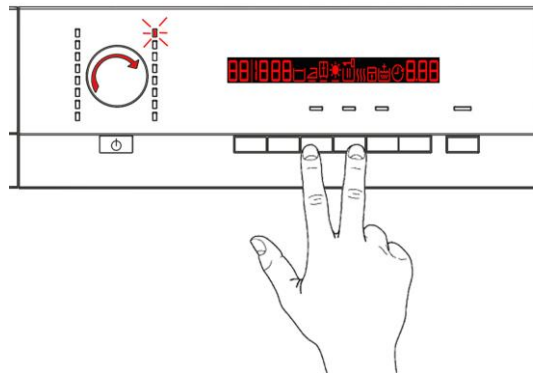
- When the machine is turned on and off it emits two different tunes.
- When a button is pressed it emits a short “**click**”.
- When the cycle ends this is indicated by a special sequence of “**three long beeps**” repeated at intervals of 15" for a total of 2 minutes.
- In the event of a malfunction in the machine this is indicated by a special sequence of “**three short beeps**” repeated 3 times at intervals of 15" for a total of 5 minutes.

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

The volume level is set in the factory and cannot be adjusted by the user.

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

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



To enable it, press the buttons simultaneously for 5 seconds. A short beep will confirm that it has been enabled, whereas two short beeps will confirm that it has been disabled.

4 DEMO MODE

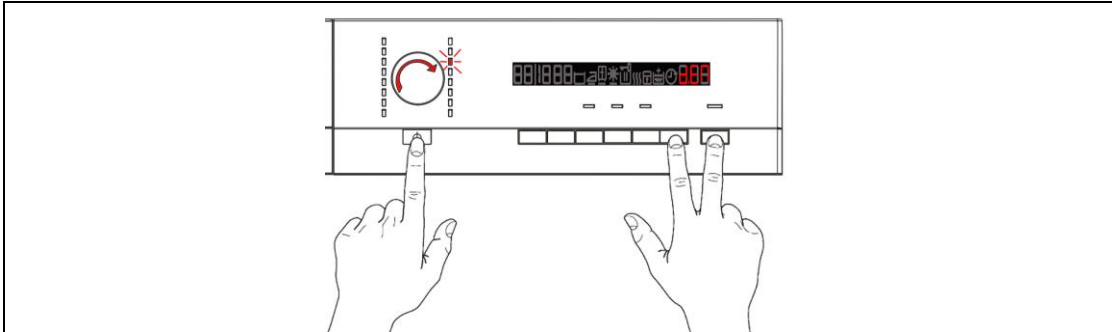
A special cycle is designed to demonstrate the operation of these appliances in shops, without connecting them to the water mains. This way, any one of the programmes can be selected and, once the start button/sensor has been pressed/touched (START/PAUSE), the appliance will only perform some of the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

The cycle takes place as follows:

- ↪ the door lock is enabled regularly (door locked during operation, possibility of opening it at the end of the cycle or when paused)
- ↪ 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: as the cycle phases are very fast (one second in the demo cycle corresponds to approximately one minute in the actual cycle) the end time decreases by 1 unit per second. Keep in mind that the time left does not always correspond to the actual cycle time

4.1 Access to DEMO settings

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



Do not start the procedure with the buttons in the combination pressed

1. Switch on the appliance using the ON/OFF button.
2. Turn the selector dial until the third LED in the right-hand row is on.
3. Press the **START/PAUSE** button and the nearest **option button** simultaneously (as shown in the figure).
4. Hold the buttons down (approximately three or five seconds) until “dEM” flashes for a short time.

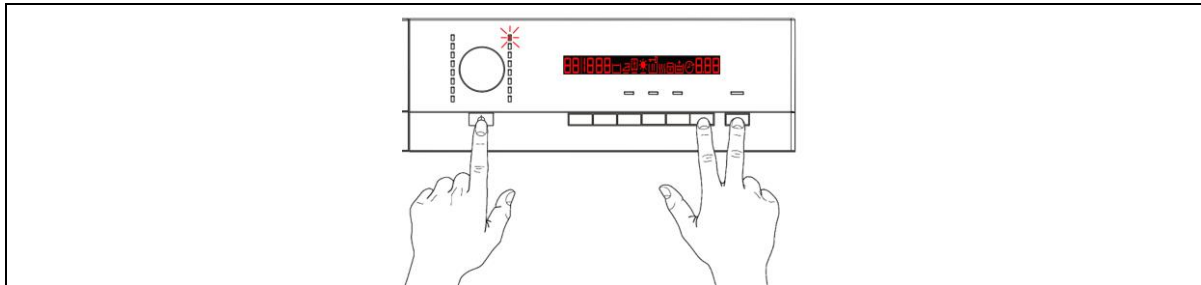
4.2 Exiting DEMO mode

To quit the demo mode, unplug the appliance at the socket, because the ON/OFF button does not function.

5 DIAGNOSTICS SYSTEM

5.1 Accessing diagnostics

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



The diagram shows a control panel with a rotary dial on the left, a digital display in the center, and a row of buttons on the right. A hand is shown pressing the rotary dial, and another hand is shown pressing the first two buttons in the row simultaneously.

Do not start the procedure with the buttons in the combination pressed

1. Switch on the appliance using the ON/OFF button. The first LED in the right hand row will light up.
2. Press the **START/PAUSE** button and the nearest **option button** simultaneously (as shown in the figure).
3. Hold the buttons/sensors down/pressed until the LEDs and symbols begin to flash in sequence (approximately 3 seconds).

In the first position, the operation of the buttons, of the related LEDs and of the groups of symbols shown on the LCD screen is checked; turn the programme selector dial **clockwise** to run the diagnostic cycle for the operation of the various components and to read any alarms (see diagnostic testing on the following page).

During this phase, if any combination of keys (except the one for diagnosis) is pressed, all the option combinations stored will be deleted (Extra rinse, Buzzer disable, etc.).

5.2 Quitting the diagnostics system









→ To exit the diagnostic cycle, switch the appliance off, then back on and then off again.

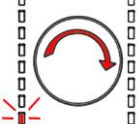



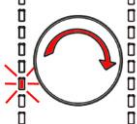



5.3 Phases of the diagnostics test

Irrespective of the type of circuit board and the configuration of the selector, after entering the diagnostic mode, turn the programme selector dial **clockwise** to perform the diagnostic cycle for the operation of the various components and to read any alarms.

Concurrently, a selector control code is shown on the LCD display, which indicates for **two** seconds the description in the last column of the table below.

(All alarms are enabled in the diagnostic cycle).

Selector position	Components activated	Working conditions	Function tested	LCD screen
1	<ul style="list-style-type: none"> The LEDs light up in sequence, the symbols on the LCD display light up in groups and the backlighting comes on, When a button/sensor is pressed, the group of icons on the LCD display or the corresponding LED lights up and the buzzer sounds. 	Always active	User interface functions	
2	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Door safety interlock Pre-wash solenoid valve 	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to pre-wash compartment	 Water level in the tub (mm)
4	<ul style="list-style-type: none"> Door safety interlock Solenoid valve pre-wash and wash 	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to conditioner compartment	 Water level in the tub (mm)
5	<ul style="list-style-type: none"> Door safety interlock Third Solenoid valve 	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to Third solenoid valve compartment	 Water level in the tub is displayed (mm)
6	<ul style="list-style-type: none"> Door safety interlock Fourth solenoid (hot water, if present) 	Door closed Water level below anti-flooding level Maximum time 5 mins.	Water fill to Fourth solenoid valve compartment	 Water level in the tub is displayed (mm)
7	<ul style="list-style-type: none"> Door safety interlock Wash solenoid, if the water in the tub is not enough to cover the heating element Heating element Weight sensor (if present, an extra litre of water is loaded) Recirculation pump 	Door closed Water level above the heating element. Maximum time 10 mins or up to 90°C. (*)	Warming up Circulation	 Temperature in °C measured using the NTC probe.
8	<ul style="list-style-type: none"> Door safety interlock Wash solenoid, if the water in the tub is not enough to cover the heating element Motor (55 rpm clockwise, 55 rpm anti-clockwise, 250 rpm pulse) 	Door closed Water level above the heating element	Check for leaks from the tub	 Drum speed in rpm/10

9		<ul style="list-style-type: none"> - Door safety interlock - Drainage pump - Motor up to 650 rpm then at maximum spin speed (**) 	<ul style="list-style-type: none"> - Door closed - Water level lower than anti-boiling level for spinning 	<ul style="list-style-type: none"> - Drain, calibration of analogue pressure switch and spin 	 Drum speed in rpm/10
10		<ul style="list-style-type: none"> - Door safety interlock - Drainage pump - Power fan - Condensation solenoid valve - Drying heating element 	<ul style="list-style-type: none"> - Door closed - Water level below anti-boiling level - Maximum time 10 minutes 	<ul style="list-style-type: none"> - Drying 	 Displays the air temperature alternating detection by the two NTC probes
11		<ul style="list-style-type: none"> - Reading/Deleting the last alarm 	-----	-----	
12 ÷ 16		<ul style="list-style-type: none"> - The LEDs light up in sequence, the symbols on the LCD display light up in groups and the backlighting comes on, - When a button/sensor is pressed, the group of icons on the LCD display or the corresponding LED lights up and the buzzer sounds 	Always active	User interface functions	

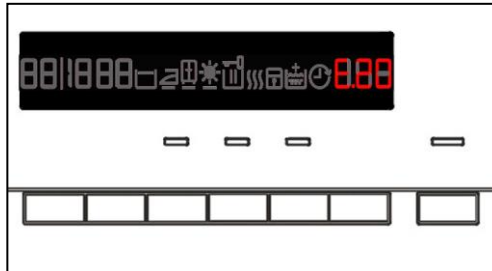
(*) In most cases, this time is sufficient to check the heating. However, the time can be increased by repeating the phase without draining the water: pass for a moment to a different phase of the diagnostic cycle and then back to the heating control phase (if the temperature is higher than 80°C, heating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

(**) The check at the maximum speed occurs without control of the A.G.S. and no garments must be inside the appliance.

6 ALARMS

6.1 Displaying user alarms

When a problem occurs in the appliance and a “WARNING” or “ALARM” is triggered, this is shown in the three digit display (where the time left to the end of the cycle is shown), this information ceases to be displayed when the problem is repaired/solved. The buzzer then emits a sound for 5 minutes. This does not occur for alarm EH0.



The alarms displayed to the user are listed below:

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

The alarms listed below:

- ↵ EF0 – Water leakage (Aqua Control System)

The intervention of a service engineer is required

For the alarm on the other hand:

- ↵ EH0 – Voltage or frequency outside the normal values

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

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

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

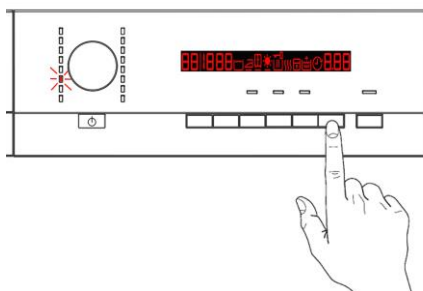
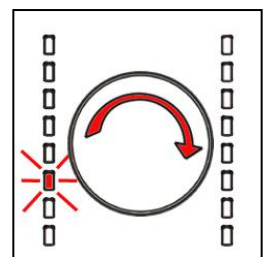
Certain alarm conditions require a drain phase to be performed before the door can be opened for safety reasons:

- 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.

6.2 Reading the alarms

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

- enter the diagnostic mode (parag. 5.1).
- 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 previous alarms, press/touch the button/sensor to the left of the START/PAUSE button in sequence (as shown in the figure).
- To return to the last alarm, press/touch the START/PAUSE button/sensor.



6.3 Rapid reading of alarms

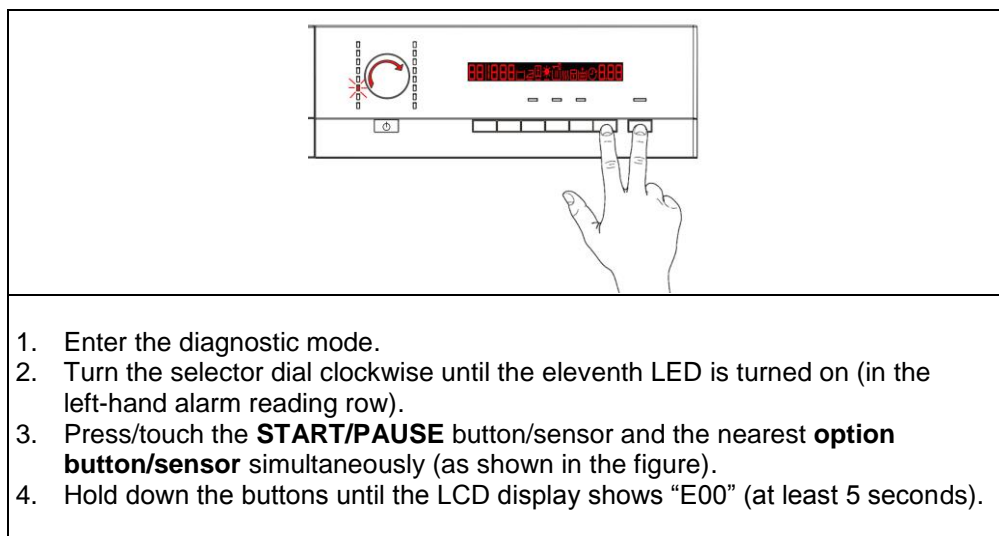
The last alarm can even be displayed if the selector is not in the tenth diagnostic position or the machine is in normal operation (e.g. while a washing programme is in progress):

- Press the **START/PAUSE** button and the nearest **option button** simultaneously (as if you were entering DIAGNOSTIC mode) and hold for at least 2 seconds: the LCD display shows the last alarm.
- The alarm will continue to be displayed until a button is pressed.
- While the alarm is displayed the machine continues to carry out the cycle, or if it is in the selection phase any options that have already been selected will remain in the memory.

6.4 Deleting the last alarm

It is good practice to cancel the alarms stored:

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



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

7 OPERATING TIME COUNTER

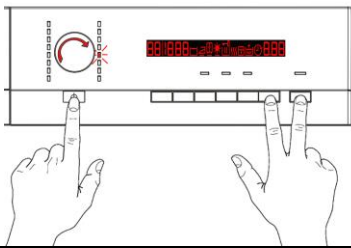
Using a specific procedure, the operator can display the total operating time for the appliance, which is counted from the moment it is first switched on.

The unit can count up to a maximum of **6,550** hours of operating time.

- Only the operating time of normal programmes (and not diagnostic cycles) is counted.
- The actual operating time for the cycle is counted (which does not include pauses, delayed start time, rinse hold time and soaking phases).
- The precision of the counter is 30 seconds per programme.
- Only whole hours of operation are counted (1h and 59min = 1h).

7.1 Reading the operating time

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






Do not start the procedure with the buttons in the combination pressed

1. Turn the appliance on at the ON/OFF switch.
2. Turn the selector dial clockwise until the **fifth** LED in the right-hand row is on.
3. Press the **START/PAUSE** button and the nearest **option button** simultaneously (as shown in the figure).
4. Hold down the buttons until the hours of operation appear on the display (at least 5 seconds).

7.2 Display of total operating time

This time is displayed with a sequence of two digits at a time: the first two digits indicate thousands and hundreds, the second two digits indicate tens and units for the SERIES 7 and 8, while the time is displayed in a single sequence for SERIES 9.

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

	Phase 1	Phase 2	Phase 3
	For <u>two seconds</u> It displays: Hr	For <u>two seconds</u> , the following digits are displayed: ↙ thousands (6) ↘ hundreds (5)	For the next <u>two seconds</u> the following digits are displayed: ↙ tens (5) ↘ units (0)
SERIES <u>7</u>			

At the end of phase three (after the tens and units are displayed), the cycle is repeated.

To return to normal mode, either: switch the appliance off or press a button or turn the selector knob.

8 OPTIONS

8.1 Compatible between options

		OPTIONS																	
		Rinse hold	Night cycle	Pre-wash/Soak (*)	Stains	Extra-rinse	Easy-iron	Economy	Cupboard Dry	Daily	Super Quick	Sensitive	Reduced spin speed	No spin	Aquasol	Max steam	Medium steam	Minimum steam	Drying
Compatibility with OPTIONS	Rinse hold			X	X	X	X	X	X	X	X	X			X	X	X	X	
	Night cycle		X		X	X		X	X	X	X				X	X	X	X	
	Pre-wash/Soak (*)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Stains	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Super rinse	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Easy-iron	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Economy	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X
	Cupboard Dry	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Daily	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Super Quick	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Sensitive	X		X	X			X	X	X	X	X	X	X	X	X	X	X	X
	Reduced spin speed			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	No spin			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Aquasol	X	X	X	X	X	X		X	X	X	X	X	X	X	X			X
	Max steam	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
	Medium steam	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X		
	Minimum steam	X	X	X	X	X	X	X	X	X	X	X	X	X				X	
Drying			X	X	X		X	X	X	X				X				X	
Phases where selection/ modification is possible	Selection	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	
	Pre-wash	X	X			X	X					X	X	X	X	X	X	X	
	Wash	X	X			X	X					X	X	X	X	X	X	X	
	Rinses	X																	
	Spin																		

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

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

- The delayed start is compatible with all programmes except for Drain; the maximum time selectable is 20 hours.
- The selection of the spin cycle is available for all programmes, except for Drain/Soak/Extra Silent.

8.2 Description of options

- **Rinse hold**

- During the cycle the intermediate rinses and spins are performed.
- Stops the appliance with water in the tub before the final spin cycle.
- Once the Rinse Hold has ended, the appliance rotates the drum every two minutes for up to a maximum of 18 hours, after which it stops.
- To drain the water, simply press the START/PAUSE button to run the drain and spin cycles.

- **Pre-wash**

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

- **Prewash**

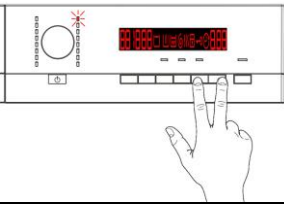
- Adds a pre-wash phase with heating to 30°C (or cold, if selected) plus 30' hold with HAND WASH movement.
- Completes the cycle.

- **Stains**

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

- **Super rinse**

- Adds **two** rinses in the COTTONS – SYNTHETICS – DELICATES cycles.
- Eliminates the spin at the end of washing.

ENABLING/DISABLING EXTRA RINSE USING A COMBINATION OF KEYS
Appliances which do not envisage the option SUPER RINSE combined with a button can enable it through a key combination.

During the selecting phase, press the two buttons shown in the figure simultaneously for a few seconds until the related icon lights up. This option also remains enabled during subsequent cycles. To disable it, repeat the same operation until the related icon is turned off.

- **No spin**

- It eliminates all the spin phases.
- It adds three rinses to the COTTON cycle and one to the synthetic fabrics cycle.

- **Daily**

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

- **Super quick**

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

- **Delayed start time**

- Adds a pause before the start of the programme. The delay time is shown on the three digit display (see page 14 Delayed start).
- 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.

- **Automatic drying (WASHER-DRYERS – only on certain models)**

- You can choose from three different levels of automatic drying for COTTONS and one for SYNTHETIC FABRICS:

- ☞ Iron dry (only for cotton)
- ☞ Wardrobe dry (cotton and synthetic fabrics)
- ☞ Extra dry (only for cotton)

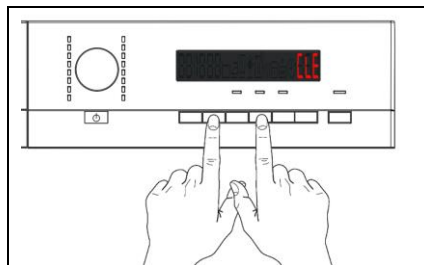
- The drying time is calculated automatically by the appliance.
- The drying phase can be performed both as automatic drying (non-stop programme), if selected together with a washing cycle, or as a separate programme.

- **Time-controlled drying**

- Press this button to select from 10 to 250 minutes of drying for the COTTON cycles and from 10 to 210 minutes for the SYNTHETICS cycles, 5 minutes at a time.
- The selected drying phase either in automatic drying or as a separate programme.

- **Removing fluff from the drum (washer dryer only)**

To remove fluff from the drum after a drying cycle, a drum cleaning cycle can be enabled by pressing a combination of keys. Select the rinse cycle by pressing the relevant combination; the LCD screen displays "CLE" (where the wash or drying time is shown). At the end of the cleaning cycle, the LCD screen goes back to displaying the rinse cycle time.



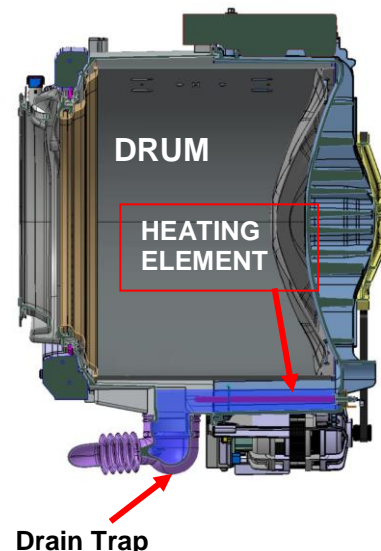
9 Generating STEAM

Certain programmes can be configured to generate steam, refresh the laundry or remove some creases or make ironing easier.

To obtain steam, during these programmes, the quantity of water filled in the tub must be enough to cover the heating element and the maximum temperature to reach is 60°C/75°C.

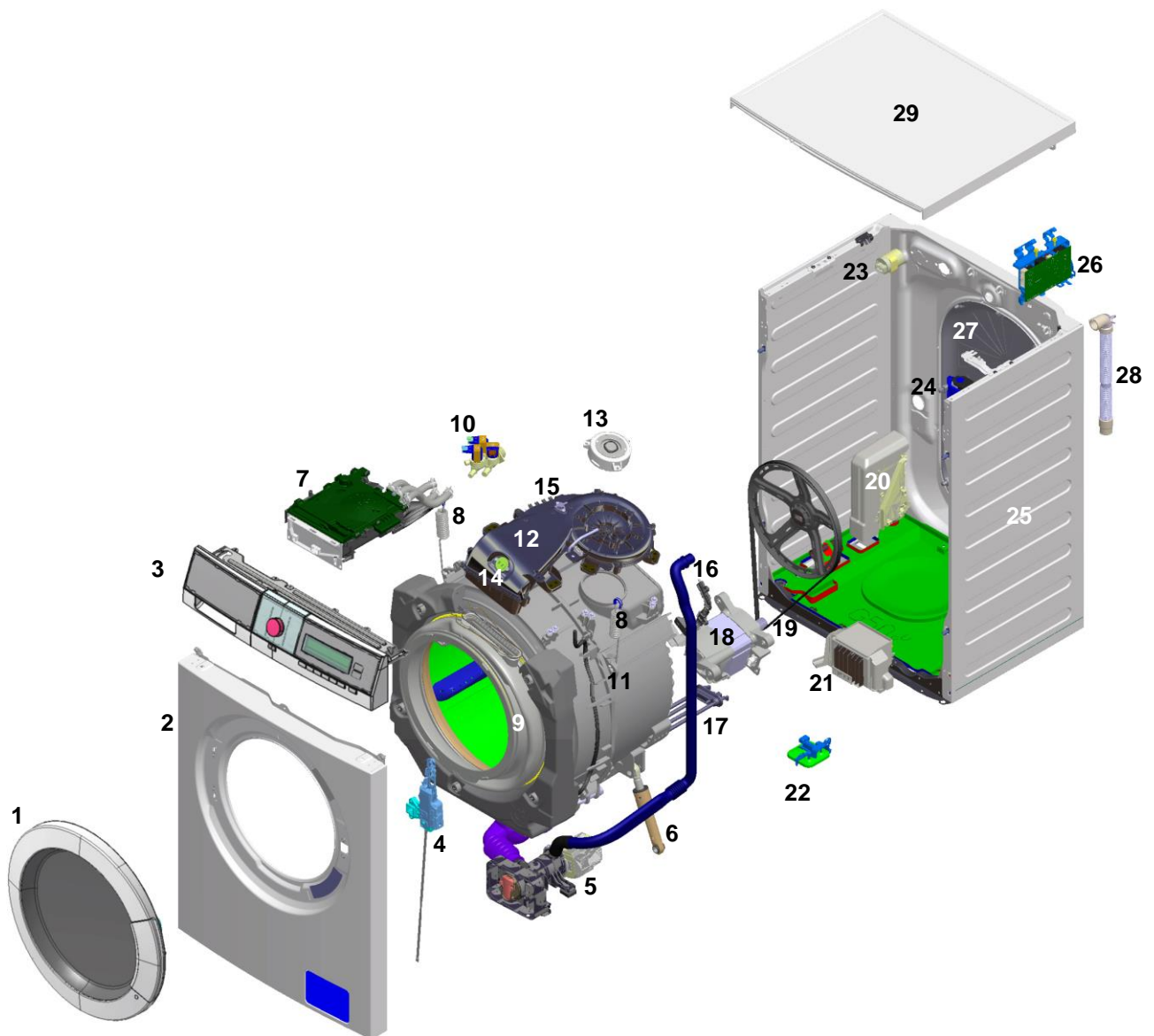
During the water filling and the movement of the drum, the laundry must not get wet.

The appliance must be levelled properly, because only a few degrees of difference in level are enough for water to enter the drum and get the laundry wet.



10 TECHNICAL CHARACTERISTICS

10.1 Construction characteristics (appliances fitted with the EWX11831)



1. Door
2. Front panel
3. Control panel
4. Door Lock
5. Drainage pump
6. Shock absorbers
7. Detergent dispenser
8. Washing unit suspension springs
9. Front counterweight
10. Solenoid valves
11. Washing unit
12. Warm air conduit
13. Fan motor

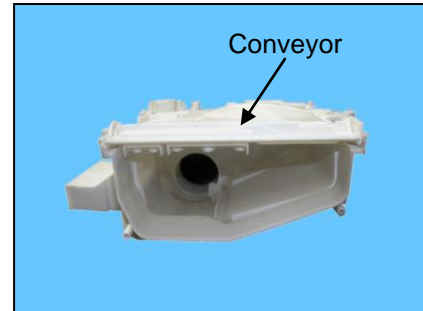
14. NTC probe (drying)
15. Thermostats
16. NTC probe (humidity)
17. Washing heating element
18. Motor
19. Belt and pulley
20. Main electronic circuit board
21. Inverter
22. Aqua Control
23. Noise filter
24. Analogue pressure switch
25. Back unit casing
26. PCB - WD
27. Back panel
28. Drain Pipe
29. Worktop

10.2 Detergent dispenser

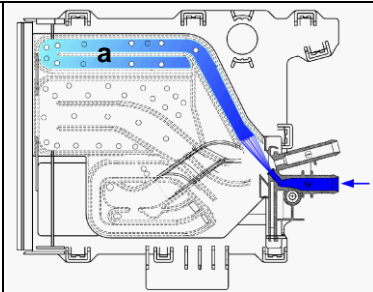
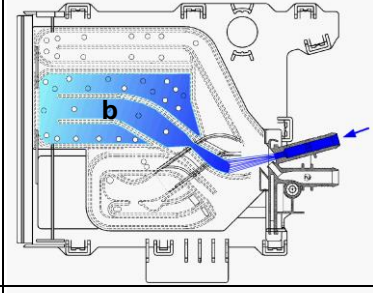
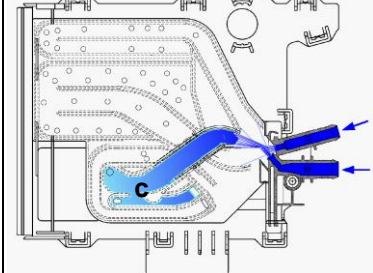
10.2.1 Detergent dispenser with multi-way solenoid valves

The water in the detergent dispenser is filled through a solenoid valve for cold water (with one inlet and 3 outlets); The detergent dispenser has 3 compartments.

These diagrams do not take into consideration the condensation valve inlet.



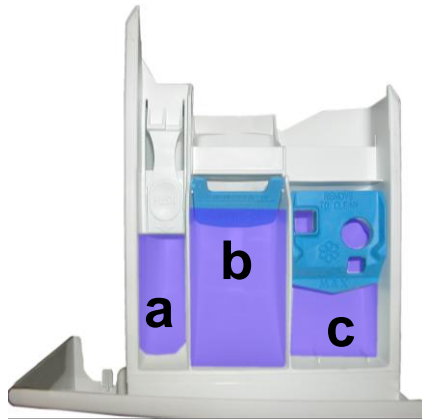
Operating principle.

<p style="text-align: center;">Water fill to pre-wash compartment (pre-wash solenoid)</p> <ul style="list-style-type: none">• This solution is used with the three compartment tray: the detergent in compartment “a” is loaded at the start of the pre-wash phase.• Alternatively, in some models with the “stains” option, compartment “a” can be used for the stain remover, which is loaded during the wash phase.	
<p style="text-align: center;">Water fill to wash compartment (wash solenoid)</p> <ul style="list-style-type: none">• In all models: compartment “b” is used to contain the detergent, which is loaded at the start of the wash cycle.	
<p style="text-align: center;">Water fill to conditioner compartment (pre-wash and wash solenoid valves)</p> <ul style="list-style-type: none">• In all models: compartment “c” is used for the conditioner, which is loaded at the start of the final rinse: the pre-wash and wash solenoids are activated simultaneously.	

10.3 Detergent drawer

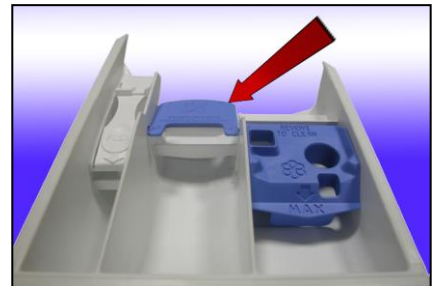
The detergent dispenser is designed for use with: powder detergent or liquid detergent.

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



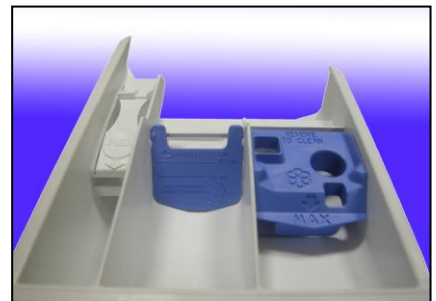
Flip it up to use powder detergent.

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 59).

Flip the flap down to use liquid detergent.



For further details, read the instruction manual.

10.4 Washing unit

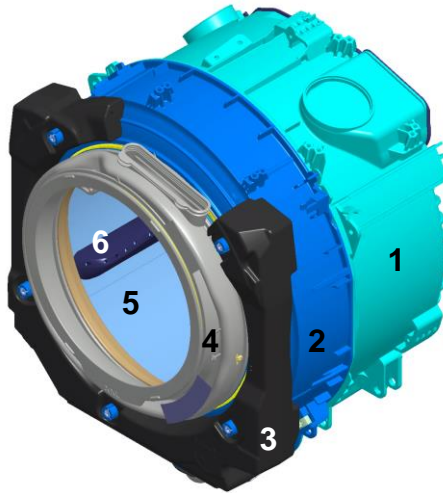
WASHING UNIT			
Type	Load capacity (cottons) Wash	Load capacity (cottons) Drying	Drum volume
	max.	max.	
G50XXL	8 Kg	See instruction manual	52 litres
G50XL	8 Kg	See instruction manual	52 litres

The washing unit is made up of:

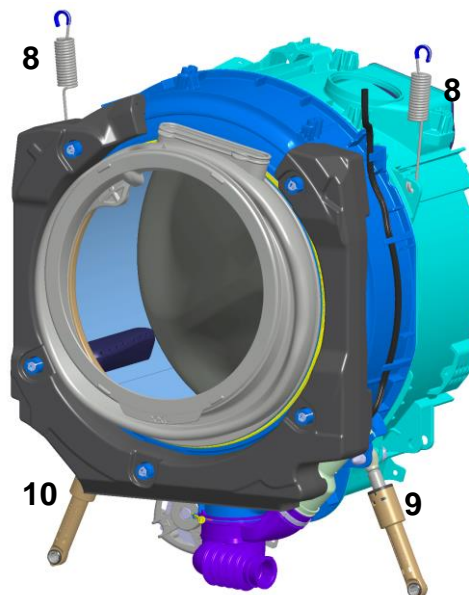
A back casing (1) and a front casing (2), welded together to form the welded tub. Inside this is the drum (5) (made of stainless steel) with the three blades (6) (in carboran) snap-fastened to the drum.

To balance the unit during the washing movements and during the spin phases, the counterweights are secured in place with screws: one at the front (3). and one at the top (7).

The bellow seal (4) is fixed at the front.



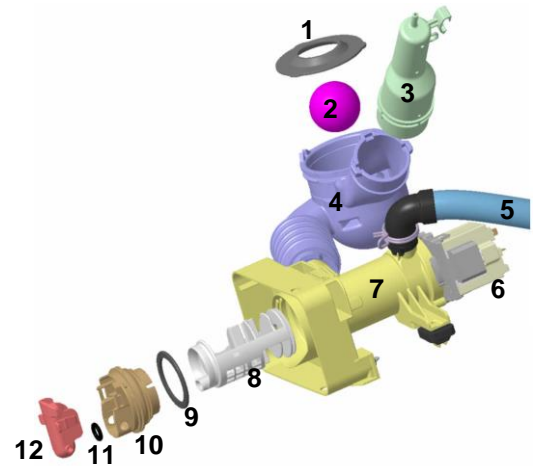
The washing unit is suspended by two coil springs (8) attached to the top crosspiece, and the oscillations are damped by two shock absorbers, one on the right (9) and one on the left (10) (looking straight at the front of the appliance).



10.5 Water circuit

10.5.1 OKO version drain circuit

1. Ball lock ring
2. Ball
3. Pressure chamber
4. Filter body tub tube
5. Drain pipe
6. Drainage pump
7. Filter body
8. Filter or needle trap
9. Filter dial seal
10. Filter dial
11. Locking lever seal
12. Locking lever



10.5.2 New Filter dial

Until now, the loading circuit was drained as described below:

- ↪ For some machines it is necessary to disconnect the drain pipe from the back panel, positioning it as low down as possible to drain any remaining water from the inside of the drain circuit.
- ↪ In other machines, there is a small hatch at the bottom of the front panel, from which it is possible to access the filter dial. Close to this is a small pipe that can be used to drain the water, after the plug has been removed from it.
- ↪ For machines manufactured with the new filter dial: open the flap at the bottom of the front panel. The filter knob is as shown in fig. 1.

To drain the water, simply:

- press the two tabs that lock the plug closing lever, fig. 2.
- simultaneously extract the top part of the lever as shown by the yellow arrow in fig. 3.
- position the closing lever as shown in fig. 4.

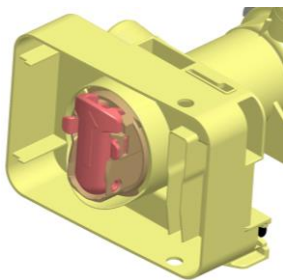


Fig. 1

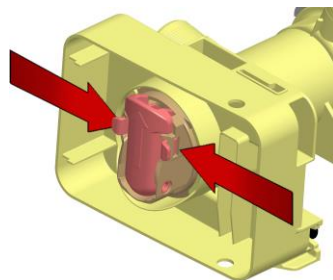


Fig. 2

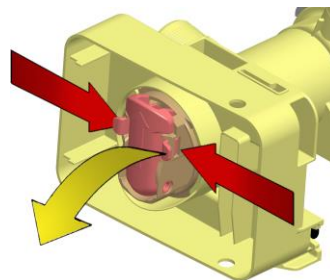


Fig. 3

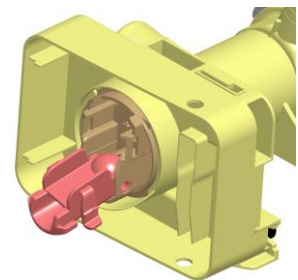


Fig. 4

10.6 Electronic control

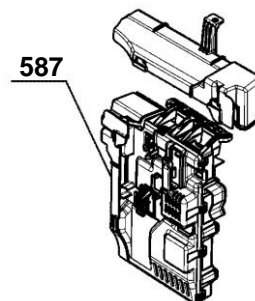
10.6.1 Programming/Updating the main circuit board



- Any programming / updating / diagnostics operation carried out with the board inserted in the machine 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 << **Guide to Sidekick** >> at the address (<http://electrolux.edvantage.net>) on the Electrolux Learning Gateway portal.

In order to update/programme the main board, insert the **Sidekick** connector in the position indicated by the red arrow:

- From the WD Satellite board on the upper part of the appliance, see Fig. a (only appliances fitted with the EWX11831), or directly from the main board see Fig. b.

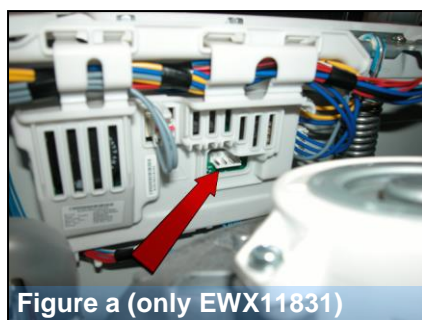


Figure a (only EWX11831)

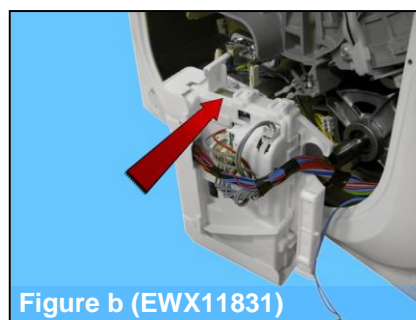


Figure b (EWX11831)



Figure b (EWX14931)

10.7 Electronic control

The electronic control is made up of:

1. PCB – WD. (only appliances fitted with the EWX11831)
2. Control/display circuit board.
3. Main circuit board and INVERTER motor control board (not shown in the figure, positioned at the bottom rear of the appliance on the right and left respectively, seen from the rear).

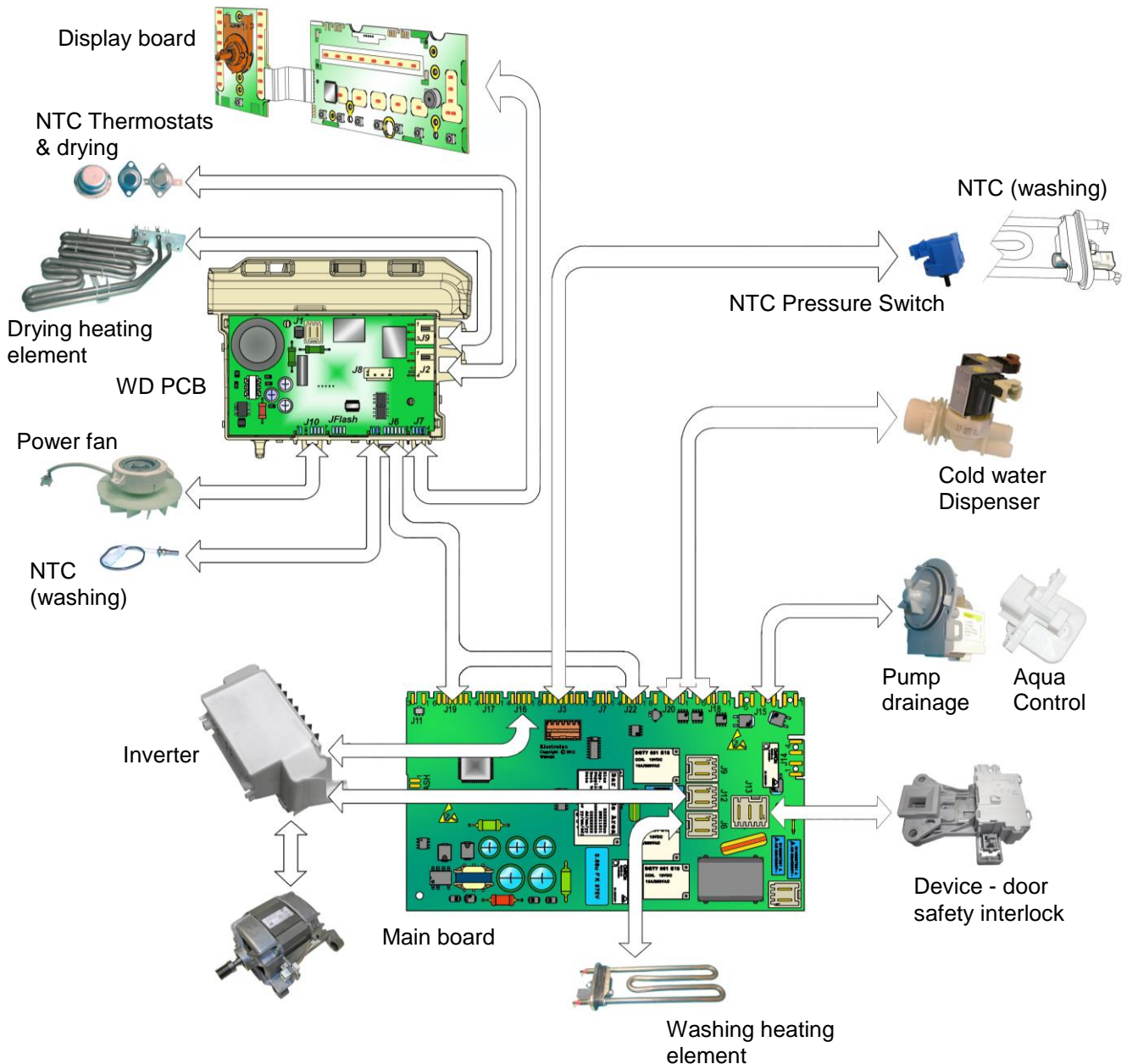
The description provided in the previous page for the washing machine electronic control also applies to washer dryers, with the addition of the drying part, as follows:

Consisting of a WD board which liaises continuously with the main board and concurrently controls:

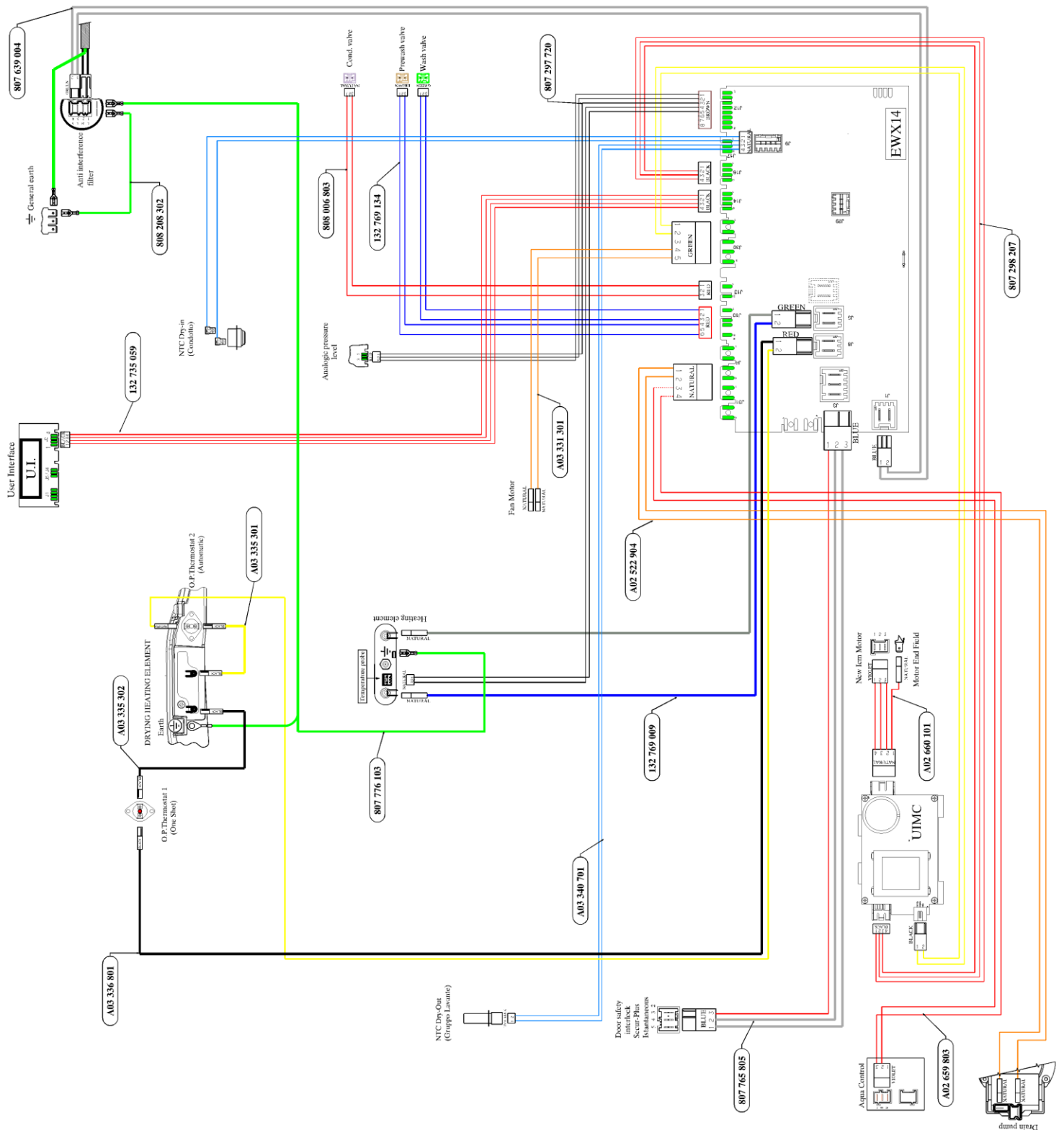
- The laundry drying temperature via the thermostats (positioned near the heating element) and the NTC probe (positioned on the conduit).
- The degree of humidity of the laundry via an NTC probe (positioned in the rear casing of the washing unit).
- Powers the drying heating elements.
- Powers the power fan.
- It conveys the data exchanged between the main board and the display board.



10.7.1 EWX11831 Electrical characteristics



10.7.2 EWX14931 Electrical characteristics



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.

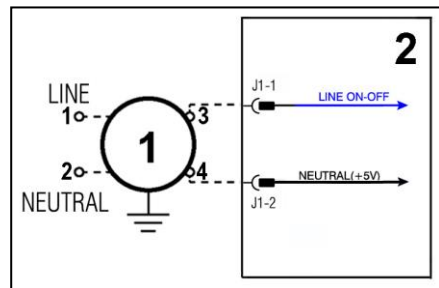
11.1 Noise filter



11.1.1 General characteristics

It has the same characteristics as those described above; the only difference being that it is not incorporated into the circuit board, but instead secured to the rear of the washing machine.

1. Noise filter
2. Main electronic circuit board



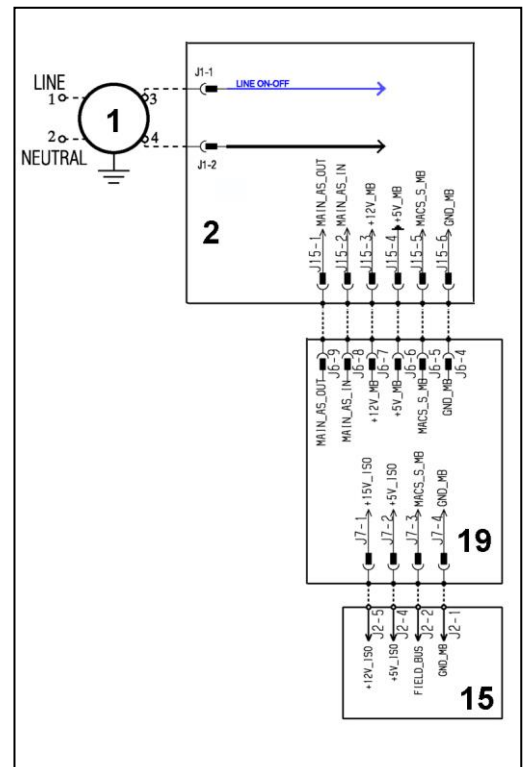
11.2 Display board

The main circuit board (2) supplies the power supply voltage to the control/display board (15). It is possible to select the programmes by turning the selector. The options can be selected by pressing the buttons and the START/PAUSE button is used to start the machine or pause it. The buzzer - where featured - is powered by the display board.

The communication data between the main board and the display board pass via the WD board (19).

The connector for programming/updating the main board is situated in the WD board (19).

1. Noise filter
2. Main electronic circuit board
19. WD PCB
15. Display board



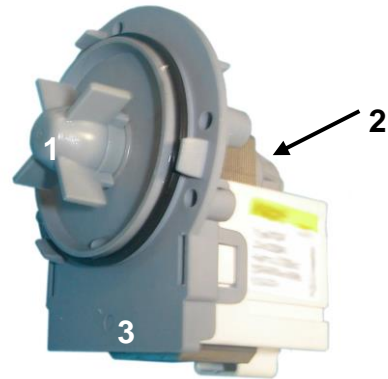
11.3 Drain pump – Aqua control



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

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. The rotor 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

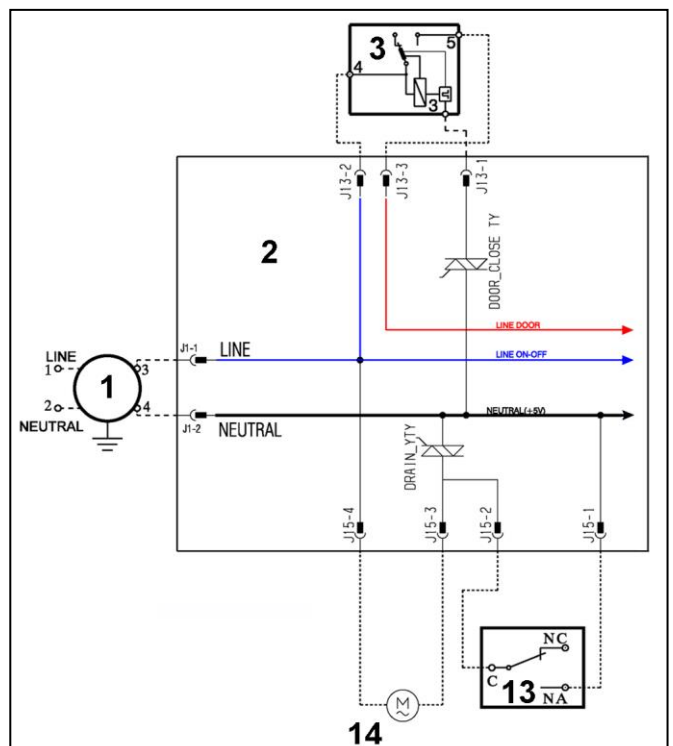
Synchronous pumps, when powered on empty (disconnected from the water circuit), may not start in some cases because their very construction makes them need an antagonist torque on the wheel to allow the rotor to move in one of the two directions.

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.

1. Noise filter
2. Main electronic circuit board
13. Aquacontrol sensor
14. Drainage pump



11.4 Aqua control (where featured)

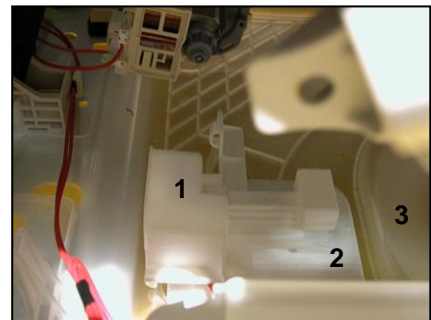
11.4.1 General characteristics




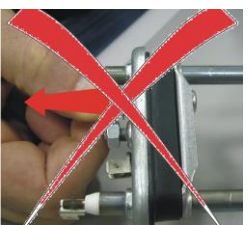
The aqua control is a sensor positioned in contact with the bottom of the machine. It detects any water leakage from inside the washing machine and feeds the drain pump (not only during normal operation but also when the appliance is turned off with the plug inserted into the power socket).

In the bottom of the washing machine there is a plastic bottom that forms a container. This collects any water leakage (from the tub, from the pipes, etc.), which flows into the area in which the float is positioned (made of polystyrene). In the presence of water this lifts up and triggers the microswitch, which powers the drain pump. When it is triggered, the LCD display shows an ALARM (if the machine is on). See table of alarms.

1. *Micro-switch*
2. *Float*
3. *Aqua control bottom*

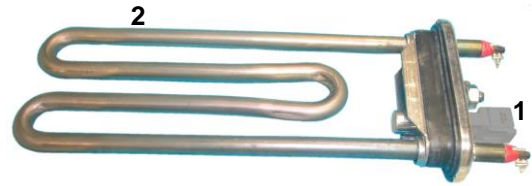


11.5 Heating element

	<ul style="list-style-type: none"> • When replacing the heating element, please refer to the code shown in the list of spare parts relating to the appliance. • It is strictly forbidden to tamper with the heating element in any way!!! (e.g. replace the NTC probe, etc...) 	
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11.5.1 General characteristics

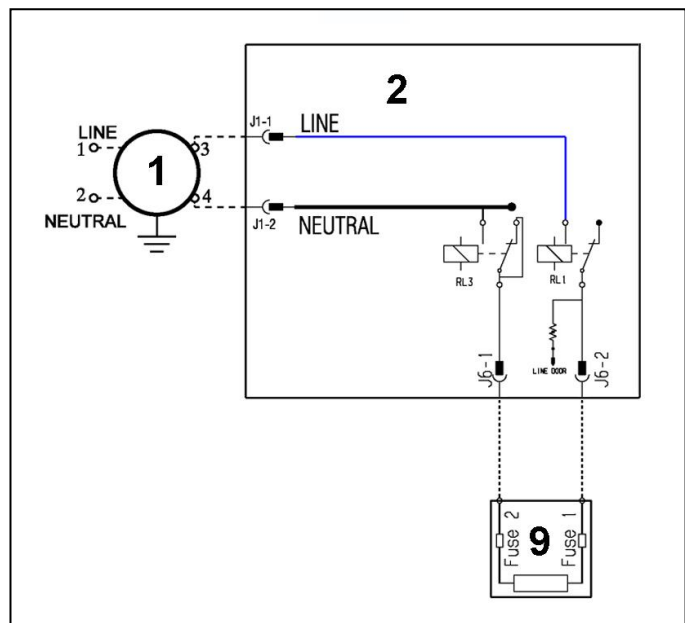
1. NTC probe
2. Heating element




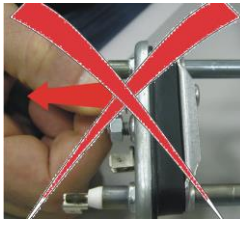
The heating element of the washing water is armoured, i.e. it is inserted in sealed tubular stainless steel casing.

It is powered by two relays (K1, K2) situated in 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).

1. Noise filter
2. Main electronic circuit board
9. Heating element

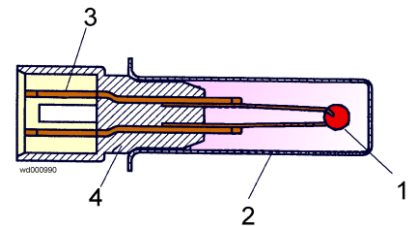


11.6 Temperature probe

	<ul style="list-style-type: none"> • When replacing the heating element, please refer to the code shown in the list of spare parts relating to the appliance. • It is strictly forbidden to tamper with the heating element in any way!!! (e.g. replace the NTC probe, etc...) 	
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11.6.1 General characteristics

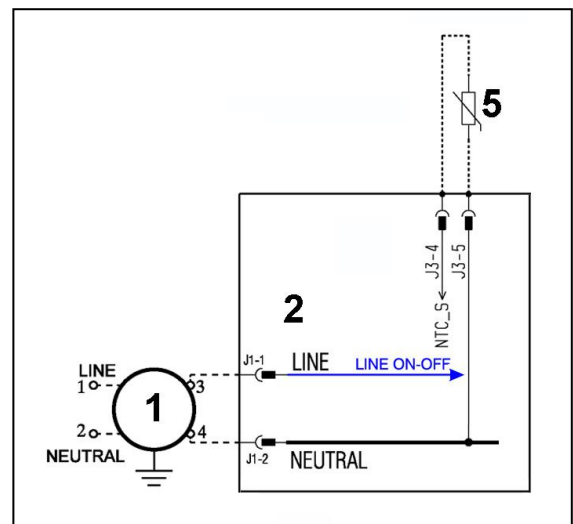
1. NTC heating element
2. Metal capsule
3. Terminals
4. Plastic casing



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

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

1. Noise filter
2. Main electronic circuit board
5. NTC probe

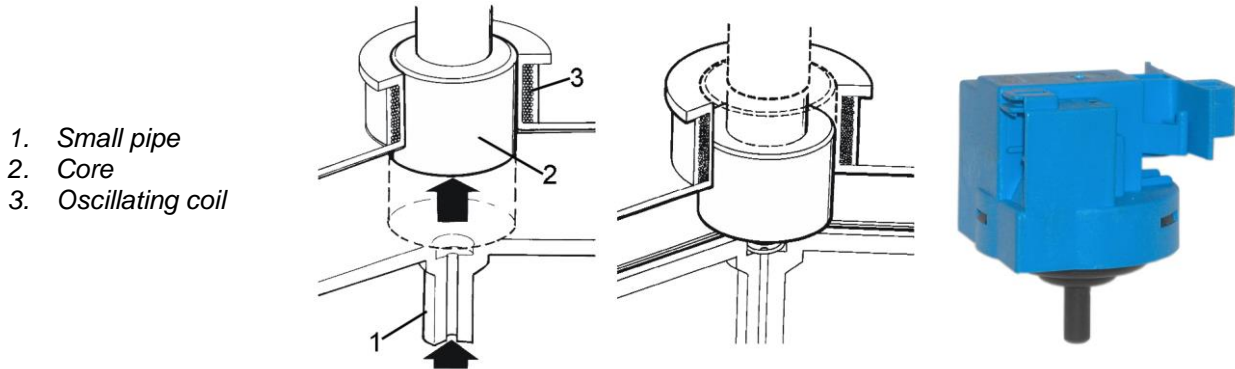


In the event of a fault (short-circuit or stoppage) an alarm will be displayed - see table of alarms.

11.7 Analogue pressure switch

11.7.1 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.



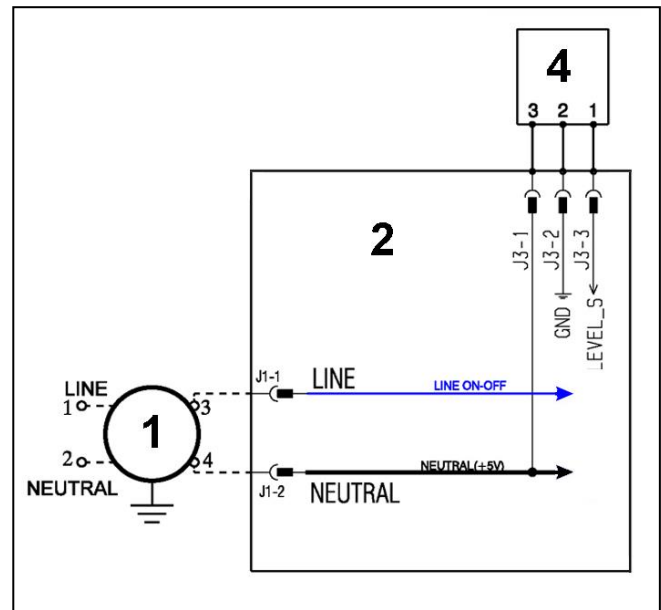
1. Small pipe
2. Core
3. Oscillating coil

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

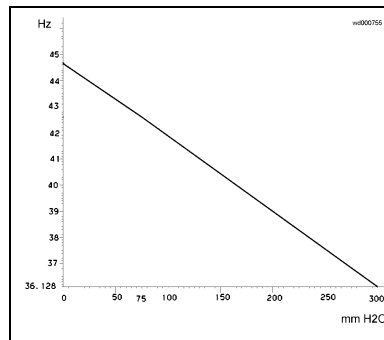
When water is introduced into the tub, this creates a pressure inside the hydraulic circuit that causes the membrane to change position. This in turn modifies the position of the core inside the coil, thus changing the inductance and the frequency of the oscillating circuit.

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

1. Noise filter
2. Main electronic circuit board
4. Analogue pressure switch



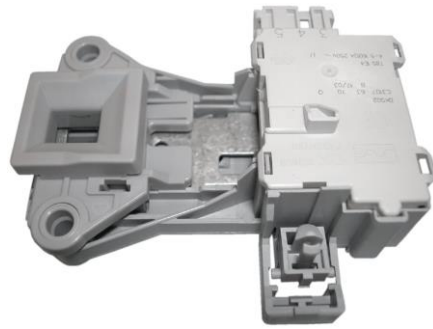
Operating frequency variation according to the quantity of water in the tub.



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

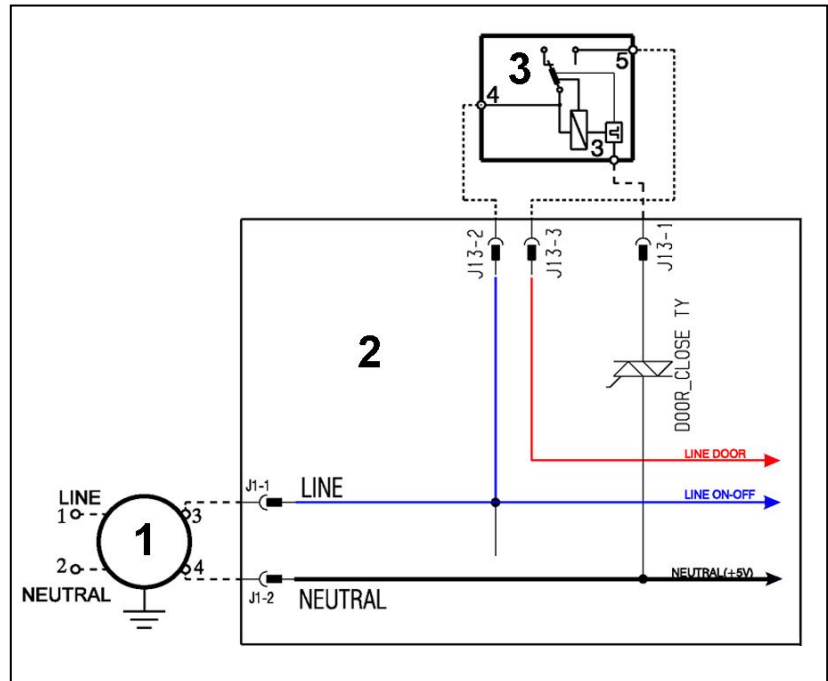
11.8 Door safety interlock - WM

11.8.1 General characteristics



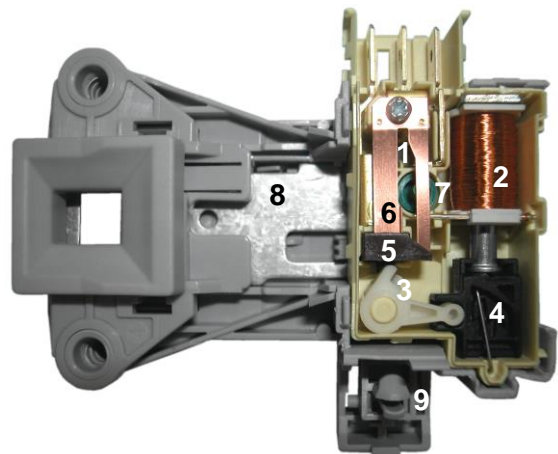
The instantaneous door interlock allows the door to be opened as soon as the drum stops, if the conditions described further are met.

1. Noise filter
2. Main electronic circuit board
3. Door safety interlock



11.8.2 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
9. Rod latch for manual door release



- When the programme starts (start/pause button) the main circuit board sends a voltage pulse, lasting 20 msec., to the solenoid 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)

Door open conditions

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

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

The previous door safety devices opened the door automatically, in the event of: power failure or the appliance being turned off with the ON/OFF button (before the wash cycle ended) or valve malfunction or faulty main board, because inside they had a PTC bi-metal which allowed the door to be opened after cooling, between 55 seconds and 4 minutes.

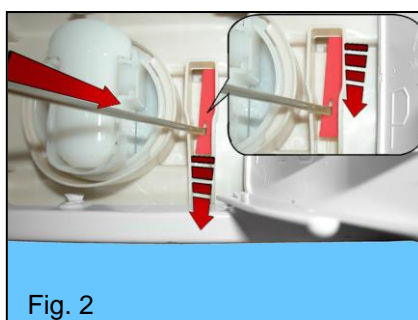
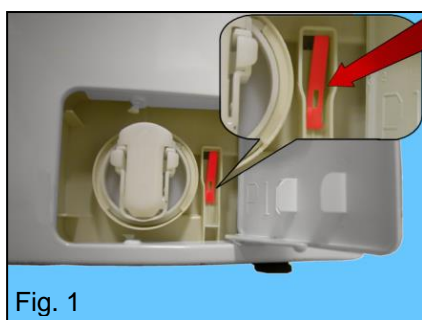
The new device has a manual opening system, which allows the door to be opened following the instructions below:

Before activating the manual opening of the door, check:

- If the water is above the lower level of the door, drain off the water; if possible set a drainage programme (or using the filter drainage knob after unplugging it from the mains socket).
 - ✓ Unplug the appliance from the socket.
 - ✓ Check that the drum is stationary.
- If the water is not above the lower level of the door, then it can be opened manually (see paragraph below).

For manual opening, proceed as follows:

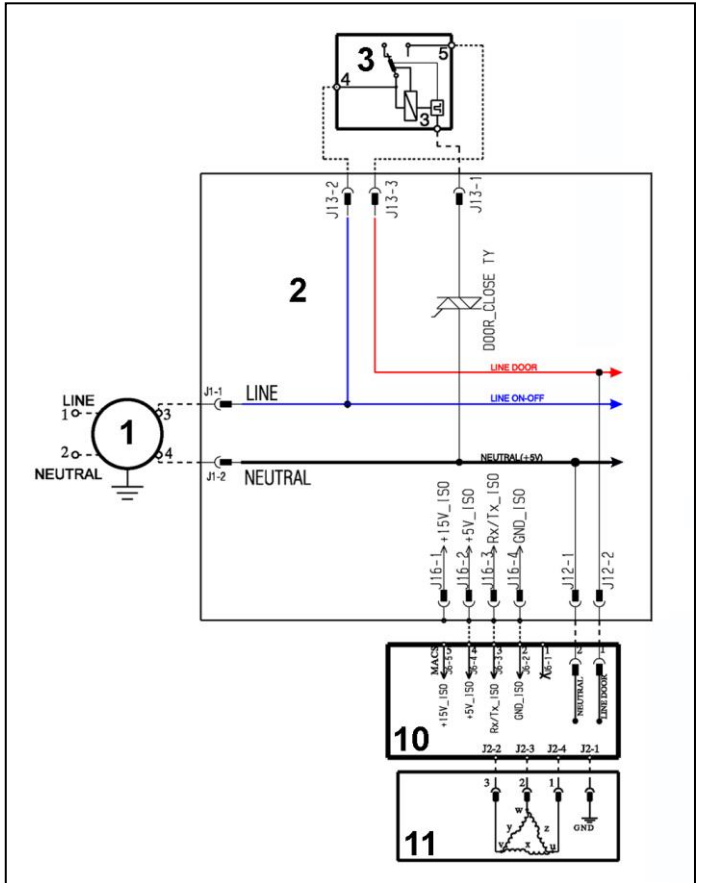
- 1) Open the filter flap (lower right hand side) and inside there is a small rod indicated by the arrow Fig. 1.
- 2) Insert a flat-tip screwdriver into the slit see Fig. 2 and push the small rod downwards and hold it in place while activating the handle Fig. 3 and open the door.



11.9 Three-phase asynchronous motor – Inverter

11.9.1 General characteristics

1. Noise filter
2. Main electronic circuit board
3. Door safety interlock
10. Inverter
11. Motor



11.9.2 Power supply to motor

Three-phase power is fed by the inverter (11), which sends through the connectors 5-6-7 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 310V.

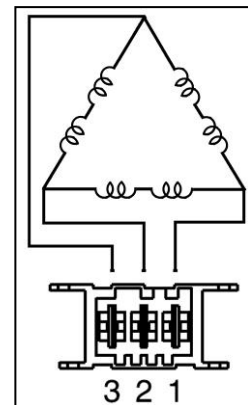
It is possible to get an idea of the efficiency of the motor by measuring the resistance of the coils:

Coil ohm 5.35 ~ ±7% (contacts 2-3)

Coil ohm 5.35 ~ ±7% (contacts 1-2)

Coil ohm 5.35 ~ ±7% (contacts 1-3)

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



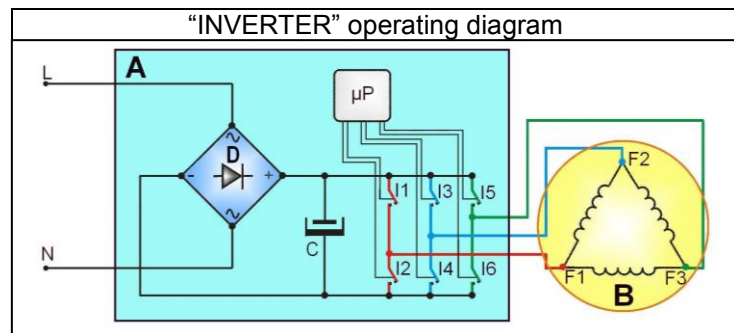
11.10 Inverter - UIMC / EMC14

11.10.1 General characteristics

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

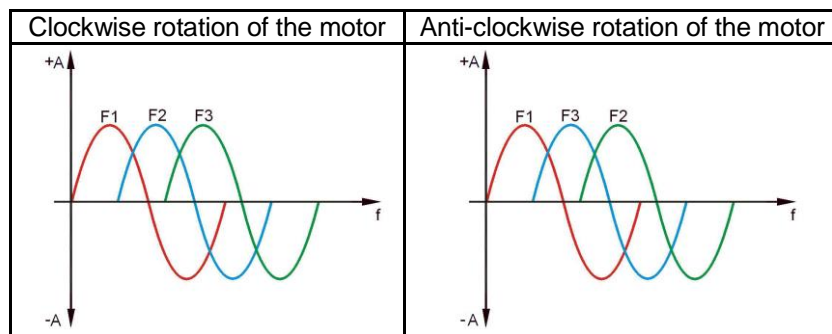


- L = Phase
- N = Neutral
- A = "INVERTER" board
- B = Motor
- C = Condenser
- D = Diodes
- I1-6 = Switches
- F1-3 = Motor connectors
- μP = Micro Processor



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

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



The motors powered by this inverter do not have tachometric winding. The inverter can detect/adjust the motor speed via the current absorption. During the spin phases, the microprocessor can perform, depending on the software configuration, the anti-foam check, where featured and the anti-unbalancing check.



- **Any work on electrical appliances must only be carried out by qualified personnel.**
- **Unplug the appliance before accessing internal components.**
- **After disconnecting the plug from the socket, wait about 2 minutes before removing the "INVERTER" plastic cover, thus allowing any condensers to discharge and avoid an electric shock.**

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

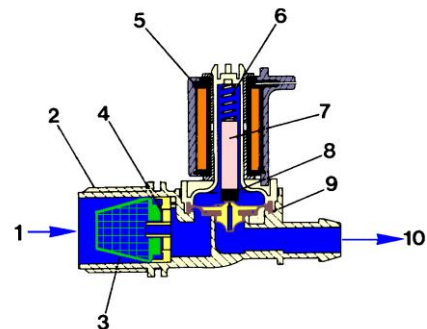
11.11 Solenoid valves

11.11.1 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



11.11.1.1 Original Principle

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

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

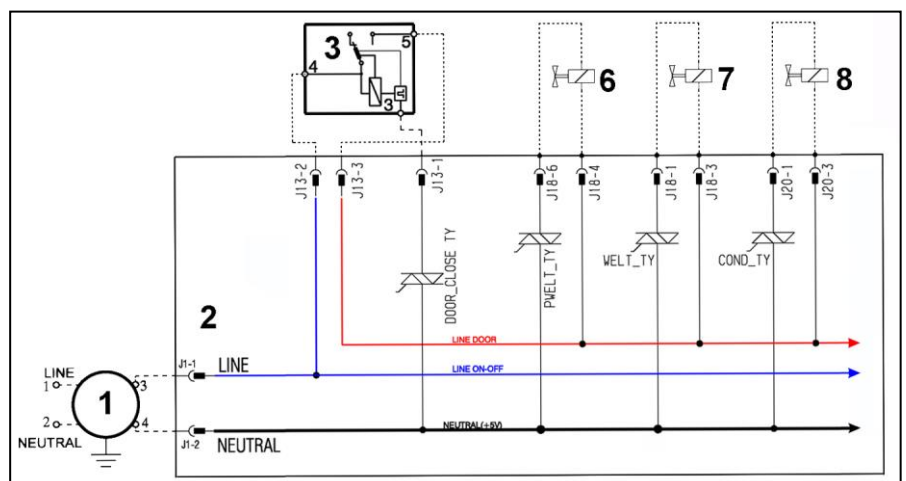
11.11.1.2 Mechanical jamming of the solenoid valve

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.

11.11.1.3 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.

1. Noise filter
2. Main electronic circuit board
3. Door safety interlock
6. Pre-wash solenoid valve
7. Wash solenoid valve
8. Condensation solenoid valve



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

12 DRYING CIRCUIT

In the cycles for synthetic fabrics as in the cotton cycles, the drying is performed with both heating elements in use (full power).

The drying cycles are split into:

- a. Automatic cycles:
The drying cycles can be performed at the end of the wash cycle or as a separate programme. The calculation of the time required to reach the desired degree of drying is made by the NTC probe (9) positioned on the conduit, combined with the microprocessor. Three types of drying can be selected:
 - ☞ Iron dry
 - ☞ Wardrobe dry
 - ☞ Extra Dry

These automatic cycles last a maximum of 250 minutes.

When a washing cycle also includes the automatic drying phase, the spin speed must not be less than 1,000 rpm.

- b. Time-controlled cycle:
The user selects the drying time (max 250 minutes for COTTONS and max 210 minutes for SYNTHETICS).

When the time-controlled drying is selected, the initial time is 10 minutes, every time the sensor is touched, the time increases by 5 minutes up to the maximum time, and then it is reset.

The spin speed must not be less than 800 rpm for Synthetic fabrics and 1,000 rpm for other fabrics.

In the COTTON cycles, during the automatic or time-controlled drying phase (more than 100 minutes), the appliance could perform a spin cycle at maximum speed if the temperature inside the drum is below 38°C; if it is higher, the spin cycle is not performed.

The end of each cycle is followed by a cooling phase, after which the 10-minute anti-crease phase is performed.

12.1 Technical characteristics

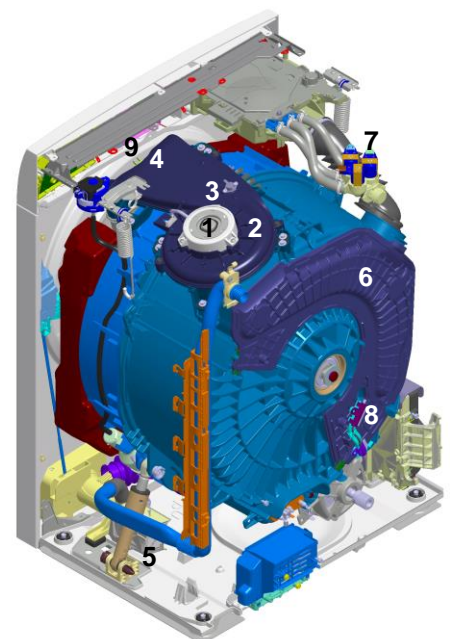
The power fan (1) is secured to the top of the conduit with screws, and the fan is secured to the shaft with a nut. The motor is powered by an Inverter circuit incorporated within it.

The conduit (4) consists of two half-casings, the top one and the bottom one sealed together; the assembly is secured to the tub assembly with screws; the thermostats (10) are situated near the heating element, the NTC probe (9) is secured to the front of the conduit and checks the degree of drying of the laundry.

The condenser (6) is obtained from part of the rear casing.

The NTC probe (8) which controls the degree of humidity of the laundry is situated in the rear casing.

1. Fan motor
2. Fan
3. Heating element casing
4. Conduit
5. Drainage pump
6. Drying condenser
7. Solenoid valves
8. NTC probe (humidity)
9. NTC probe (Drying)

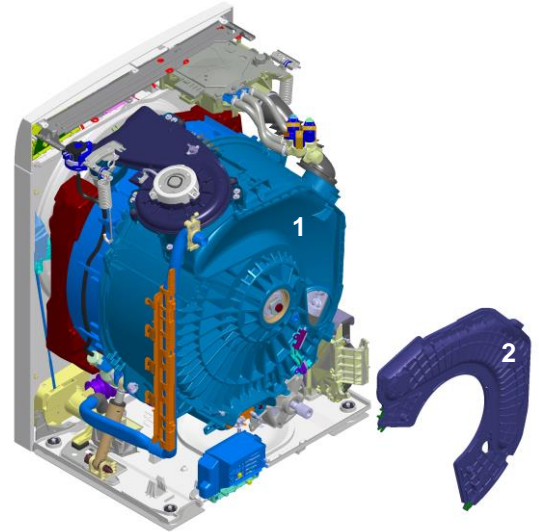


12.2 Condenser

The condenser was obtained at the rear of the casing by lowering the ribbing without modifying the washing capacity. The volume achieved in this way was sealed with a cover (2) vibration welded to the rear of the casing.

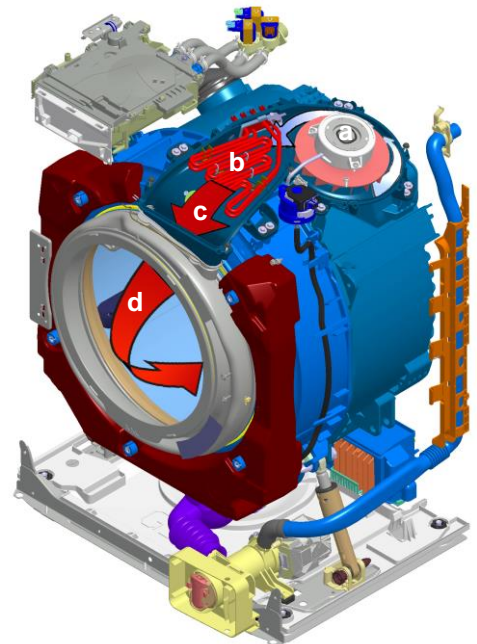
1. Condenser obtained in the rear casing
2. Condenser cover

The condenser cleaning occurs during the last rinse phase. Concurrently with the water entering the condenser, the circuit board powers the power fan, which reaches a speed of 4,200 rpm, causing turbulence inside the condenser.

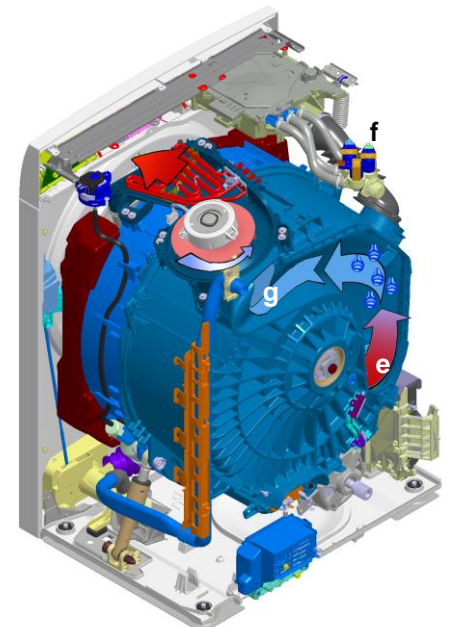


12.3 Principle of air circulation

The fan (a) conveys the air towards the heating unit (b), where it is heated, travels along the duct (c), so it is warm and dry when it enters the drum (d). It crosses the laundry (which turns back and forth with the movement of the motor), removing its humidity.



After moving through the laundry, the air exits from the bottom (e) of the rear casing, where the air is warm/humid. Due to the action of the fan, the air is taken in through the condenser, where - by means of the condensation solenoid valve (f) - water arrives (for the entire drying cycle from the detergent loading pipe) and causes a heat exchange, removing the humidity from the air and cooling it. At the top of the condenser (g), the air is dry and cold, and it returns to the fan circulation, and the phase is repeated until the end of the drying cycle.



12.4 Electric components

12.4.1 Three-phase power fan with permanent magnets

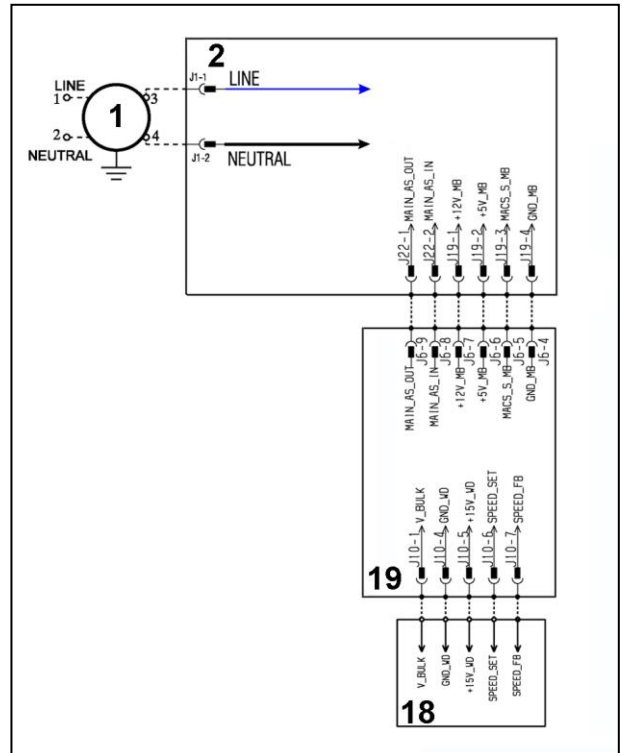
The motor that powers the air circulation fan for drying is three-phase with permanent magnets (making for high performance levels and low noise levels). To power it, an Inverter board was used, which is incorporated within the motor itself.

The fan is powered for the entire duration of the drying phase and revolves at a speed of 3,200 rpm, whereas the revolutions rise to 4,200 rpm during the condenser washing phase, causing turbulence within the condenser.



Its flow rate is approximately 90 m³ – hour

1. Noise filter
2. Main electronic circuit board.
18. Power fan with incorporated Inverter
19. WD PCB



In case of repair requiring the disconnection of the power fan power supply connector, proceed as follows:

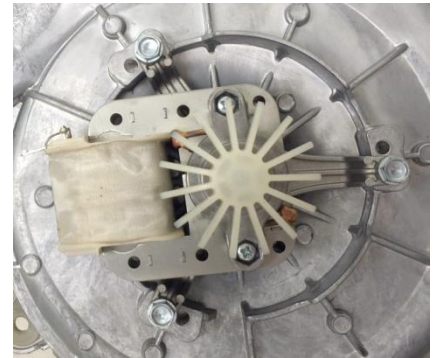
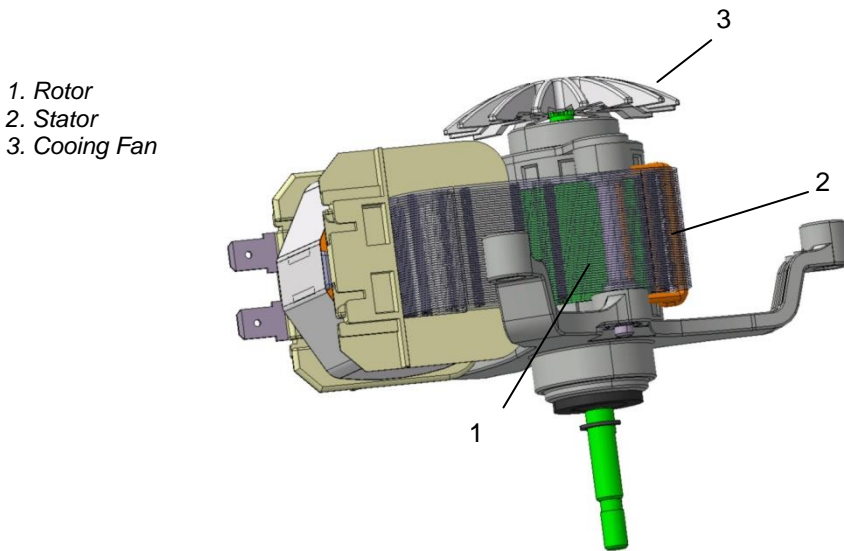
- ⚡ **Unplug the appliance from the electricity socket.**
- ⚡ **Wait approximately two minutes to allow a high flow rate condenser (situated in the drying board) to discharge and avoid over voltages which could damage the power fan.**
- ⚡ **Disconnect the power fan power supply connector.**

It is possible to get an indication of the efficiency of the power fan by checking certain resistance values between the connector terminals with a tester.

Connector terminals	1-4	5-4	6-4	7-4
Resistance	∞	37.58 KΩ	226.8 KΩ	∞

12.4.2 Fan Motor

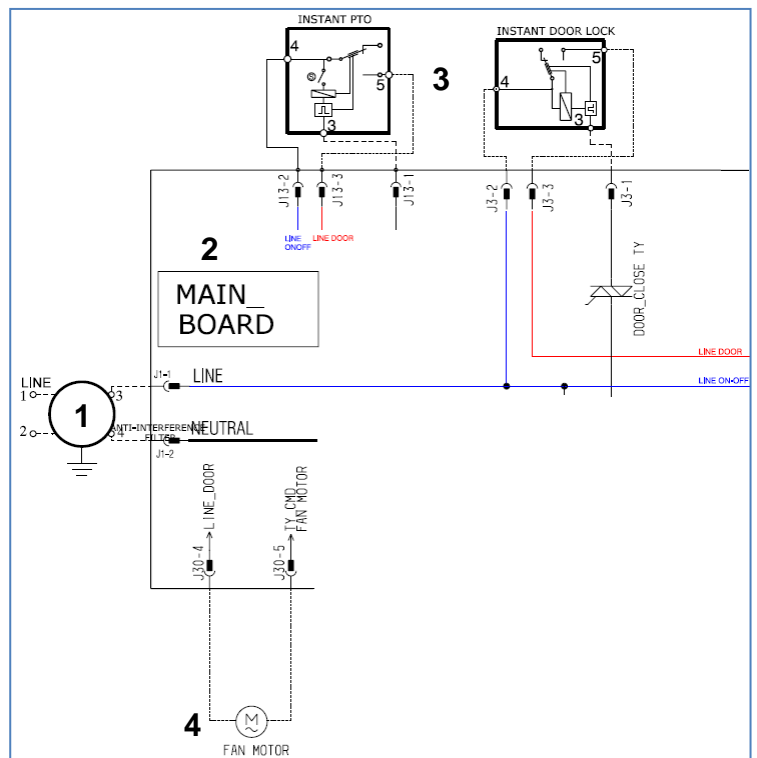
The motor which actions the air circulation fan for the drying phase is of the single-phase asynchronous motor. The rotor is of the "squirrel cage" type. The velocity of the shaft is approximately 2,900 rpm at 230V/50Hz without load while at load (assembled on WD appliance air duct) the velocity is approximately 2600rpm. It is powered directly by the main circuit board via a triac and is fitted with a thermal cut-out.



It is possible to get an indication of the efficiency Checking :

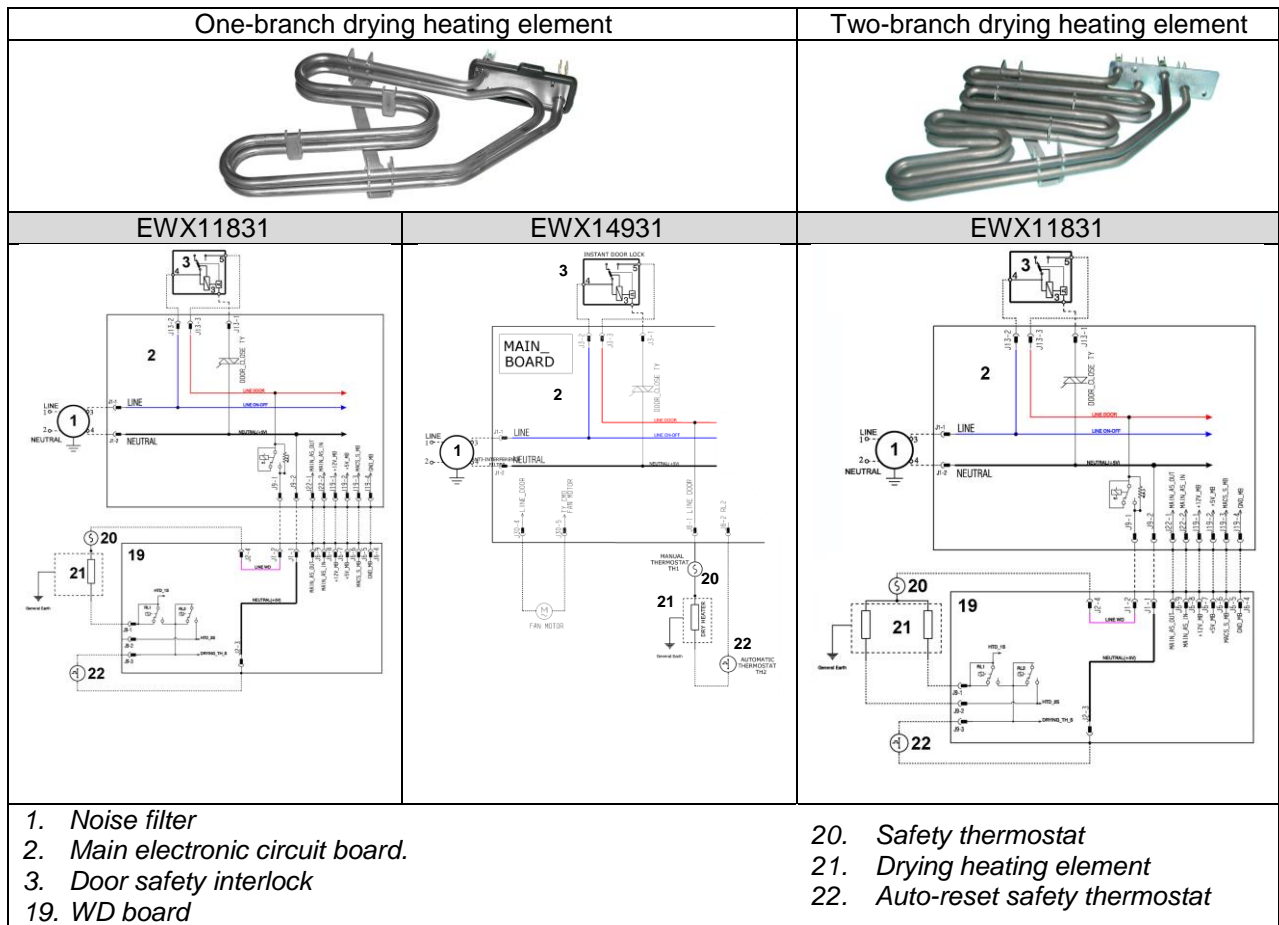
- Check that the rotor/shaft is not jammed.
- Measure the resistance of the stator with a tester.
- Check for friction of the rotor.
- Check the bearings.

1. Noise filter
2. Main electronic circuit board
3. Door safety interlock
4. Fan Motor



12.4.3 Drying heating element & Thermostats

The drying heating element is hardened; it is inserted into a stainless steel water-proof tubular case. It may consist of one/two branches powered by one/two relays RL1 and RL2 situated in the WD board. During a drying cycle for sturdy fabrics such as cotton, for instance, the board powers both the heating element branches (when the one with two branches is used).





Technical characteristics of the heating unit (drying)		
	Two branches	One branch
Power	600+600 W	1000
Power supply voltage	230V	230
Heating element	85,2Ω+85,2Ω	48,4

12.4.4 Thermostats

In the wiring diagram, the thermostats are positioned in series with the drying heating element, and if certain temperatures are exceeded, the auto-reset thermostat (22) is triggered, opening the power supply circuit, as the heating element cools, the temperature drops and the thermostat is automatically reset, powering the heating element again.

Any rise in the temperature could cause the safety thermostat (20) to be triggered, thereby opening the electric circuit, the heating element would cool down but not be repowered. To restore the power supply, it will need to be replaced, after checking whether the rise in temperature was due to a mechanical or an electrical problem.

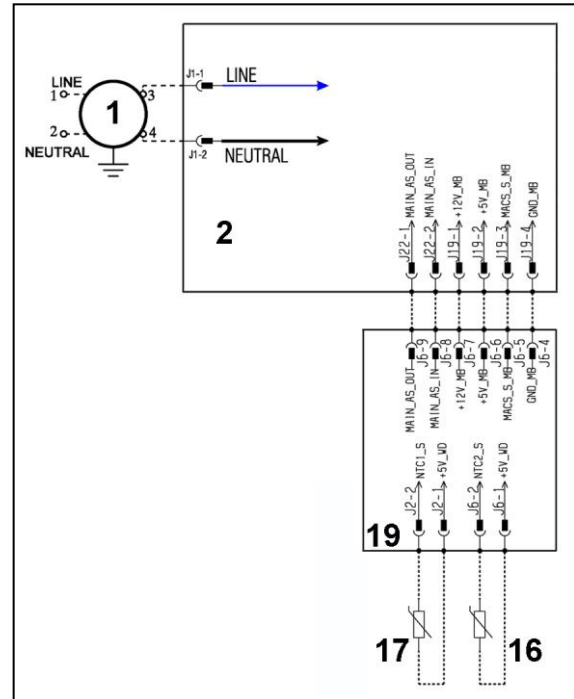
Technical characteristics of thermostats		
Safety thermostat	Normally closed, opens at 145°±3°C	
Auto-reset safety thermostat	Normally closed Opens at 115°±3°C Closes at 95°±3°	



12.5 Temperature and humidity control

When an automatic drying cycle is set, the degree of humidity and the temperature degree which the air inside the drum containing the laundry are established concurrently.

Two NTC probes are used to this end, situated: one in the conduit, which controls the temperature of the air, and the other in the rear casing of the unit near the condenser, to control the degree of humidity.

- 1. Noise filter
- 2. Main electronic circuit board.
- 19. WD PCB
- 16. NTC probe (humidity)
- 17. NTC probe (Drying)



Technical characteristics of NTC probes		
	Resistor at 25°	
NTC probe (humidity)	5000Ω	
NTC probe (drying)	5000Ω	

12.6 Alarm Summary Table

Remark: Some of the alarms are valid only for EWX11831 or EWX14931

Alarm Code	Alarm Description	Fault Condition	Possible Fault	Machine Action/Status	Reset Key
E00					
E11	Difficulties in water fill for washing	Water load timeout expired (load timeout for water loads at level)	Tap closed or water flow too low Wrong drain pipe position Water inlet valve defective Air trap system leaking Pressure switch defective Wiring or main board defective	Cycle Paused with door locked	START RESET
E12	Water load problems during drying cycle	Water load timeout expired during fabric detach phase (5 minutes - closed tap test)	Water tap closed or water flow too low Wrong drain pipe position Water inlet valve defective Air trap system leaking Pressure switch defective Wiring or main board defective	Cycle Paused with door locked	START RESET
E13	Water leakage	Global water load timeout expired (maximum water quantity reached)	Wrong drain pipe position Water flow too low Water inlet valve defective Air trap system leaking Air trap systems clogged Pressure switch defective	Cycle Paused with door locked	START RESET
E21	Difficulties in draining for washing	Water drain timeout expired (measured for each drain phase of a washing cycle)	Drain pipe blocked up Blocked/dirty filter Drain pump defective Pressure switch defective Wiring or main Board defective Drain pump rotor locked	Cycle Paused (after 2 attempts)	START ON/OFF RESET
E22	Water drain problems during drying cycle	Virtual anti-boiler pressure switch ON during a drying cycle	Drain pipe blocked up Blocked/dirty filter Drain pump defective Pressure switch defective Wiring or main Board defective	Cycle Paused	START RESET
E23	Drain pump triac failure	Incongruence between drain pump triac sensing and triac status	Drain pump defective Wiring or main board defective	Safety Drain cycle. Cycle stops with door unlocked	RESET
E24	Drain pump triac sensing failure	Wrong input signal to microprocessor	Main board defective	Safety Drain cycle. Cycle stops with door unlocked	RESET
E25	Aqua control sensing failure	Wrong input signal to microprocessor	Main board defective	Safety Drain cycle. Cycle stops with door unlocked	RESET

Alarm Code	Alarm Description	Fault Condition	Possible Fault	Machine Action/Status	Reset Key
E31	Electronic pressure switch faulty	Frequency of electronic pressure switch out of limits	Pressure sensor defective Wiring or main Board defective	Cycle blocked with door locked	RESET
E32	Electronic pressure switch calibration problems	Frequency of electronic pressure switch not stable during draining phase	Water inlet valve defective Air trap system leaking Pressure switch/sensor defective Drain pipe blocked up Blocked/dirty filter Drain pump defective Wiring or main board defective	Cycle Paused	START RESET
E35	Water Overload	Overload pressure switch on full state for a time longer than 15 seconds	Water inlet valve defective Air trap systems leaking Pressure switch defective Wiring or main board defective	Cycle blocked Safety drain cycle. Drain pump always in operation (5 minutes ON, 5 minutes off, etc)	RESET
E38	Air trap system clogged	Water level doesn't change for at least 30 sec. during drum rotations	Air trap system clogged Pressure sensor pipe clogged Motor belt broken	Heating Phase skipped	RESET
E41	Door opened	Door lock timeout expired (20 seconds)	Door lock device defective Wiring or main board defective	Cycle Paused	START RESET
E42	Door lock device failure	Door still locked when opening (timeout of 4 minutes)	Door lock device defective Wiring or main board defective Current leakage between heater element and earth	Cycle Paused	START RESET
E43	Door lock device triac failure	Incongruence between door lock device triac sensing and triac status	Door lock device defective Wiring or main board defective	Safety Drain cycle activation. Cycle blocked	RESET
E44	Door closed sensing failure	Wrong input signal to microprocessor	Main board defective	Safety Drain cycle activation. Cycle blocked	RESET
E45	Door triac sensing failure	Wrong input signal to microprocessor	Main board defective	Safety Drain cycle activation. Cycle blocked	RESET
E52	Tachometer faulty	Bad or no signal from tachometer	Motor defective Motor Wiring or Motor Control board defective	Cycle blocked after 5 attempts with door locked	ON/OFF RESET
E57	FCV Current trip	High current on inverter (>15A)	Motor defective Motor Wiring or Motor Control board defective	Cycle blocked after 5 trials with door locked	ON/OFF RESET
E58	FCV Over current	High current on motor phase (>4.5A)	Motor defective, Motor Wiring or Motor Control board defective, abnormal working condition	Cycle blocked after 5 trials with door locked	ON/OFF RESET

Alarm Code	Alarm Description	Fault Condition	Possible Fault	Machine Action/Status	Reset Key
E59	FCV Not Following	No tacho signal from tachometer for 3 seconds	Motor defective Motor Wiring or Motor Control board defective	Cycle blocked after 5 trials with door locked	ON/OFF RESET
E5A	FCV Heating	High temperature on Heat Sink (>88°C) or NTC of FCV board open	Over load condition, Motor Control board defective	Cycle blocked after 5 trials with door locked	ON/OFF RESET
E5H	FCV Under Voltage	Dc bus voltage bellow the allowed value (175V)	FCV mains wiring Motor Control board defective	Cycle blocked after 5 trials with door locked	ON/OFF RESET
E5C	FCV Over Voltage	Dc bus voltage above the allowed value (430V)	Motor Control board defective Power line voltage too high	Cycle blocked after 5 trials with door locked	ON/OFF RESET
E5D	FCV Unknown Message	Message received by FCV is not correct	Transmission line noisy / FCV defective MB defective Communication wiring problems	---	ON/OFF RESET
E5E	FCV-MB Communication	Protocol communication between FCV and MB not aligned	Wiring defective FCV defective, WD defective, UI defective MB defective, Weight defective	Cycle blocked after 5 trials	ON/OFF RESET
E5F	FCV Fault	FCV control board is continuously in reset	FCV control board defective or communication wiring problems or main board defective	Cycle blocked after 5 trials with door unlocked	ON/OFF RESET
E61	Insufficient heating during washing cycle	Washing heating timeout expired	Washing NTC defective Washing heater element defective Wiring or main board defective	Heating phases skipped	START RESET
E62	Overheating during washing cycle	Water temperature higher than 88°C for a time longer than 5 minutes	Washing NTC defective Wash heater element defective Wiring or main board defective	Safety Drain cycle Cycle stopped with door unlocked	RESET
E66	Heater or drying relay failure	Incongruence between heater relay sensing and relay status	Main board defective Current leakage between Wash/drying heater element and earth	Safety load cycle. Stop of the cycle with door locked	ON/OFF RESET
E68	Ground current leakage	Voltage value on heater sensing (wash or dry) different from Vmains value	Current leakage between wash or dry heater element and earth	Cycle blocked with door opened	START RESET
E69	Washing heating element opened	Voltage value different from Vmains value when heating element is not powered during the cycle execution	Wash heating element faulty (thermo fuses opened) Wiring defective Main board defective	No actions	START ON/OFF RESET
E6A	Heating relay sensing failure	Wrong input signal to microprocessor	Main board defective	Cycle blocked with door locked	RESET
E6H	Heating element power relay faulty (inconsistency between sensing and K1 relay status)		Wiring faulty; Earth-leakage between washing heating element and earth; Main PCB faulty.	Safety water fill Cycle stops with door closed	ON/OFF RESET

Alarm Code	Alarm Description	Fault Condition	Possible Fault	Machine Action/Status	Reset Key
E71	Washing NTC failure	Wrong input signal to microprocessor (open circuit or short circuit)	Washing NTC defective Wiring or main board defective	Heating phases skipped	START RESET
E72	Output drying NTC failure	Voltage value out of limit (open circuit or short circuit)	Output drying NTC defective Wiring or WD board defective	Drying heating phases skipped	START RESET
E73	Input drying NTC failure	Voltage value out of limit (open circuit or short circuit)	Input drying NTC defective Wiring or WD board defective	Drying heating phases skipped	START RESET
E74	Washing NTC badly positioned	The washing temperature does not increase	Washing NTC sensor badly positioned, NTC sensor faulty, Wiring or main board defective	Heating phases skipped	RESET
E83	Wrong selector reading	Selector position code value not supported by the configuration data	Wrong configuration data on microprocessor Main board defective	Reset cycle	START RESET
E84	Recirculation pump triac sensing failure	Wrong input signal to microprocessor	Main board defective	Safety Drain cycle. Cycle stops with door unlocked	RESET
E85	Recirculation pump triac alarm	Incongruence between triac sensing and triac status	Recirculation pump defective Wiring or main board defective	Safety Drain cycle. Cycle stops with door unlocked	RESET
E86	Selector table configuration error	Incorrect configuration of the User Interface	Wrong or missing selector configuration data on UI microprocessor - User interface defective	---	START ON/OFF RESET
E87	User Interface microcontroller fault	User interface microcontroller damaged	User interface defective	No actions to be performed. If still present replace the User Interface Board	START ON/OFF RESET
E91	UI-MB communication error	Communication problem between UI and MB	Wiring defective, or UI, MB, Motor, WD , Weight board defective,	---	RESET
E92	UI-MB protocol incongruence error	Protocol communication between UI and MB not compatible	Main board incompatible with user interface board	Cycle blocked	OFF/ON
E93	Machine configuration error	Incorrect configuration of appliance	Incorrect configuration data Main board defective	Cycle blocked	OFF/ON
E94	Cycle Configuration error	Incorrect configuration of washing cycles	Incorrect configuration data Main board defective	Cycle blocked	OFF/ON
E97	Incongruence between selector and cycles configuration	Incongruence between program selector and cycle configuration	Incorrect configuration data Main board defective	Cycle blocked	RESET
E98	FCV_MB protocol incong. Error	Protocol communication between FCV and MB not aligned	Main board incompatible with FCV control board	Cycle blocked	OFF/ON
E9C	User Interface Configuration fault	Configuration wrongly or not received	Display Board	No actions	ON/OFF START RESET
E9E	UI touch fault	Touch display not working	Display Board	No actions	OFF/ON

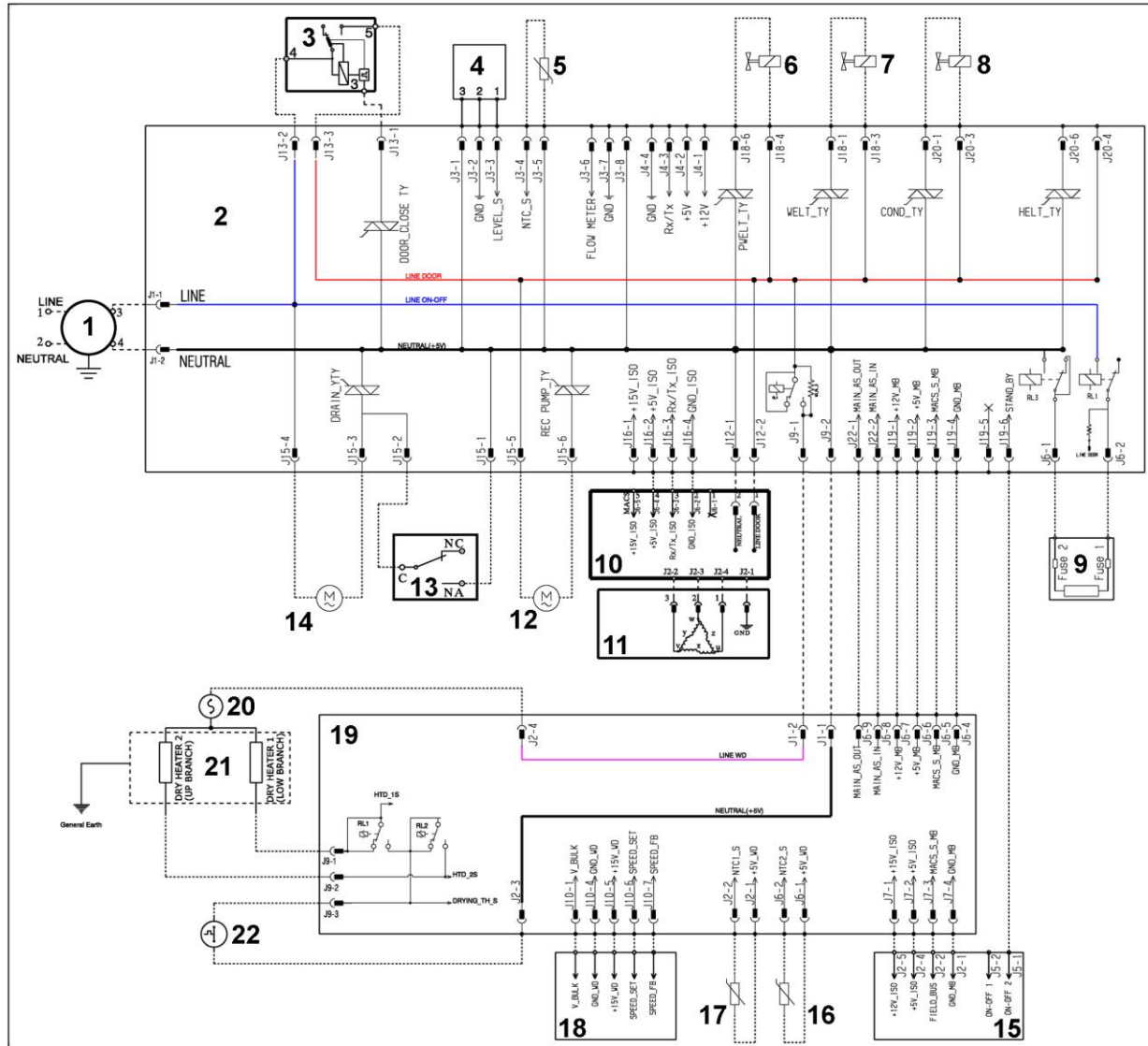
Alarm Code	Alarm Description	Fault Condition	Possible Fault	Machine Action/Status	Reset Key
EA1	DSP system failure	Not drum position sensing during motor activation	Wiring or main board defective DSP sensor failure Main motor belt broken	Skip of the drum positioning phase	START RESET
EA6	DSP door open failure	Not sufficient number of tachometer impulses during motor activation	Wiring or main board defective Main motor belt broken Lid open	Cycle paused	START RESET
EB1 (EH1)	Power supply frequency out of limits	Power supply period lower/higher than configured values	Wrong or disturbed Power Supply line. Main board defective	Wait for nominal power supply conditions	OFF/ON
EB2 (EH2)	Power supply voltage too high	MAIN_V sensing input voltage value greater than configured value	Wrong or disturbed Power Supply line. Main board defective	Wait for nominal power supply conditions	OFF/ON
EB3 (EH3)	Power supply voltage too low	MAIN_V sensing input voltage value lower than configured value	Wrong or disturbed Power Supply line. Main board defective	Wait for nominal power supply conditions	OFF/ON
EH4	0Watt relay malfunction		Main circuit board faulty.	-----	ON/OFF RESET
EHC	WD line relay faulty (inconsistency between relay status and relay sensing)		Main circuit board faulty.	Safety drain cycle Cycle stops with door open	ON/OFF RESET
EBD (EHD)	Heater WD relay sensing alarm	Wrong input signal to microprocessor	Main board defective	Cycle blocked with door locked	RESET
EBE (EHE)	FCV Relay failure	Incongruence between safeties relay sensing and FCV relay status	FCV Relay defective FCV sensing circuit defective Wiring or main board defective	Safety Drain cycle activation, stop of the cycle with door opened	RESET
EHF	Safety sensing circuit faulty (wrong input voltage to microprocessor)		Main circuit board faulty.	Safety drain cycle Cycle stops with door open	RESET
EC1	Electro valves blocked	Flow meter running with electro valves switched OFF	Electro valves defective/blocked Main board defective	Cycle blocked Water drain up to anti-boil level or max. 5 minutes with door locked. When O.L. blocked drain pump ON/OFF for 5/5 minutes continuously	RESET
EC2	Weight sensor communication error	Communication problem between Weight sensor and MB	Wiring defective Weight Sensor defective MB defective	No actions	START RESET
EC3	Weight sensor fault	Signal coming from sensor out of limits	Weight sensor defective Main board defective Wiring	No actions	START RESET

Alarm Code	Alarm Description	Fault Condition	Possible Fault	Machine Action/Status	Reset Key
EC8	TY5 triac failure	Incongruence between TY5 triac sensing and triac status	TY5 triac load device defective (motor fan/hot valve/water softener board) Wiring or main board defective	Safety Drain cycle activation. Cycle blocked	RESET
EC9	TY5 triac sensing failure	Wrong input signal to microprocessor	Main board defective	Safety Drain cycle activation. Cycle blocked	RESET
ECA	WSD board communication alarm	No communication between motherboard and WSD board	WSD board defective Wiring between MB and WSD, Main Board defective, UI defective, Weight defective, FCV defective	Cycle blocked	START ON/OFF RESET
ECB	WSD board failure	WSD board defective : external sensor defective (level or density), diverter faulty, pump faulty, microcontroller damaged, power supply out of limits	WSD assembly defective	Cycle blocked	START ON/OFF RESET
ED1	WD board communication alarm	No communication between motherboard and WD board	WD board defective Wiring between MB and WD, Main Board defective, UI defective, Weight defective, FCV defective	Cycle blocked	START ON/OFF RESET
ED2	WD heating element1 relay failure	Incongruence between WD heating1 relay sensing and heating1 relay status	WD board defective wiring, thermostats defective, Main Board defective	Skip drying phase	START ON/OFF RESET
ED3	WD heating element1 sensing relay failure	Signal out of the limits	WD board defective	Skip drying phase	START ON/OFF RESET
ED4	WD heating element2 relay failure	Incongruence between WD heating2 relay sensing and heating1 relay status	WD board defective wiring, thermostats defective, Main Board defective	Skip drying phase	START ON/OFF RESET
ED5	WD heating element2 sensing relay failure	Signal out of the limits	WD board defective	Skip drying phase	START ON/OFF RESET
ED6	WD thermostat sensing failure	Signal of thermostat sensing out of limits	WD board defective	No actions	START ON/OFF RESET
ED7	WD thermostat failure	With satellite board: Incongruence between WD heating 1 and 2 relay sensing or thermostat sensing out of limits. Without satellite: Incongruence between heater and drying relay sensing.	Manual or automatic thermostat opened, wiring, WD board defective, drying heater element,	No actions	START ON/OFF RESET

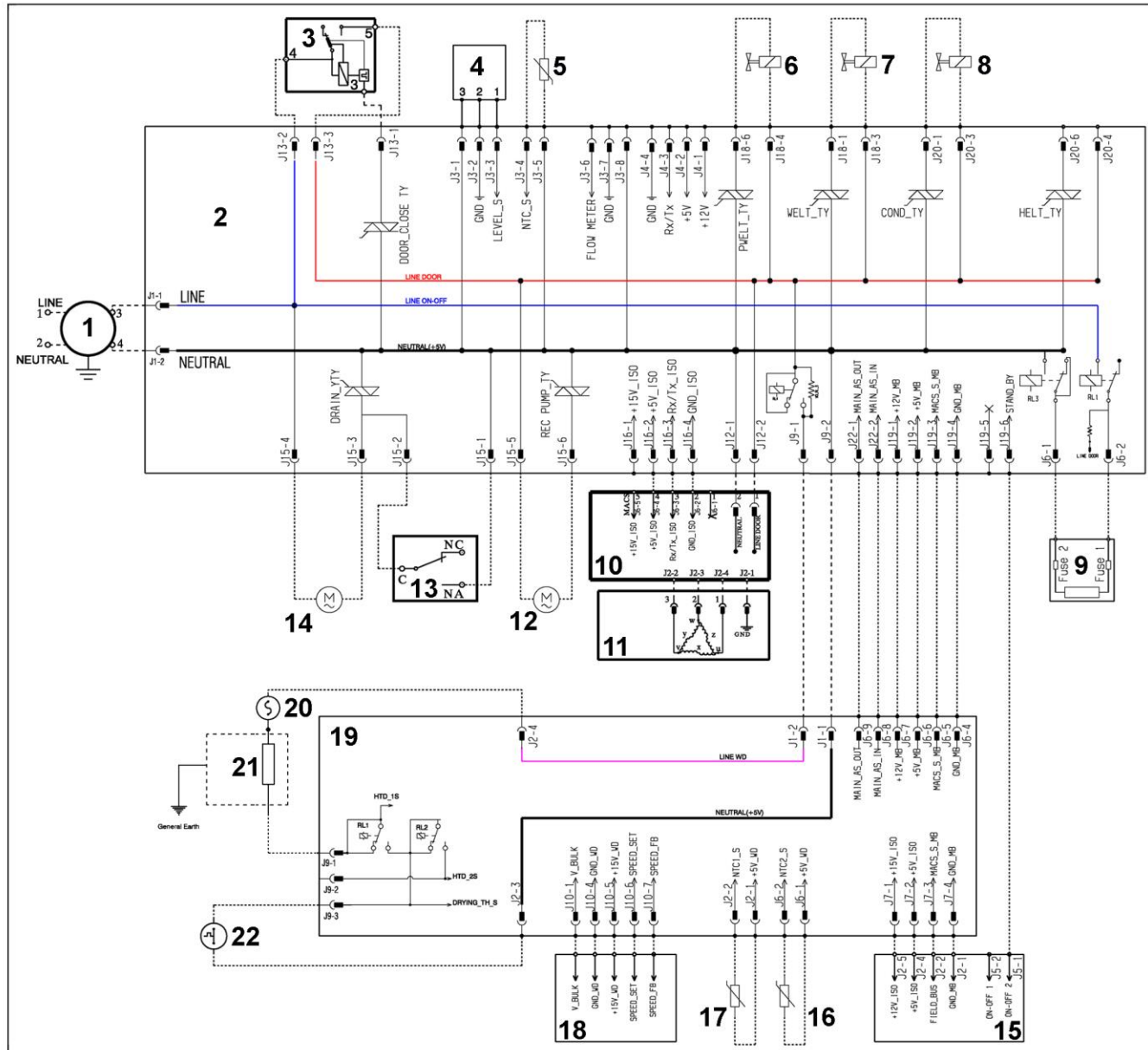
Alarm Code	Alarm Description	Fault Condition	Possible Fault	Machine Action/Status	Reset Key
ED8	WD fan motor tachometer absent	Bad or no signal from tachometer	Fan Motor defective Fan Motor Wiring or WD board defective	Skip drying phase	ON/OFF RESET
ED9	WD fan motor driving circuit alarm	Incongruence between fan motor status and the driving circuit sensing signal	WD board defective	Skip drying phase	ON/OFF RESET
EDA	WD Power Supply alarm	Power supply period lower/higher than configured values or power supply values out of limits	Wrong or disturbed Power Supply line. WD board defective	Wait for nominal power supply conditions	START ON/OFF RESET
EDB (EDH)	WDM microcontroller fault	WDM microcontroller damaged	WDM board defective	No actions to be performed. If still present replace the WDM Board	START ON/OFF RESET
EDC	WDM heating element opened	Incongruence between WDM heating 1 and 2 relay sensing	Drying heating elements opened, unplugged, or wiring	No actions	START ON/OFF RESET
Edd	Earth leakage		Earth leakage between drying heating elements and earth.	Drying phase skipped	START ON/OFF RESET
EF1	Filter clogged warning	Difficulties to drain. Virtual AB level remains in full state after an established time	Filter clogged or dirty Drain pipe clogged/kinked/too high	Warning displayed at the end of the cycle	START RESET
EF2	Foam warning	Virtual AB level in full state during spin phase at the end of the washing phase	Excessive detergent dosing Drain filter dirty or clogged Drain pipe kinked or clogged	Alarm displayed after 5 attempts (if specific LED configured)	RESET
EF3	Acqua Control warning	Acqua control sensing signal high (in appliance equipped with safety device)	Water on the basement Acqua Control defective	Drain pump activated	ON/OFF RESET
EF4	Water load low pressure	Flow meter stooped with electro valves switched on	Tap closed/low pressure of incoming water	No actions	RESET
EF5	Load too unbalanced	Final spin phase skipped due to a high unbalance load	Load unbalanced	No actions	START RESET
EF6	Safety reset	MB microcontroller damaged	Main Board defective	No actions to be performed. If still present replace the Main Board	-

13 WIRING DIAGRAM

13.1 Wiring diagram (two-branch drying heating element)



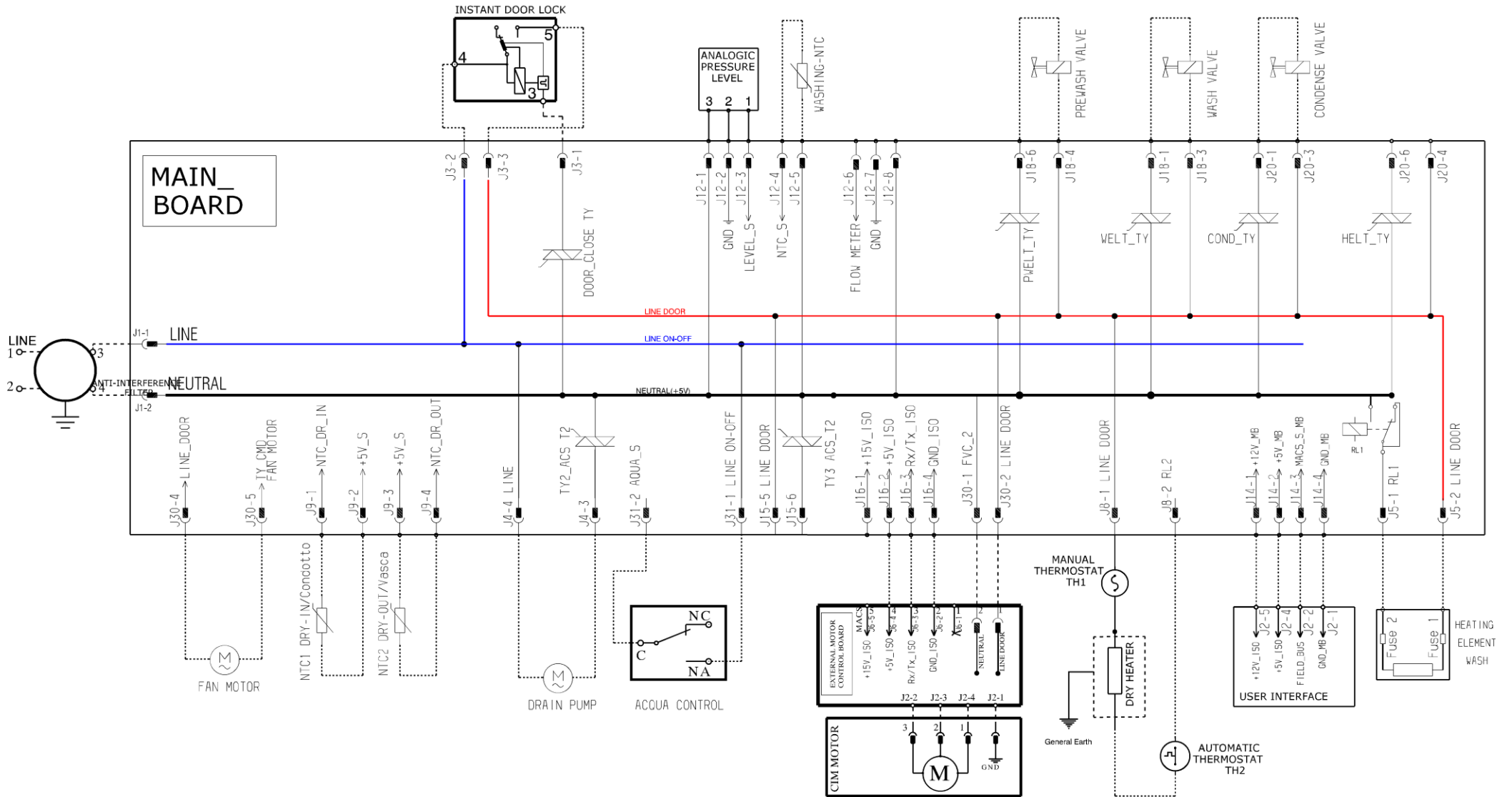
13.2 Wiring diagram (one-branch drying heating element)



13.3 Key to diagrams

Appliance electrical components	PCB components	
<ol style="list-style-type: none"> 1. Noise filter 2. Main electronic circuit board 3. Door safety interlock 4. Electronic pressure switch 5. NTC (washing) 6. Pre-wash solenoid valve 7. Wash solenoid valve 8. Condensation solenoid valve 9. Heating element 10. Motor control board (Inverter) 11. Triple-phase motor 12. Re-circulation pump 13. Aqua control sensor 14. Drainage pump 15. Display board 16. Humidity sensor NTC 17. Drying sensor NTC 18. Power fan 19. PCB - WD 20. Safety thermostat 21. Drying heating element 22. Auto-reset thermostat 	DRAIN_YTY DOOR_TY DOOR_CLOSE_TY REC PUMP_TY PWELT_TY WELT_TY COND_TY HELT_TY RL1 RL2 RL6	Drain pump Triac Door interlock Triac Door interlock Triac Circulation pump TRIAC switch Pre-wash solenoid Triac Wash solenoid Triac Condensation solenoid Triac Hot water solenoid triac Washing/drying heating element relay Washing/drying heating element relay WD PCB power supply

13.4 Wiring diagram EWX14931



14 ACCESS

14.1 Worktop

Remove the screws that secure it to the back panel.

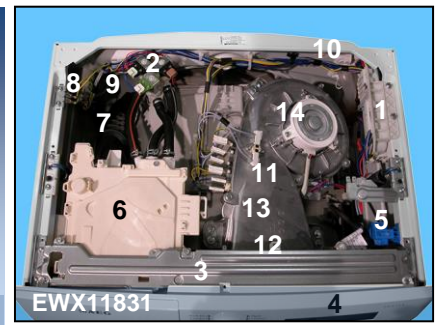
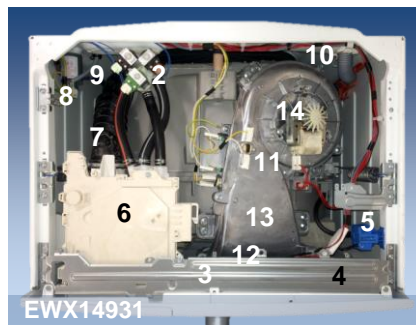


Pull it out from the back.



14.2 From the worktop, you can access

1. WD PCB*
2. Solenoid valves
3. Control panel
4. Assembly of display board / light diffuser//spring unit
5. Electronic pressure switch
6. Detergent dispenser
7. Detergent fill pipe
8. Noise filter
9. Power supply cabling sheath
10. Rear drain pipe fastener
11. Thermostats (auto-reset and safety)
12. NTC probe (drying)
13. Drying duct
14. Fan motor

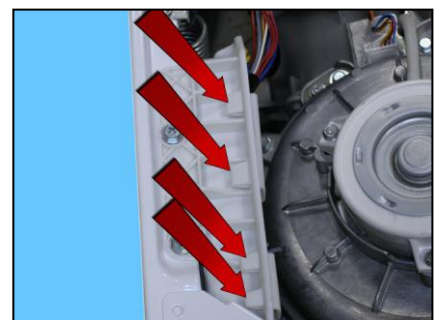


*only appliances fitted with the EWX11831

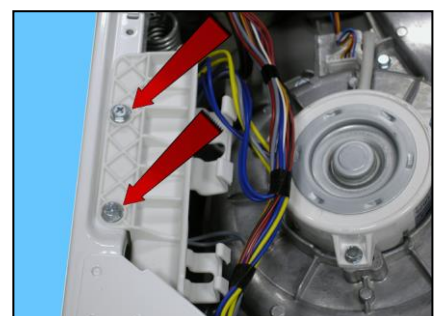
14.2.1 WD PCB

Remove the worktop (see relevant paragraph).

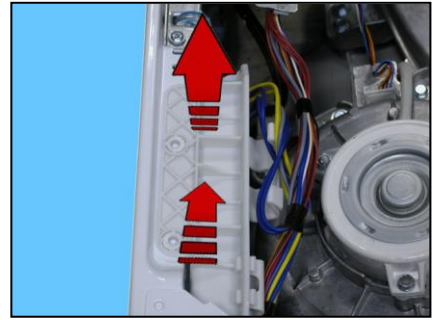
Release the hooks securing the wiring to the board and remove it.



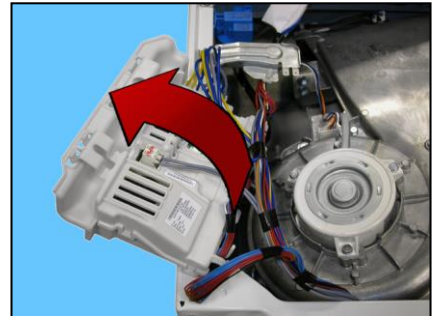
Unfasten the two screws securing it to the side panel.



Push the board forward and lift it.



Turn it in the direction shown by the arrow and detach the connectors.

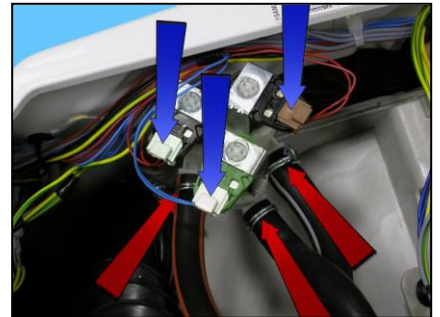


14.2.2 Solenoid valve

Remove the worktop (see relevant paragraph).

Disconnect the connectors (blue arrows).

Remove the pipes that connect the solenoid valve (red arrows).



Unscrew the water fill pipe from the solenoid valve.

Push the two retainers indicated by the arrows towards the inside of the appliance.

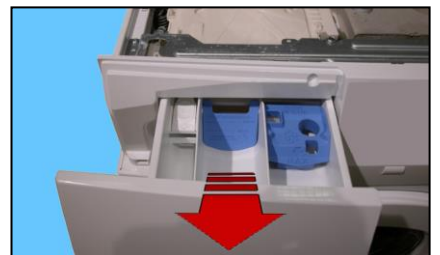
At the same time, turn the solenoid valve anti-clockwise to remove it.



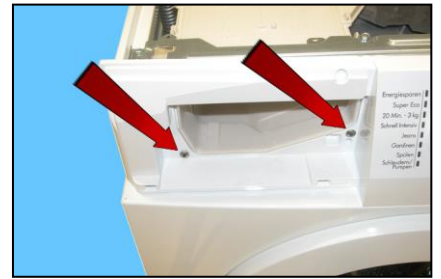
14.2.3 Control panel

Remove the worktop (see relevant paragraph).

Pull the detergent dispenser out and at the same time press the stop locking it in place.



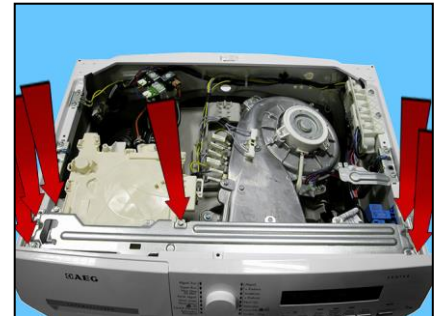
Loosen the screws that attach the control panel to the detergent tray.



Pull out the clamp from the crosspiece.



Remove the four screws which secure the crosspiece to the cabinet.
Remove the two screws securing the crossbar to the detergent tray.



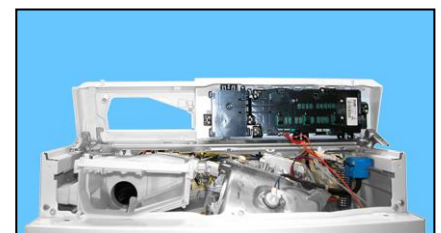
Release the anchor tab which secures the detergent dispenser to the crosspiece.



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



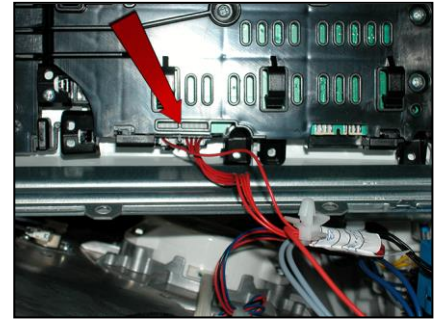
Remove the control panel and position it as shown in the figure, making sure you introduce a protection to prevent scratching it.



14.2.4 Display board/light diffuser/button springs/buttons assembly

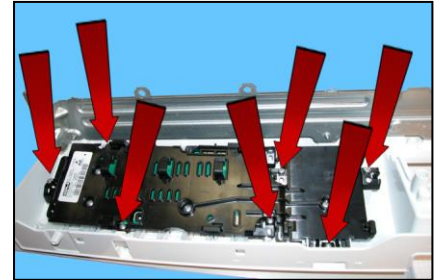
Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).

Pull out the display board connectors.



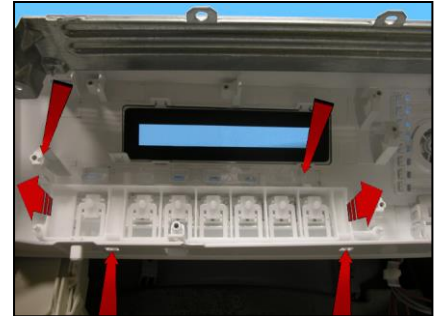
Remove the screws and release the hooks which secure the board assembly to the control panel.

The dial and the dial cover remain fixed to the control panel.



- Buttons spring

Disconnect it from the control panel and remove it from the two side pins.



- Light diffuser

Unhook the three hooks that fasten it to the control panel.



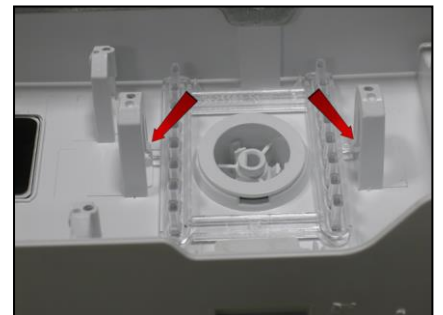
- Buttons

The buttons have a number printed on them. See the figure for numbers.



- Selector light diffuser

To remove, unhook the hooks that fasten it to the control panel.



When reassembling the display board assembly and the control panel.

Remove the dial from the dial cover.
Release the hooks that fasten them together, and fasten the whole to the control panel.

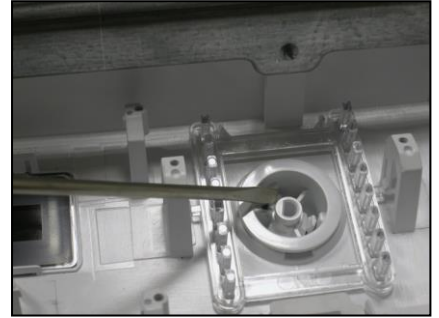
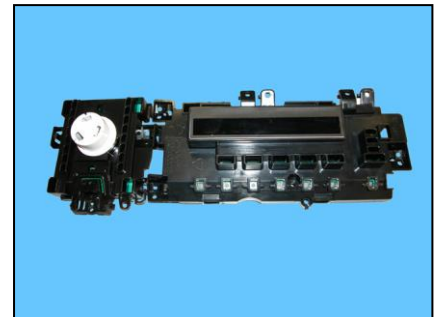


Illustration of the dial and the dial cover.



Thread the dial onto the selector pin.



Insert the display board in its seat in the control panel.



Insert the dial cover.

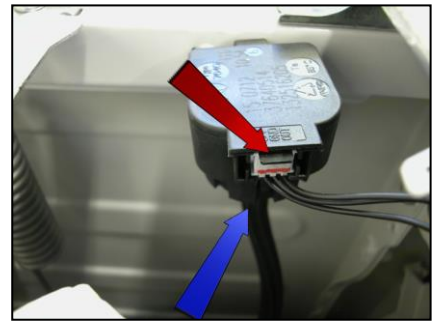


14.2.5 Analogue pressure switch

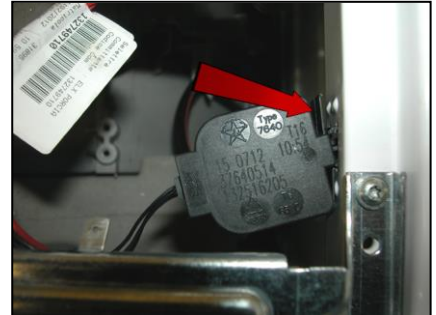
Remove the worktop (see relevant paragraph).

Remove the connector (red arrow).

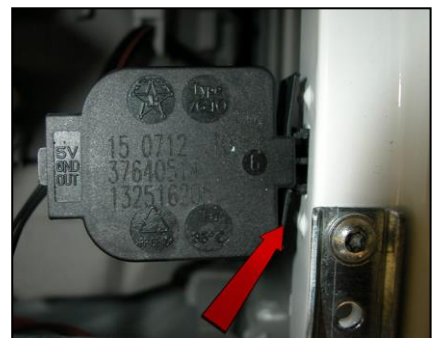
Pull out the small pipe which connects it to the pressure chamber (blue arrow).



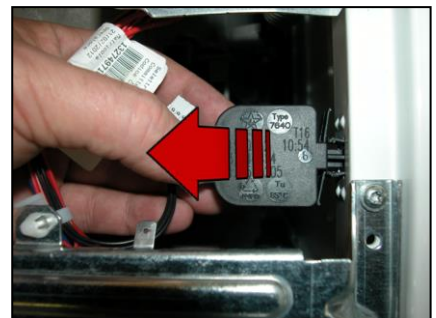
Tighten the tabs which secure it to the cabinet, first on one side.



Then on the other.



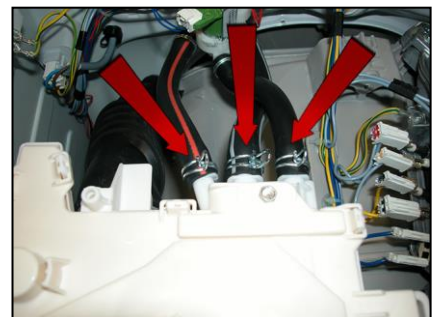
Take it out.



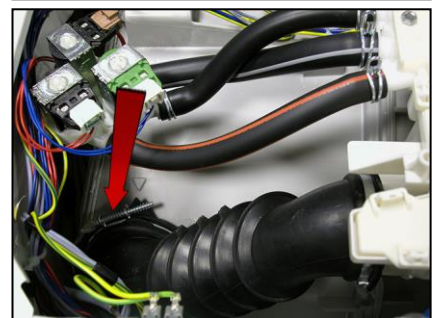
14.2.6 Detergent dispenser

Remove the worktop (see relevant paragraph).

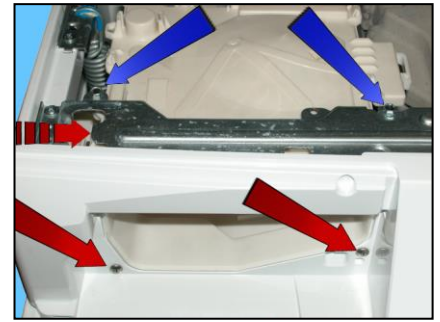
Remove the pipes that connect it to the solenoid.



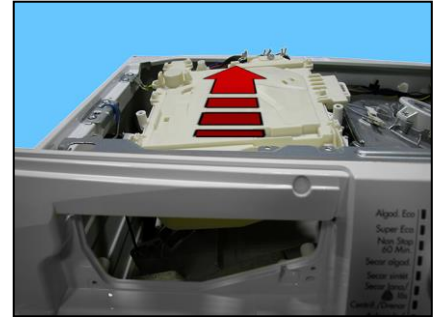
Unfasten the screw in the clamp that fixes the detergent loading pipe to the tray, and remove it from its housing.



Remove the detergent dispenser (see page 59)
Remove the two screws securing it to the control panel (red arrows)
Remove the two screws securing it to the controls crossbar (light blue arrows)
Release the anchor tab which secures the detergent dispenser to the crosspiece (dotted arrow)



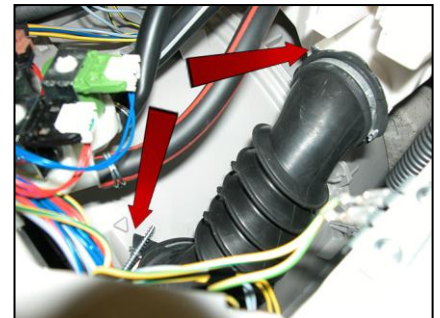
Remove the detergent dispenser.



14.2.7 Detergent fill pipe

Remove the worktop (see relevant paragraph).

Pull out the pipe from the detergent dispenser after breaking/loosening the clamp between the detergent dispenser and the detergent loading pipe.
When reassembling, use a new clamp with the same characteristics.
The size of the clamp to use is 65.5 mm.
When introducing the pipe into the dispenser, make sure the two references are aligned (both from the detergent dispenser side as well as on the welded tub side).



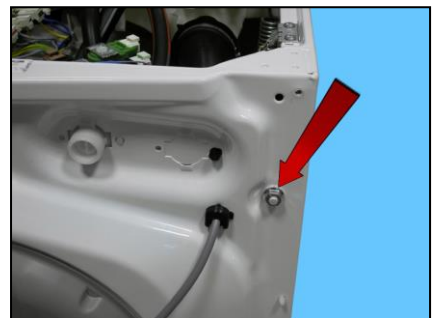
14.2.8 Noise filter

Remove the worktop (see relevant paragraph).

Disconnect the connectors and fastons (blue arrow).



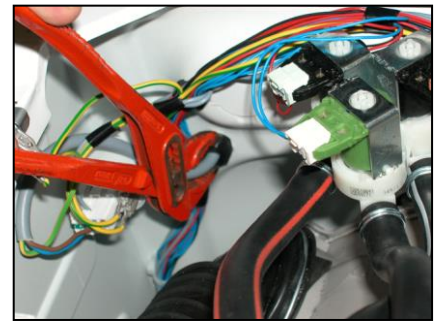
Loosen the nut securing it to the rear of the cabinet.



14.2.9 Power supply cabling sheath

Remove the worktop (see relevant paragraph).
Using a pair of pliers, squeeze it and pull it out of the appliance.

N.B. Every time the cabling sheath is removed, you will need to replace it with a new one.



14.2.10 Rear drain pipe fastener (appliances fitted with the EWX11831)

Remove the worktop (see relevant paragraph).

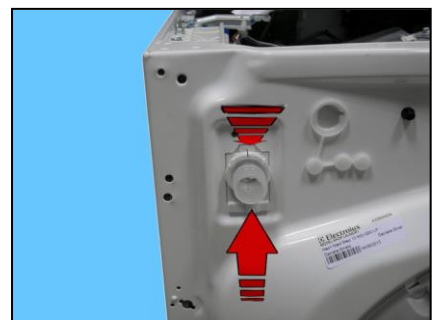
Unfasten the screw in the clamp that secures the external drain pipe with the internal one and remove it.



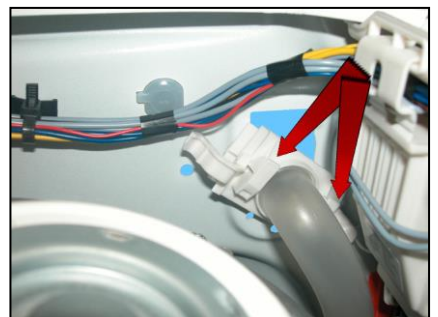
Loosen the screw securing the drain pipe fastener to the back.



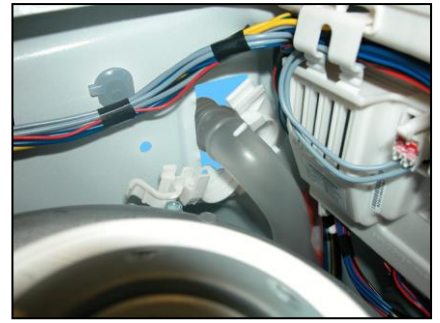
Push it into the appliance at the top and concurrently push it up.



Release the hooks that unite the two halves of the drain pipe fastener.



Open the drain pipe fastener.



14.2.11 Main drain pipe (appliances fitted with the EWX14931)

Remove the worktop (see relevant paragraph).

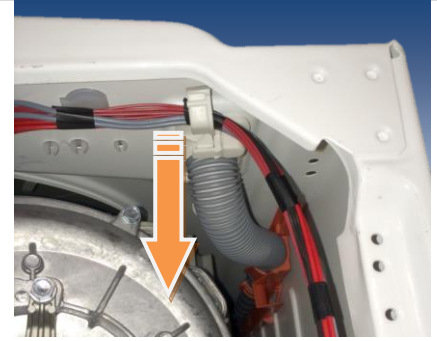


Loosen the screw which fastens the pipe fastener at the top of the appliance.
Straighten out the pipe to drain the water into a container.
Remove the back panel (see relevant chapter).

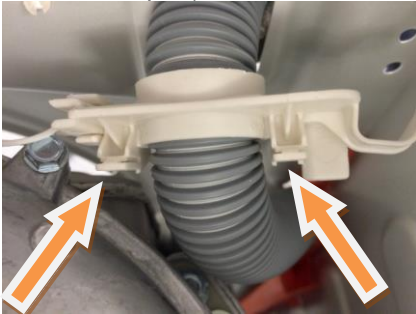


Remove the clamp (shown by the arrow) which secures the drain pipe to the IDB.

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



Push the pipe with the fastener towards the inside of the appliance.



Remove the pipe fastener by pressing the hooks (indicated by the arrows) and pull it out at the same time.



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

When reassembling

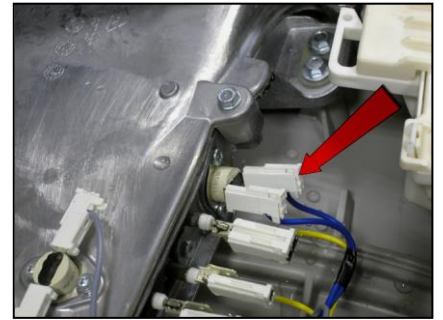
Repeat all these steps in the reverse order.

14.2.12 Thermostats

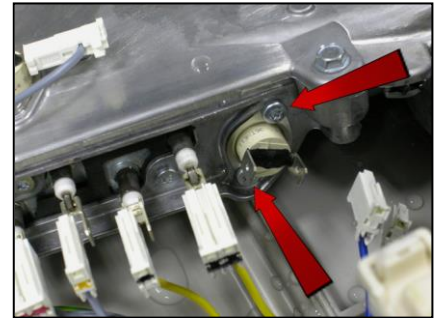
14.2.12.1 Auto-reset thermostat

Remove the worktop (see relevant paragraph).

Remove the connectors.



Loosen the screws that secure it to the conduit.



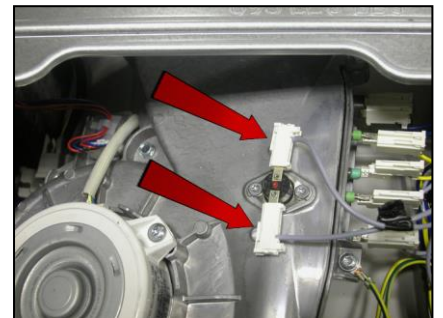
Replace the seal too.



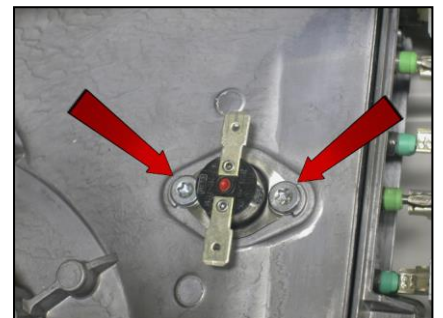
14.2.12.2 Safety thermostat

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

Remove the connectors.



Loosen the two screws (Torx T20) that fix it to the conduit.



Replace the seal too.

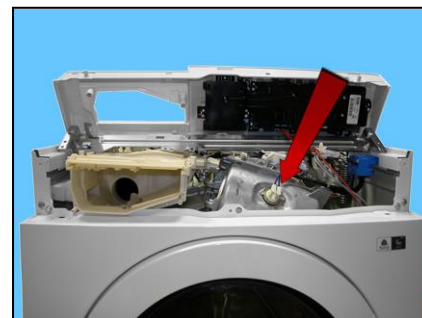


14.2.13 NTC probe (drying)

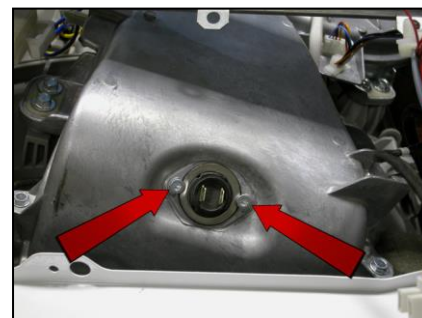
Remove the worktop (see relevant paragraph).

Remove the control panel and position it as illustrated in the figure, placing a protection over the cabinet to avoid scratching it.

Remove the connectors.



Loosen the screws (Torx T20) that secure it to the conduit (red arrows).



Replace the seal too.



14.2.14 Power fan, appliances with EWX11831

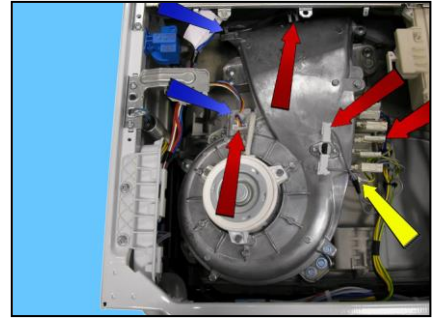
Remove the worktop (see relevant paragraph).

Disconnect the connectors: from the heating element, from the thermostats, from the NTC probe and from the power fan (red arrows), (see the following description for the latter).

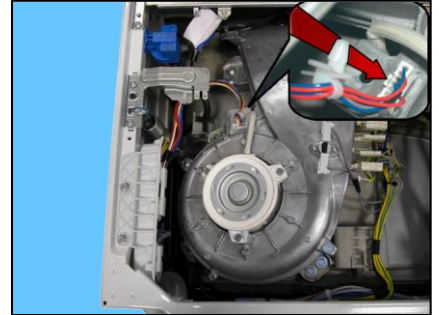
Remove/cut the clamps that secure the power fan wiring and the NTC probe to the support, (blue arrows).

Loosen the screw that earths the conduit.

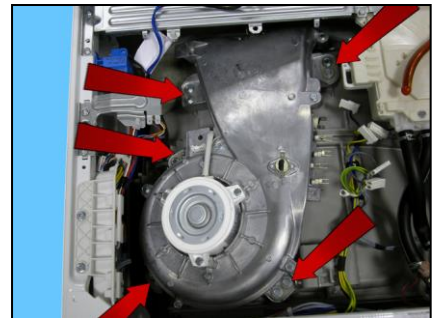
If the clamps were cut, replace them with new ones.



Push the safety hook of the connector in the direction shown by the arrow and remove it.



Loosen the five pairs of screws shown by the arrows which secure the conduit to the welded tub.



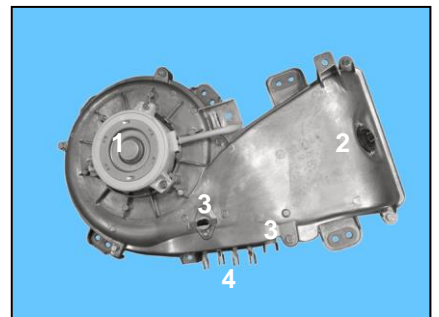
Lift the conduit to remove it from the bellow seal at the front of the appliance and at the rear where the power fan is secured.



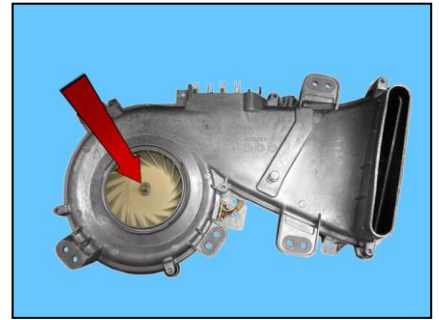
Pull it out from the rear and at the same time push the washing unit down.

Conduit complete with:

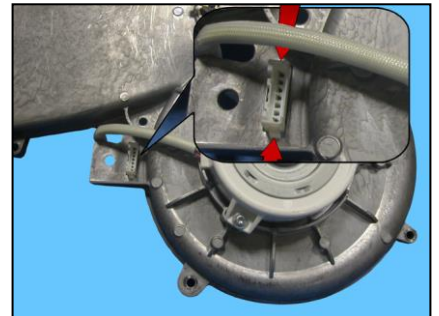
1. Power fan
2. NTC probe
3. Thermostats
4. Heater unit



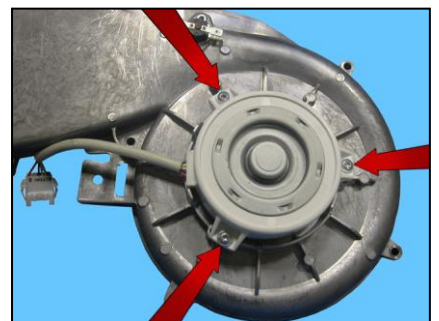
Loosen the nut that secures the fan to the power fan shaft.



Press the two tabs that secure the connector to its support and take it out of its position.



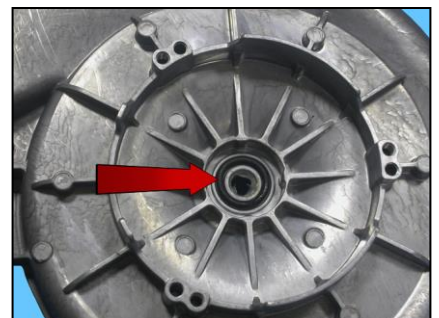
Loosen the three screws (torx T20) that secure the power fan to the screw. Remove the power fan.



Power fan.



Once the power fan has been removed, there is a seal in the centre of the screw immersed in grease Code 5026 24 16-00/6. When replacing the power fan, make sure this seal is in positioned correctly and replace it if warped.

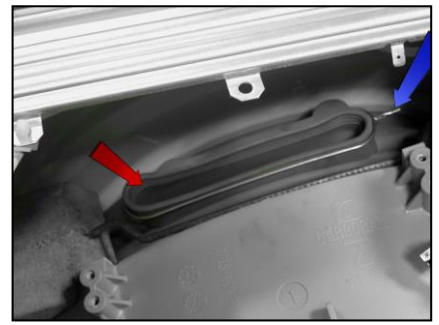


When reassembling, repeat these steps in the reverse order.

Make sure all the seals are intact and correctly in place.



Position the clamp in its seat (blue arrow).
Using soap and water, lubricate the part of the seal where the conduit is inserted (red arrow).



Lubricate the front of the conduit.



Position the conduit and insert the front into the bellow seal.

Make sure the conduit is perfectly in place in the seal.



Make sure the clamp is in its seat.

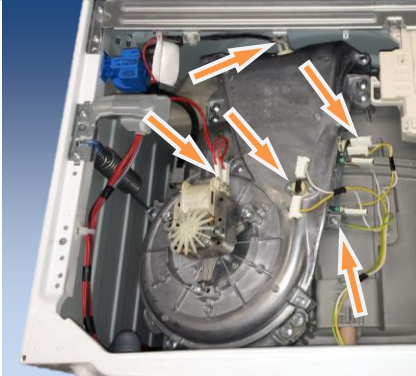


Tighten all the screws that secure it to the tub.
Restore the connections: to the thermostats, to the drying heating element, to the NTC probe (drying) and to the power fan and earth.

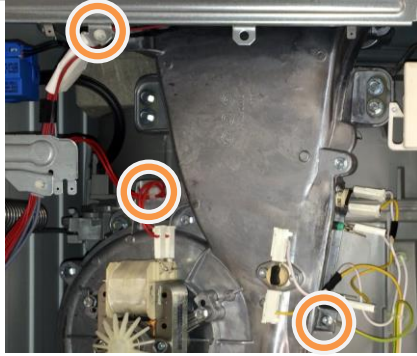
14.2.15 Power fan, appliances with EWX14931

The procedure is similar to the *paragraph 14.2.14 Power fan, appliances with EWX11831 page 74.*

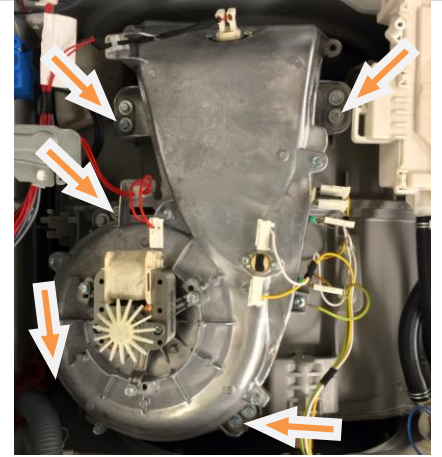
Remove the worktop (see relevant paragraph).



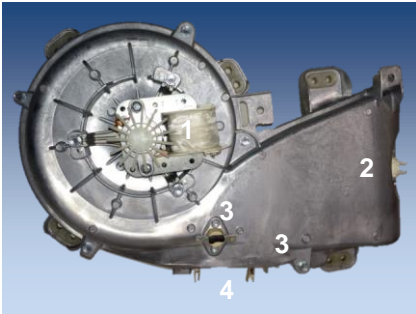
Disconnect the connectors from:
the NTC probe
the thermostats
the heating element
the power fan (red arrows)



Remove the clamps that secure the power fan wiring and the NTC probe to the support.
Loosen the screw that earths the conduit.

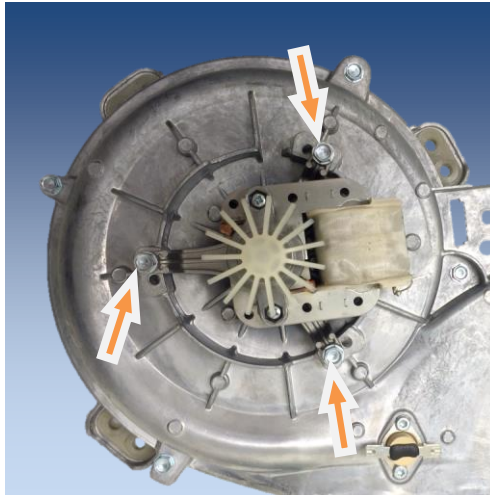


Loosen the five pairs of screws shown by the arrows which secure the conduit to the welded tub.
Lift the conduit to remove it from the bellow seal at the front of the appliance and at the rear where the power fan is secured.



Conduit complete with:

1. Power fan
2. NTC probe
3. Thermostats
4. Heater unit



Loosen the three screws that secure the power fan to the screw.
Remove the power fan.

When reassembling

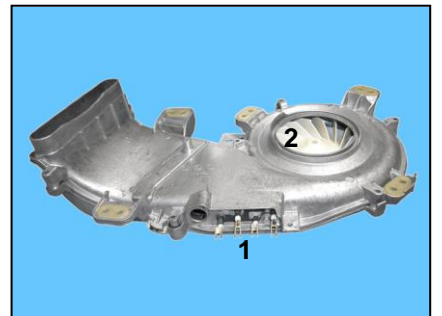
Repeat these steps in the reverse order. Make sure all the seals are intact and correctly in place.

Remark:

When replacing the power fan, the seal comes with a new fan motor.

14.2.16 Conduit, Drying heating element / Fan

Since the two conduit upper and lower casings are sealed together, the replacement of the same will be supplied with the following pre-assembled parts inside: the drying heating element (1) and the fan (2).



If one of these components breaks, proceed as follows:

Remove: the thermostats, the NTC probe and the power fan, from the conduit to be replaced, and insert them in the new one after all the seals have been replaced.

For the disassembly and reassembly operations, follow the same steps as for the power fan.

14.3 Accessing the front part

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

14.3.1 Door hinge - Door

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



To access the door, loosen the screws joining the two front and rear door frames together.

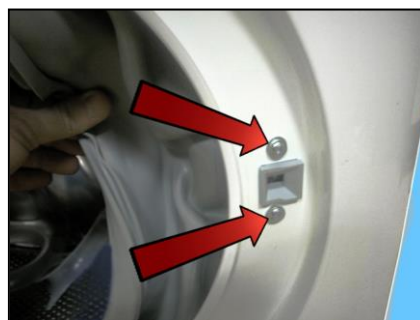


14.3.2 Door safety interlock

Remove the iron ring securing the bellow seal to the unit.
Remove the part of the bellow seal concerned from the unit.



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 door safety interlock.
Take care in the lower part of the device as there is a small rod.
Don't pull it out too much otherwise the small rod comes out of its seat in the filter body, as described below.



Remove the small rod from the pin (after removal, it stays in the vertical position).

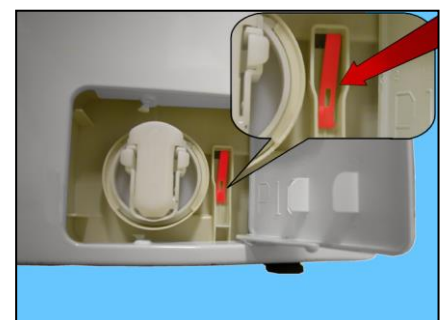


Pull out the wiring protection from the door safety interlock.
Disconnect the connector.



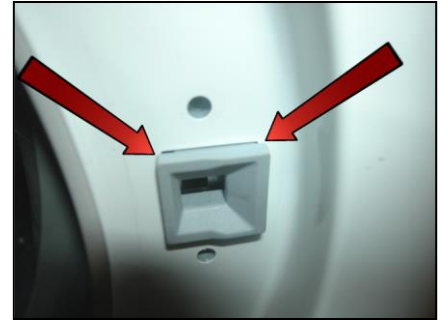
To reassemble the door safety interlock, repeat the same tasks in reverse order.

Make sure the small rod is correctly positioned with respect to the door safety interlock (see photo at the top of the page).
The small rod must be positioned correctly in its seat as indicated by the arrow.



Before tightening the screws to secure the door safety interlock 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.



To reassemble the door safety interlock, repeat the same tasks in reverse order.

14.3.3 Blade

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

To remove it from the drum:

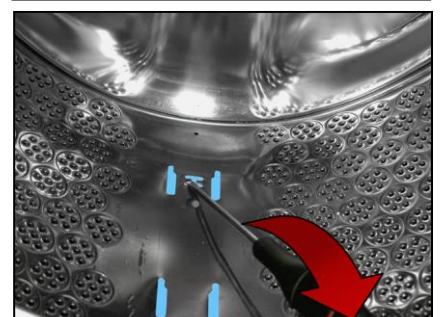
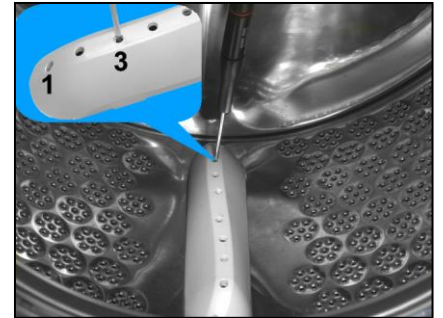
Insert a flat-tip screwdriver into the third slot (start counting from the end) as shown in the figure.

Insert the screwdriver with the handle tilted towards the left
Push the right-hand tab down.

Insert the screwdriver with the handle tilted towards the right;
Push the left-hand tab downwards.

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

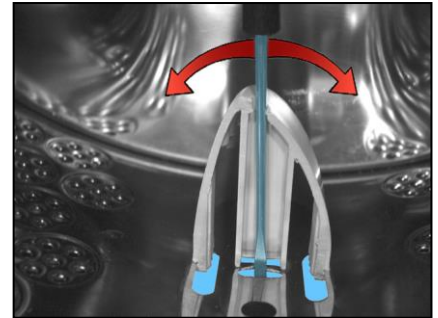
Before securing the new blade
insert a flathead screwdriver beneath the tabs and raise them a little.



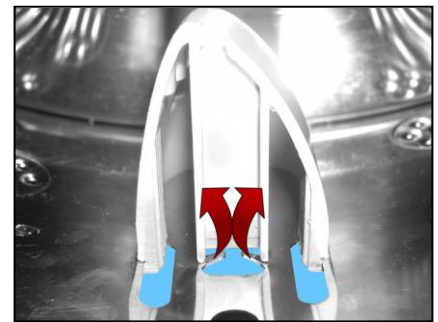
Position the new blade inside the drum guides.
Push it towards the back.



Insert the flathead screwdriver at a right angle to the blade, so as to position it at the centre of the two tabs.
Move to the left and right.



So that the tabs are moved upwards (as indicated by the arrows in the figure) and they are insert inside the blade, securing it to the drum (as shown in the figure).



14.3.4 Front panel

Remove the worktop (see relevant paragraph).

Remove the control panel (see relevant paragraph 14.2.12 on page 68 regarding the NTC probe).

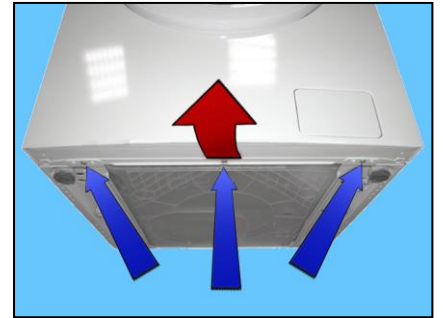
Remove the iron ring and remove the door bellow seal from the front panel.

Unfasten the screws securing the door safety interlock.

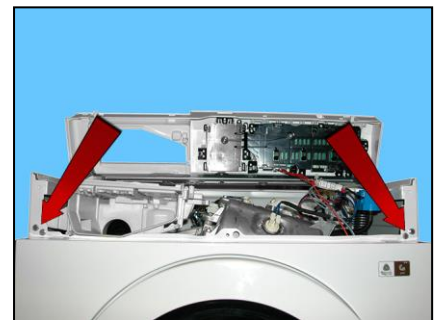
Tilt the washing machine towards the back.

Unfasten the three screws securing the front panel at the bottom.

Unhook the front panel a little from its position (red arrow).



Unfasten the four screws securing the front panel to the sides (indicated by the arrows).



Remove the front panel.



When re-assembling the front panel make sure the small rod of the door safety device is correctly positioned (see "Door safety device" paragraph).

14.4 From the front panel, you can access

1. The bellow seal
2. The front counterweight
3. The shock absorbers
4. The drain water circuit
5. The pressure chamber
6. The welded tub suspension springs

14.4.1 Bellow seal

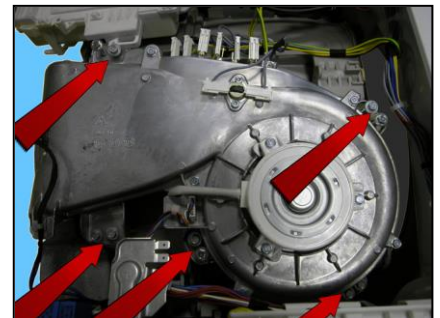
Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).
Remove the iron ring and remove the door bellow seal from the front panel.
Unfasten the screws securing the door safety interlock.
Remove the front panel.



Release the spring that secures the bellow seal to the conduit.



Loosen all the screws that secure the conduit to the welded tub and lift it.



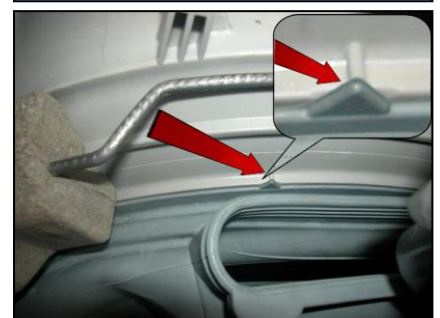
Take the bellow seal out of the welded tub.
(take care as the seal is secured to the tub by a snap ring).

Before repositioning the bellow seal onto the tub, lubricate the welded tub seat which will house the seal with some liquid soap.

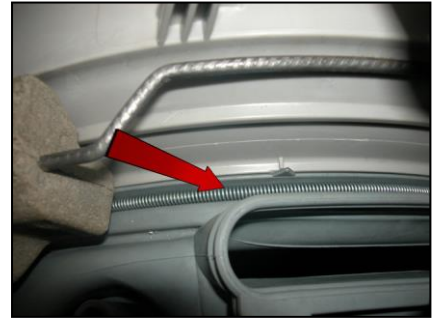
Use liquid soap to lubricate the seal seat too (indicated by the dotted red circle), which will be inserted in the welded tub seat.



Position the bellow seal reference on the reference mark printed on the tub.



Position the snap ring in its seat.

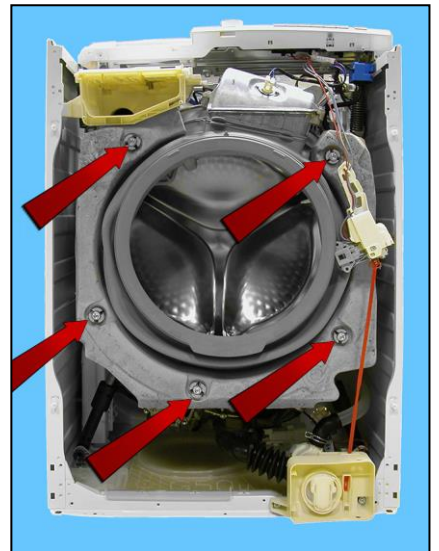


Position the clamp around the seat which will house the conduit (close it) and lubricate the inside.
Insert the conduit, check that it is perfectly in place.



14.4.2 Front counterweight

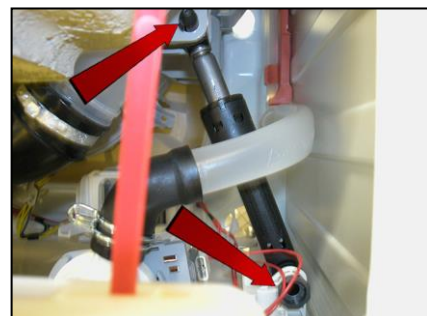
Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).
Remove the door safety interlock (see relevant paragraph).
Remove the front panel.
Loosen the screws that secure the conduit to the welded tub and remove it from the bellow seal.
Pull out the jet pipe (use a new clamp with the same characteristics with size 20.5 during reassembly).
Unfasten the five screws securing the counterweight to the welded tub.
If the welded tub assembly is new, tighten the screws at a torque of 15 Nm.
If the welded tub assembly is not new, align with the existing thread and tighten the screws at a torque of 10–12 Nm.



14.4.3 Shock absorbers

Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).
Remove the iron ring securing the bellow seal to the front panel.
Unfasten the screws securing the door safety interlock (see related paragraph).
Remove the front panel (see relevant paragraph).

Pull out the pins securing it to the tub and lower crosspiece.



To reposition the pins, see para. 14.5 page 84.

14.4.4 Drain water circuit

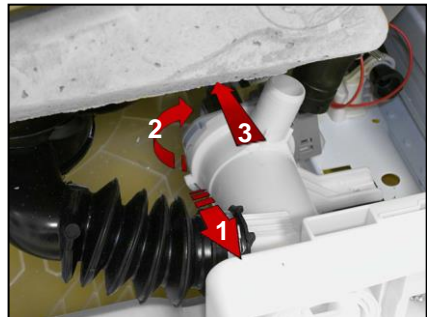
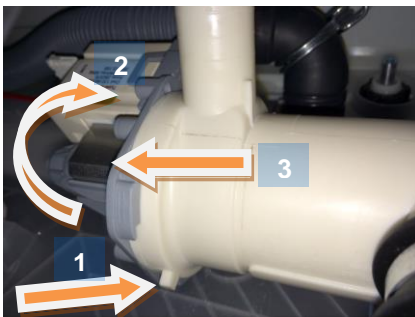
14.4.4.1 Drainage pump

Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).
Remove the iron ring securing the bellow seal to the front panel.
Unfasten the screws securing the door safety interlock (see related paragraph).
Remove the front panel (see relevant paragraph).

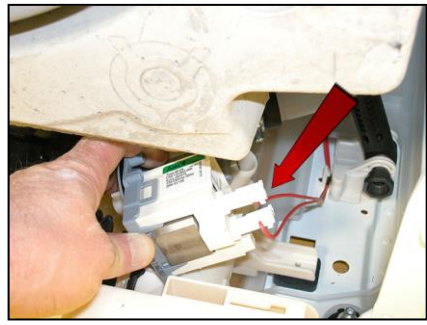
Pull out the main drain pipe.



Move tooth 1 (take care not to break it) turn pump 2 in a clockwise direction and simultaneously extract it from the filter body 3.



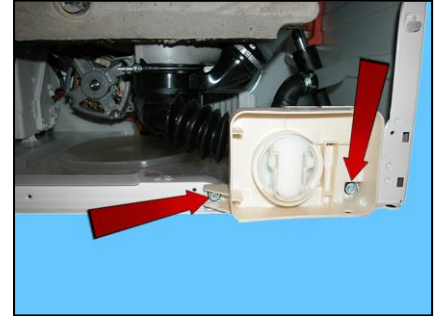
Remove the connectors from the pump.



14.4.4.2 Filter body

Remove the worktop (see relevant paragraph).
Remove the control panel (see relevant paragraph).
Remove the iron ring securing the bellow seal to the front panel.
Unfasten the screws securing the door safety interlock (see related paragraph).
Remove the front panel (see relevant paragraph).

Loosen the screws securing it to the front crossbar.



Lift the filter body to extract the support inserted on the side crossbar.

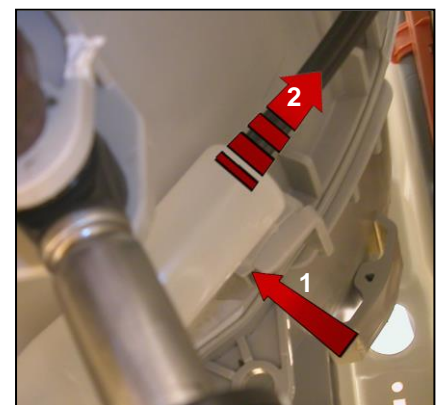


Unfasten the screw in the clamp that fixes the tub drain pipe to the welded tub and remove it from its position, pulling it out.



- Pressure chamber

Pull out the pipe from the analogue pressure switch connecting the pressure chamber.
Push the hook (1) while at the same time lifting the chamber (2) from the support securing it to the tub.



Detail of the pressure chamber to be fixed to the welded tub.

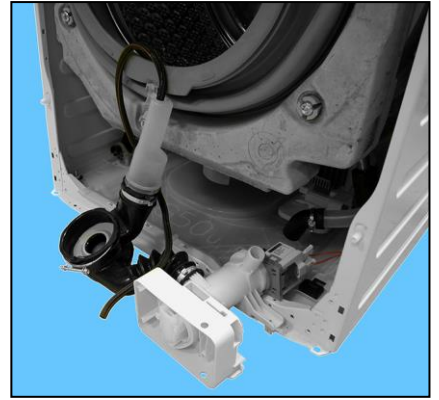
If the hook securing the chamber to the welded tub is broken.
Make use of the eyelet.

Use a screw Code 405 50 33-52/8 (AF/2P 5x16 TE/SP must have a maximum length of 16 mm and without a tip to avoid perforating the tub), secure the chamber to the tub as shown by the arrow in the photo.



Extract the filter body, drain pipe and pressure chamber.

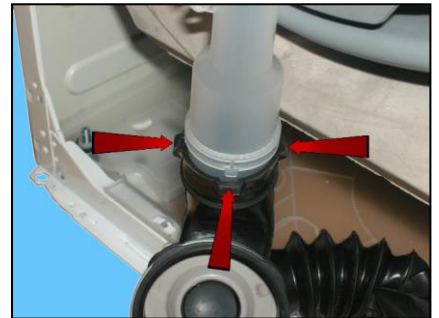
Where clamps are present, you will need to open/break them. When reassembling, use clamps with the same characteristics.



When reassembling make sure that the components references are in the same positions.
When changing clamps that can no longer be used, use clamps with the same characteristics.

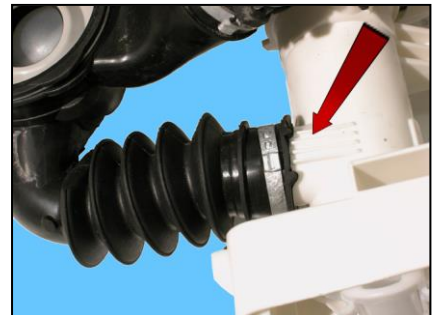
When repositioning the pressure chamber in the tub drain pipe, pay attention to the references.

The size of the clamp to use is 52.5 mm.



When reassembling the pressure chamber, position the pipe connecting it to the pressure switch, inside the housings provided, incorporated in the welded tub. To prevent the pipe from coming into contact with the unit while the appliance is in operation.

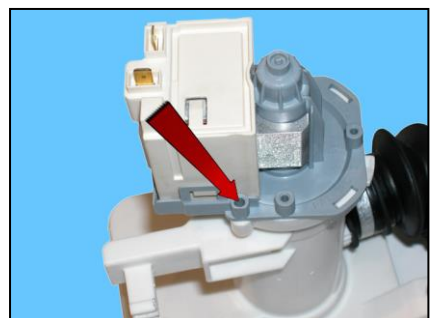
Reference between drain pipe and filter body.
The size of the clamp to use is 40.5 mm.



Reference between drain pipe and welded tub.



If the lock catch securing the pump to the filter body breaks.
Use a screw size 3.5x19 Code 5024 79 51- 00/2.
Screw it into the slot indicated by the arrow.



14.4.5 Welded tub assembly

Remove the worktop (see relevant paragraph).

Remove the control panel (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.

14.4.6 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.



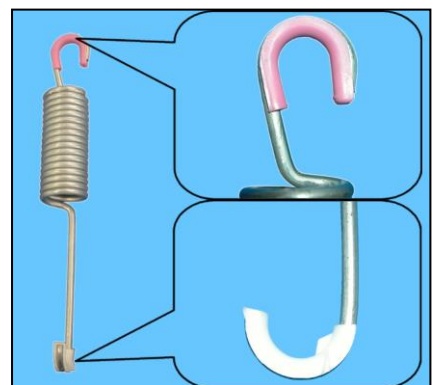
When reattaching the springs (after repair work which required their removal), make sure that the bushings shown in the figure are featured on both ends (the colour of the bushings in the photos below may vary).

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

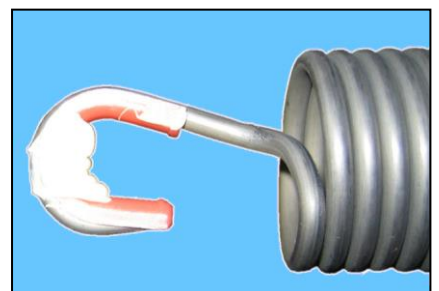
Spare bushings are available, under the following codes:

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 cod. 5026 24 16-00/6.

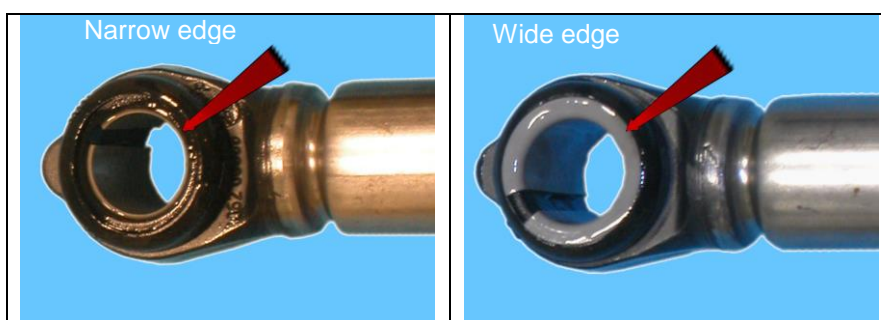


Position in which the springs are hooked to the sides.

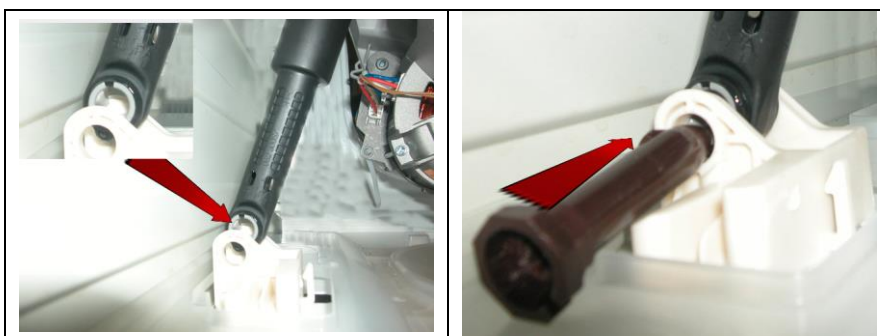


14.5 Shock absorber pin

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.

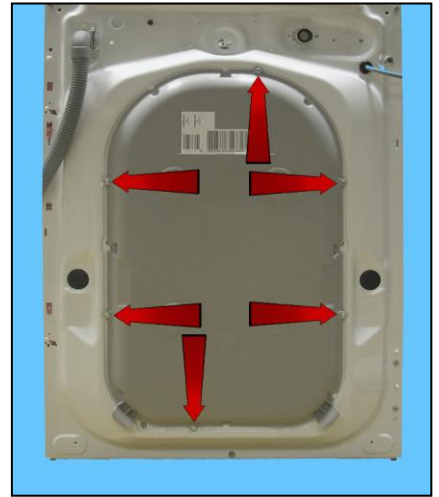


If you are having difficulty inserting the pin, grease it a little (code 5026 24 16-00/6).

14.6 Accessing the rear part

14.6.1 Back panel

Loosen the six screws that secure it to the cabinet.



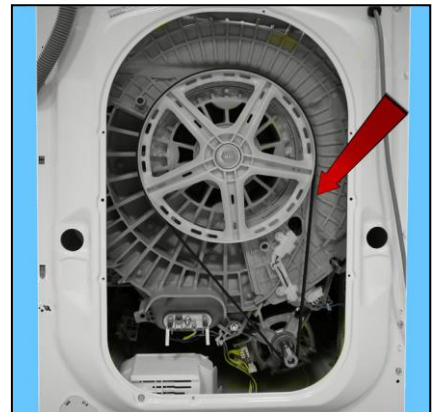
14.7 From the back panel, you can access

1. The belt
2. The plastic pulley
3. The NTC probe (humidity control)
4. The main board
5. The motor
6. The heating element
7. The Inverter
8. The aqua control
9. The welded tub
10. The drain pipe/wiring support
11. The internal drain pipe



14.7.1 Belt

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



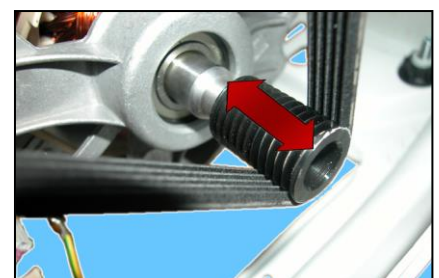
When reassembling:

Position the belt and align it with the centre of the pulley (\varnothing 273mm) 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.



14.7.2 Plastic pulley

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.

Tighten the screw at a torque of 60 Nm.



14.7.3 NTC sensor (humidity control)

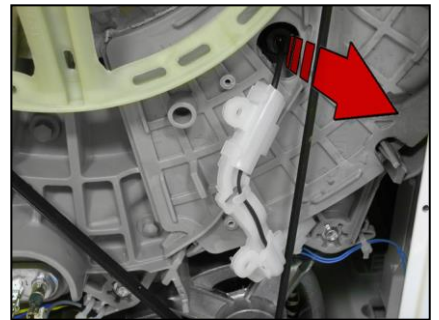
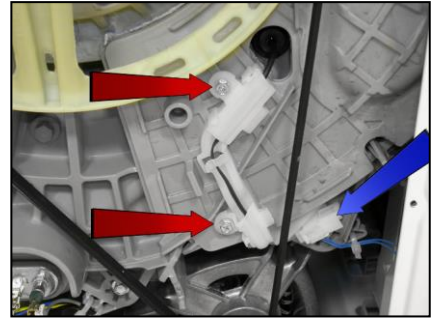
Disconnect the connector.
Loosen the two screws that secure the sensory wiring support to the tub.

Remove the probe.

When reassembling the probe.

Insert the seal in its position and check that it is correctly in place.

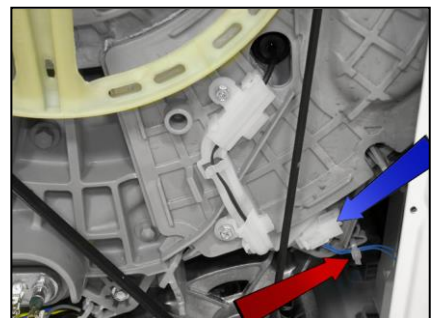
Insert the probe.
Reposition the wire, tighten the two screws that secure it to the welded tub and insert the connector.



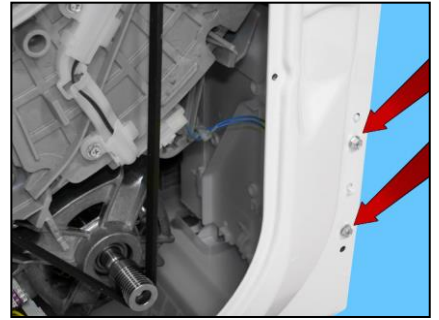
14.7.4 Main board assembly (machines fitted with the EWX11831)

Remove the back panel (see relevant chapter).

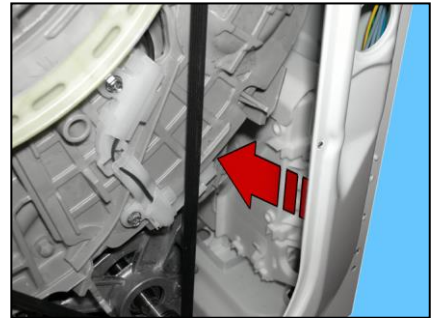
Disconnect the connector: from the NTC probe (blue arrow).
Cut the clamp which secures the wiring of the NTC probe (red arrow).



Remove the screws which secure the main board assembly to the cabinet.

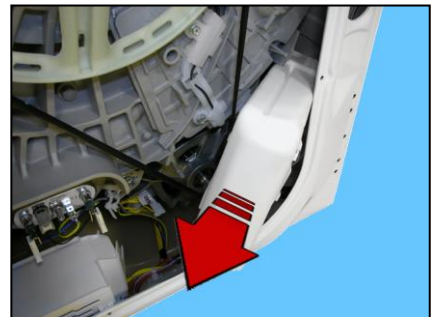


Push the main board assembly towards the inside of the appliance.



Turn it and position it as shown in the figure.

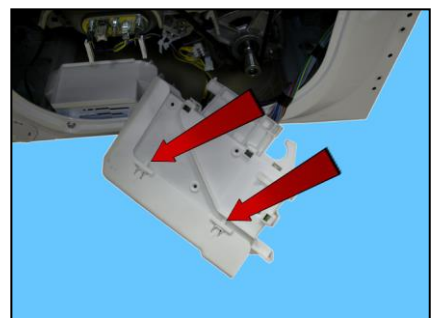
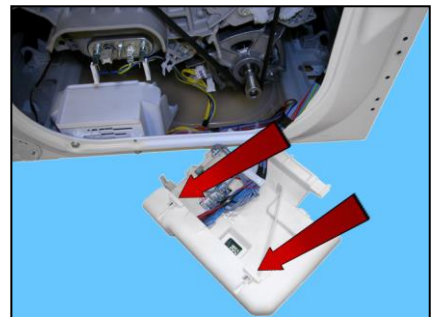
Push the washing unit towards the inside and remove the main board assembly.



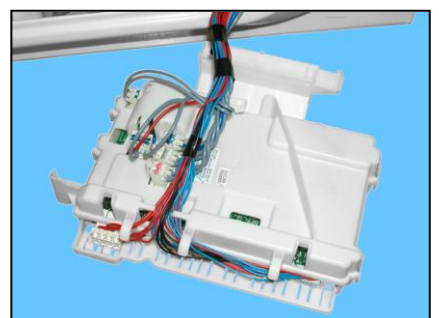
Open the wiring protection.

By first releasing the hooks on one side,

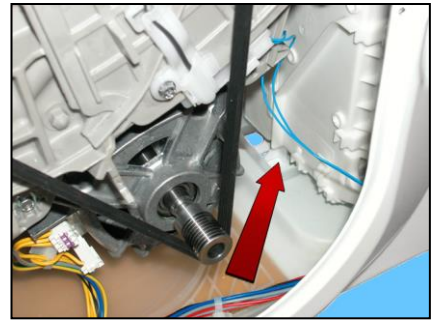
and then on the other.



Disconnect the connectors.

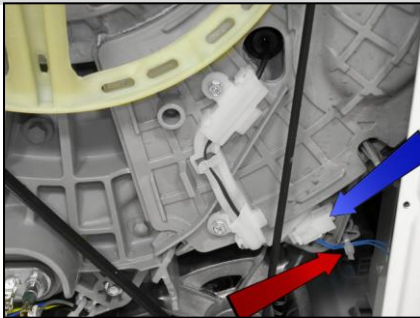


When repositioning the main board assembly in its seat, pay attention that the hook is inserted perfectly in place in the crosspiece.

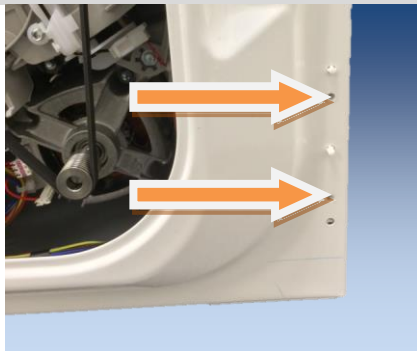


14.7.5 Main board assembly (machines fitted with the EWX14931)

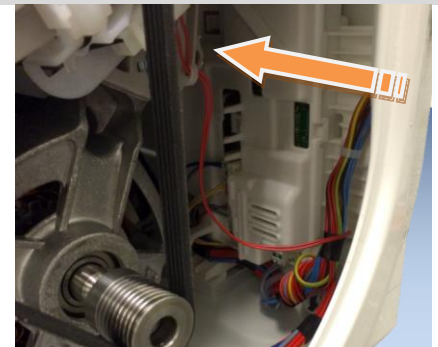
Remove the worktop (see relevant paragraph).



Disconnect the connector: from the NTC probe (blue arrow).
Cut the clamp which secures the wiring of the NTC probe (red arrow).



Remove the screws which secure the main board assembly to the cabinet.



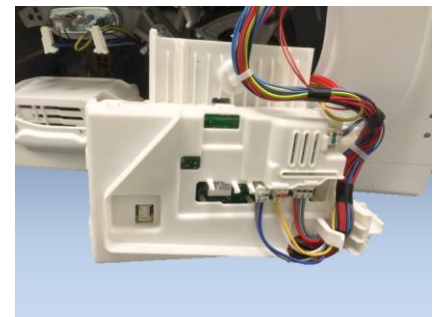
Push the main board assembly towards the inside of the appliance.



Turn it and position it as shown in the figure.

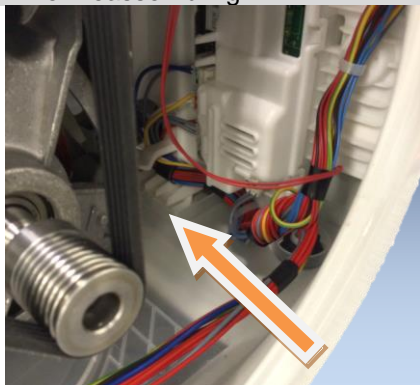


Push the washing unit towards the inside and remove the main board assembly.



Disconnect the connectors.

When reassembling

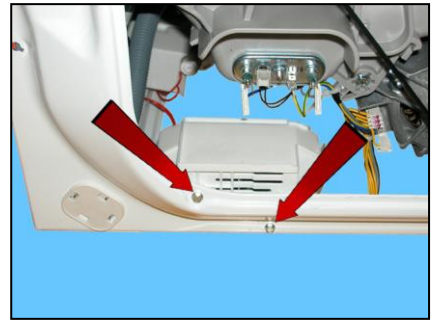


When repositioning the main board assembly in its seat, pay attention that the hook is inserted perfectly in place in the crosspiece.

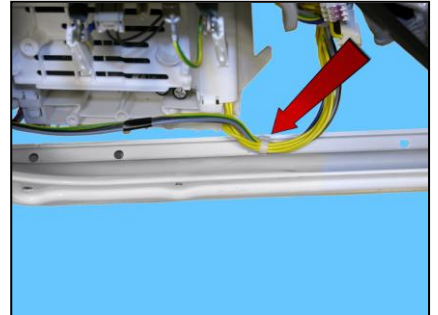
14.7.6 Inverter UIMC / EMC14

Remove the back panel (see relevant chapter).

Loosen the two screws that fix it to the cabinet.



Pull out the clamp from the cabinet.



Push the washing unit towards the inside of the appliance (if necessary).
Pull out the connectors of the heating element (if necessary).
Remove the Inverter (UIMC).

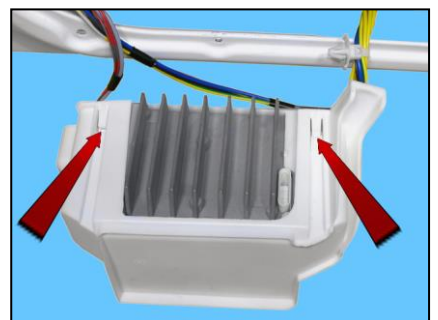


Disconnect the hooks fixing the connector protection on one side,



then on the other.

Remove the connectors protection.



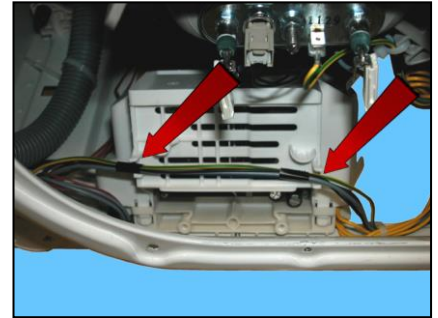
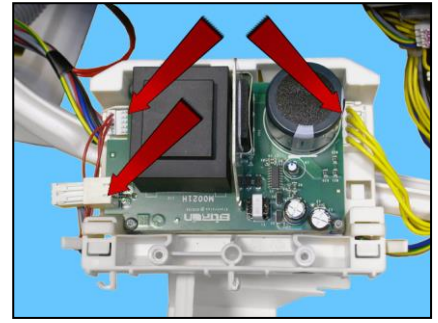
Carefully remove the connectors (they are blocked by anti-sliding hooks).



CAUTION:

Position the wiring carefully when re-assembling the UIMC (Inverter) and set it out as shown in the figure, inside the two rails cut into the UIMC lid (indicated by the arrows).

This is to avoid any wire being squashed / pressed against the cabinet with the risk of current leakage.

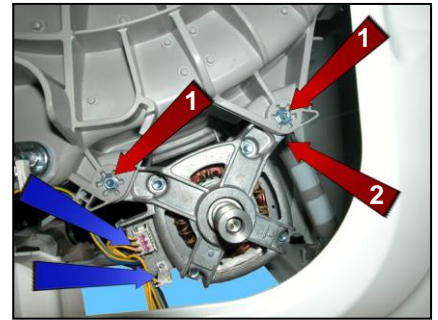


14.7.7 Motor

Remove the back panel (see relevant chapter).
Remove the belt (see relevant chapter).

Disconnect the connectors: power supply and earthing (blue arrow) and also slip off the strap.

Loosen the two front fastening screws (1) and the rear ones (2) (red arrows).



When reassembling, restore the connections.

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

Tighten the screws at a torque of 5 Nm.

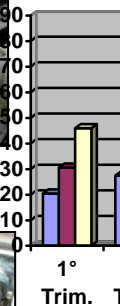
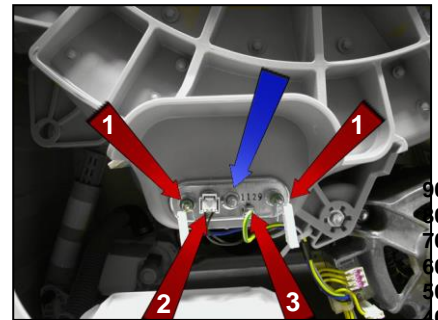
14.7.8 Resistance

Remove the back panel (see relevant chapter).

Disconnect the connectors of the heating element (1), NTC probe (2) and earth (3) red arrows.

Unscrew the nut (blue arrow) and remove the heating element from its seat.

Tighten the nut at a torque of 4 Nm.



14.7.9 Aqua control (where featured)

Remove the back panel (see relevant chapter).
Remove the inverter (see relevant chapter).

Release the hooks securing it to the bottom and disconnect the connector.



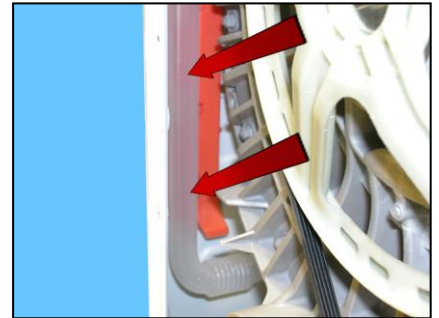
14.7.10 Internal drain pipe (machines fitted with the EWX11831)

Remove the worktop (see relevant paragraph).
Remove the back panel (see relevant paragraph).
Remove the drain pipe fastener from the appliance back panel.

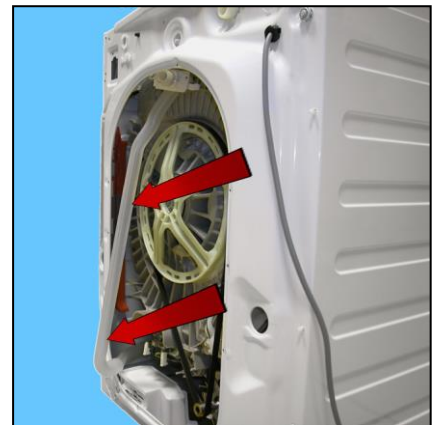
Slide off the clamp that secures the pipe to the pump body and remove the pipe.



Pull the pipe out of the support securing it to the appliance back panel.



Pull out the internal drain pipe.



When reassembling, repeat these steps in the reverse order.

14.7.11 Drain pipe (machines fitted with the EWX14931)

14.7.11.1 Drain pipe/cabling support

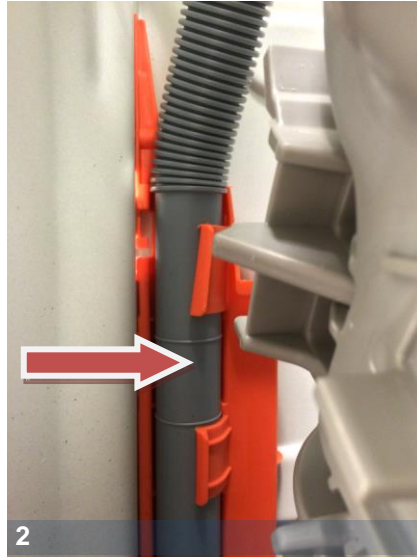
When fixing the drain pipe/cabling support make sure that the two stops (indicated by the red arrows) fit into their housings, locking the support to the unit.

If the fixing is not stable and there is a risk of it coming out of its position, fasten the support to the unit with a screw (6.5x 3.5mm) screwed into the hole indicated by the blue arrow.



14.7.11.2 Main drain pipe (machines fitted with the EWX14931)

Arrange the drain pipe as shown in the figures.



14.8 Welded tub

Remove the worktop (see relevant paragraph).

Remove the control panel (see relevant paragraph).

Remove the front panel (see relevant paragraph).

Remove the detergent tray (see relevant paragraph).

Remove the drying duct (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).

Disconnect the tub suspension springs.

Release the shock absorbers.

Take the tub out of the washing machine.

Revision	Date	Description	Written by	Approved by:
00	03/2014	Document creation	DMM	XX – 0X/201X
01	07/2014	Page 8 Added 1000W to the table (where featured) Page 30 G50XI in G50XL Page 49 Amended heading added tables Page 56 Added title Page 57 Added diagram Page 58 Added title Page 77 updated page 67 to 68 Page 79 updated page 83 to 84	DMM	XX – 0X/201X
02	06/2015	Updates for EWX14931: - Alarm Table Summary - Diagram - EWX14931 Main board Accessibility Updates for: - fan motor - drain pipe - drainage pump	MP	XX – 0X/201X