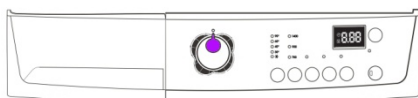
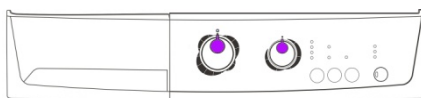




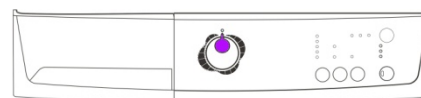
SMART Z3



SMART Z5



SMART Z6



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**Washing machines with
electronic control system**

**PROMETEO
&
PROMETEO STRIP**

**Technical and functional
characteristics**

STYLING

SMART Z

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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 household washing machines with information regarding washing machines fitted with the EWM0931x electronic control system.

Previous platforms (electronic/mechanical) used a safety pressure switch which controlled the minimum water level in the tub, beneath which the supply to the heating element was interrupted.

The current electronic appliances manufactured (ENV06, EWM0931x platform), use a heating element with thermal fuses (inside its branches) for safety, which interrupt in case of temperature overload caused by the water level dropping 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
- Setting: Demo, Diagnostics
- Alarms
- Technical and functional characteristics
- Accessing the various components

Warning:

the selector on this platform is not fitted with an ON/OFF switch. To cut off the power supply to the appliance, the plug has to be taken out of the socket.

Low consumption mode

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

- Stand-By
- Stand-Off

Stand-By – triggered after five minutes, during the programme selecting phase (if no command is received from the buttons or the selector dial) and at the end of the washing cycle. All LEDs are turned off (the Display, too, where featured), with the exception of the green LED on the START/PAUSE button, which flashes at a very low frequency to signal that the appliance is powered, but is in a low power consumption mode. The appliance quits Stand-By status when any of the buttons are pressed: the control panel lights up and displays the status of the appliance (last programme selected or end of programme) before Stand-By status was entered.

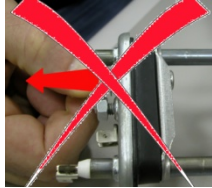
Stand- Off – The appliance is in “Stand - Off” (virtual off) status when the selector dial is set to “OFF” or “0” (zero). Indeed this position leads to the cancelling of any programme that might have been selected, the LEDs being turned off, along with the Display (where featured). However the main board and the components upstream of the door safety interlock remain powered.

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

To ensure the appliance is always **safe to operate**, even when you turn the selector dial to the OFF position (to cancel a programme in progress), with a high water level and the motor in motion, this will only translate to the user interface (control panel) being turned off, while the main board remains powered to keep the door safety interlock locked until the safety conditions are achieved.

2 WARNINGS



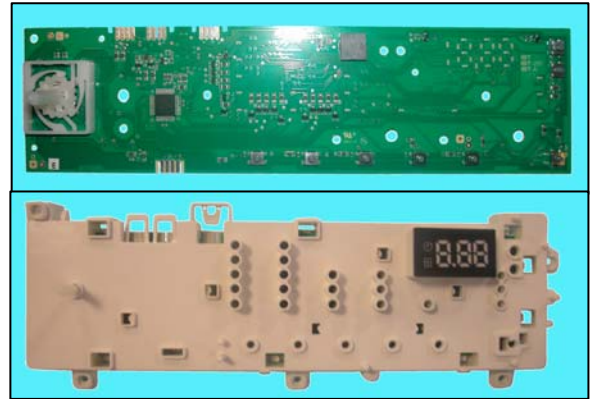
- Any work on electrical appliances must only be carried out by qualified technicians.
 - Before servicing an appliance, check the efficiency of the electrical system in the home using appropriate instruments. For instance, please refer to the instructions provided/illustrated in the Electrolux Learning Gateway portal (<http://electrolux.edvantage.net>).
- On completing operations, check that the appliance has been restored to the same state of safety as when it came off the assembly line.
- If the circuit board has to be handled/replaced, use kit ESD (Code 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.
 - 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. It is strictly forbidden to remove /switch the NTC sensors between heating elements.
- 
- Always empty the appliance of all the water before laying it on its side.
 - Never place the appliance on its right side (electronic control system side): some of the water in the detergent dispenser could leak onto the electrical/electronic components and cause these to burn.
 - When replacing components, please refer to the code shown in the list of spare parts relating to the appliance.

3 STYLING Z3

3.1 General characteristics

The EWM0931x electronic control system consists of two circuit boards:

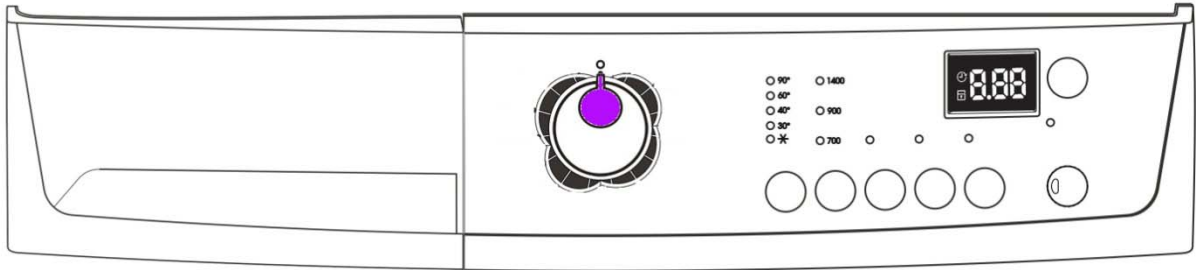
- ↪ Control/display board in a plastic box secured to the control panel (the figure illustrates the individual board and the board assembly consisting of board, box and diffuser).
- ↪ Main board, which powers the electrical components and receives commands from the display board. It is positioned at the rear of the appliance and is secured to the base.



Programme selector	<ul style="list-style-type: none"> ▪ 15 positions without main switch (incorporated in the circuit board)
No. buttons	<ul style="list-style-type: none"> ▪ maximum 7 (3 options + 1 start/pause + 1 delayed start + 1 Spin + 1 Temperature)
No. LEDs	<ul style="list-style-type: none"> ▪ maximum 14 (13 green LEDs + 1 red LED)+ 1 display
Serial port	<ul style="list-style-type: none"> ▪ DAAS-EAP communication protocol up to 230400 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
Rinsing system	<ul style="list-style-type: none"> ▪ Traditional
Motor	<ul style="list-style-type: none"> ▪ Collector, with tachometric generator (Universal)
Spin speed	<ul style="list-style-type: none"> ▪ 850 ÷ 1,400 rpm
Anti-unbalancing system	<ul style="list-style-type: none"> ▪ AGS
Water fill	<ul style="list-style-type: none"> ▪ 1 solenoid valve with 1 inlet – 2 outlets
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"> ▪ Traditional (with PTC)
Heating element heat output	<ul style="list-style-type: none"> ▪ 1750W with thermal fuses incorporated
Temperature control	<ul style="list-style-type: none"> ▪ NTC probe incorporated in the heating element
Buzzer	<ul style="list-style-type: none"> ▪ Traditional incorporated in the PCB

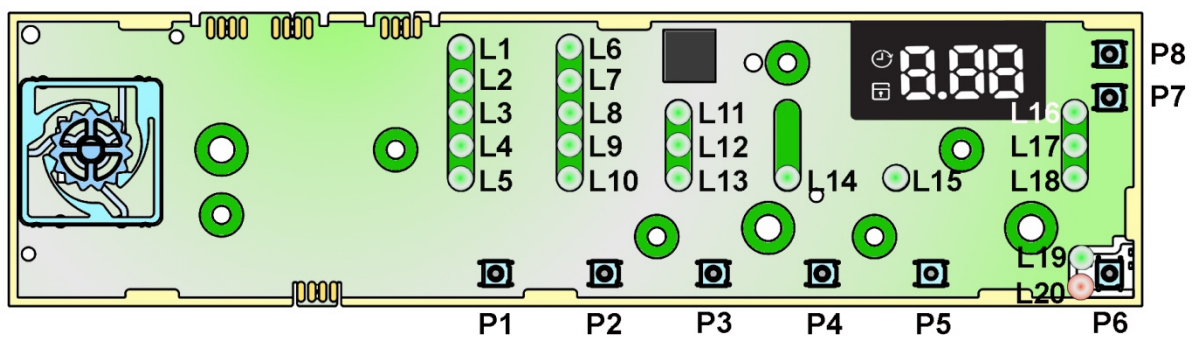
3.2 Control panel

3.2.1 Styling Z3

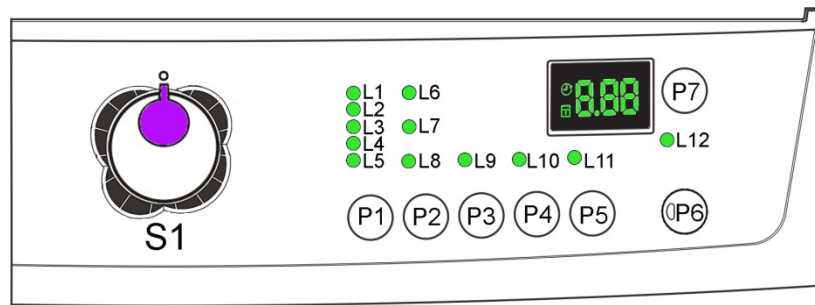


3.2.2 Display board

- Positioning of LEDs and buttons



3.3 Configuration of control panel Z3



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

3.3.1 Programme selector (S1)

The selector is formed by a linear potentiometer. The fifteen positions are determined by a plastic structure that is secured around the potentiometer. No ON/OFF switch is fitted.

The first position is for the OFF function, where the programme under way is reset and all the LEDs of the display board are turned off.

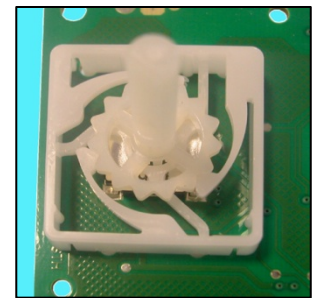
You have to unplug the appliance to cut off the power supply.

The various positions of the selector may be configured to perform different washing programmes (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.

The programme temperature is selected on the relevant button.



3.3.2 Programme configuration

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

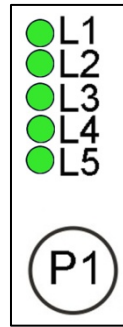
Types of fabric	Cotton/linen, Synthetic fabrics, Delicates, Wool, Hand-wash, Shoes, Jeans, Duvet, Silk.
Special programmes	Cotton/linen + pre-wash, Soak, Miniprogramme, Easy-Iron, Conditioner, Rinse, Drain, Spin, Economy.
Temperature	Normal, Minimum, Maximum: the initial temperature is the one proposed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

3.3.3 Buttons and LEDs

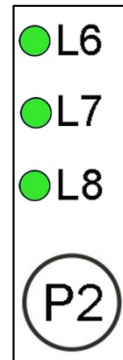
The functions of each button are defined by the configuration of the appliance.

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

The initial temperature set for each programme can be configured.
The temperature of 50°C is not envisaged.

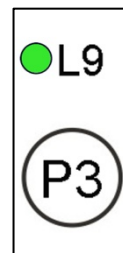


- **Button no. 2: SPIN SPEED REGULATION**
this button is configurable and is related to LEDs (L6÷L8).
Press it in sequence to select the desired spin speed or exclude it with the rinse hold option.



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

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



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

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



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

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

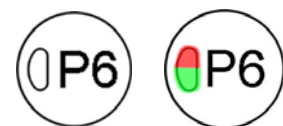


- **Button no. 6:** this button is configurable and has the function of START/PAUSE.
Press this button to start a washing cycle, or to pause a washing cycle already under way.

It contains two LEDs:

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

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



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



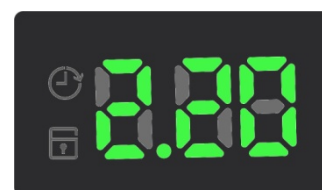
- **Button no. 7:** this button is configurable and has the DELAYED START function. During the programme selection phase, a delayed start can be selected, from 30' to 20 hours (30' ↔ 60' ↔ 90' ↔ 2h ↔ 3h... ↔ 20h ↔ 0h) and the time is shown on the Display. During the last hour, the time decreases minute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



3.3.4 Display

The information described below appears on the display.

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



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



- ↖ - **Appliance stopping with water in the tub**, after the programmes with the RINSE HOLD option, 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.



- ↖ - **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).

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

During the delayed start, the icon  remains permanently lit.

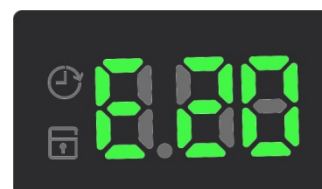
- ↖ - **Padlock:** when it is lit, it indicates that all the buttons are disabled to prevent children from modifying, starting or pausing the cycle. To disable this function, a key combination needs to be pressed. It may be silk-screen printed on the control panel or described in the instruction manual.



- ↖ - **Wrong choice of an option**, is displayed by "Err", when a function not compatible with the chosen programme is selected. It is displayed for two seconds.



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



- **Buzzer**

The buzzer emits:

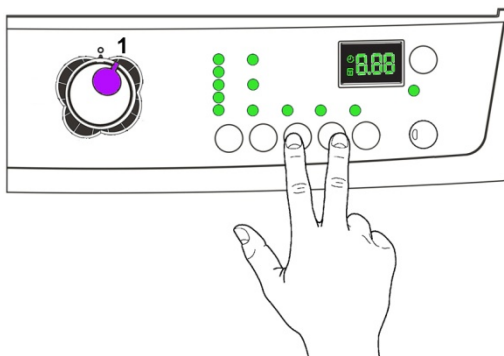
- one “**beep**” when: the programmes or an option are selected, when the START/PAUSE button is pressed to start or pause the cycle.
- Three “**beeps**” when: an option not compatible with the selected programme is chosen, or when a button is pressed or a dial is turned during a cycle.
- A particular sequence of “**beeps**” for a two-minute duration when the cycle has terminated.
- A particular sequence of three “**beeps**” to signal an appliance malfunction.

The Buzzer may be configured to beep:

- ↵ as in the cases set out above.
- ↵ only at the end of the cycle.
- ↵ only in the event of an alarm.

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

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



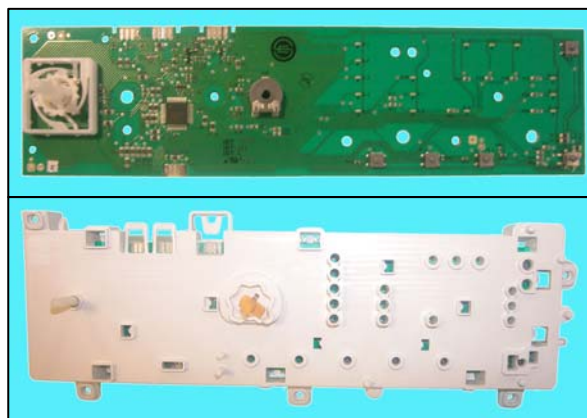
To enable it, press the buttons simultaneously for 5 seconds. A short beep confirms that it has been enabled/disabled.

4 STYLING Z5 Z6

4.1 General characteristics

The EWM0931x electronic control system consists of two circuit boards:

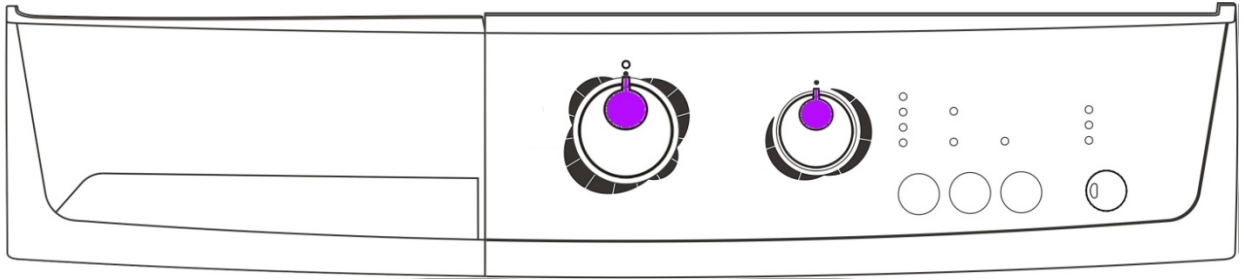
- ↪ Control/display board in a plastic box secured to the control panel (the figure illustrates the individual board and the board assembly consisting of board, box and diffuser).
- ↪ Main board, which powers the electrical components and receives commands from the display board. It is positioned at the rear of the appliance and is secured to the base.



Programme selector	<ul style="list-style-type: none"> ▪ 15 positions without main switch (incorporated in the circuit board)
Secondary selector	<ul style="list-style-type: none"> ▪ 6 positions, only for versions Z 5 (incorporated into the circuit board)
No. buttons	<ul style="list-style-type: none"> ▪ maximum 5 (1 Spin/Temperature + 2 options + 1 start/pause + 1 delayed start)
No. LEDs	<ul style="list-style-type: none"> ▪ Styling Z5 maximum 12 (11 green LEDs + 1 red LED). ▪ Styling Z6 maximum 16 (15 green LEDs + 1 red LED).
Serial port	<ul style="list-style-type: none"> ▪ DAAS-EAP communications protocol up to 230400 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
Rinsing system	<ul style="list-style-type: none"> ▪ traditional
Motor	<ul style="list-style-type: none"> ▪ Collector, with tachometric generator (Universal)
Spin speed	<ul style="list-style-type: none"> ▪ 850 ÷ 1,400 rpm
Anti-unbalancing system	<ul style="list-style-type: none"> ▪ AGS
Water fill	<ul style="list-style-type: none"> ▪ 1 solenoid valve with 1 inlet – 2 outlets
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"> ▪ Traditional (with PTC)
Heating element heat output	<ul style="list-style-type: none"> ▪ 1750W with thermal fuse incorporated
Temperature control	<ul style="list-style-type: none"> ▪ NTC probe incorporated in the heating element

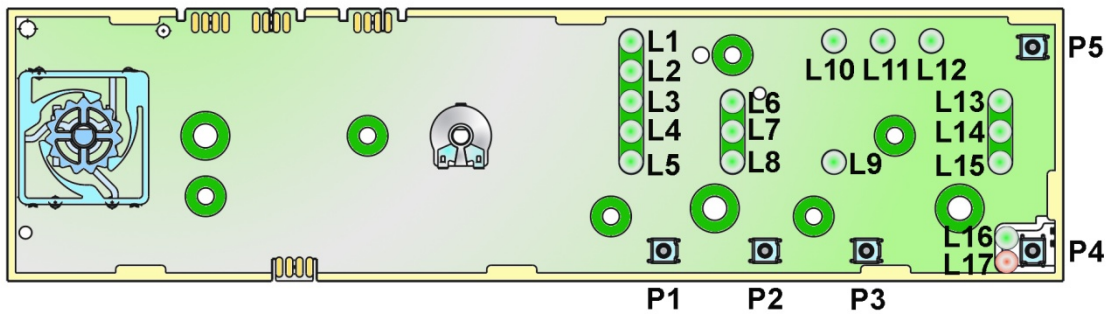
4.2 Control panel

4.2.1 Styling Z5

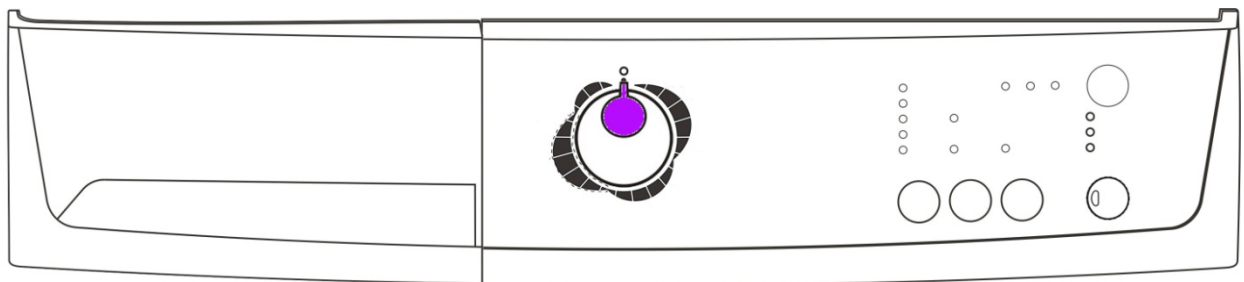


4.2.2 Display board

- Positioning of LEDs and buttons

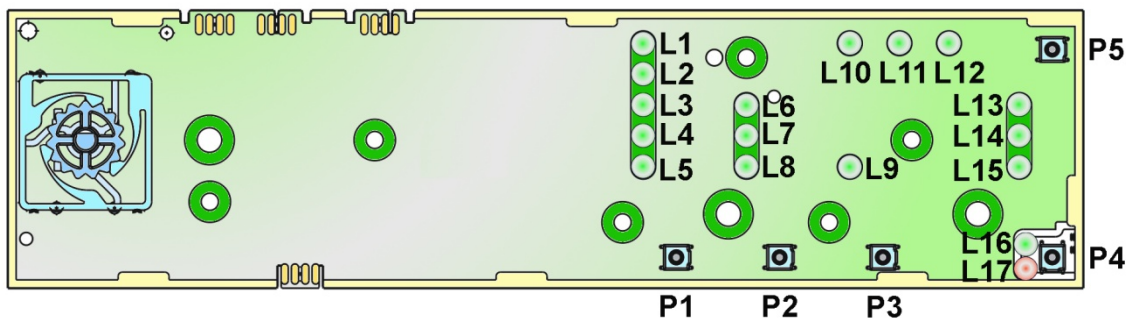


4.2.3 Styling Z6



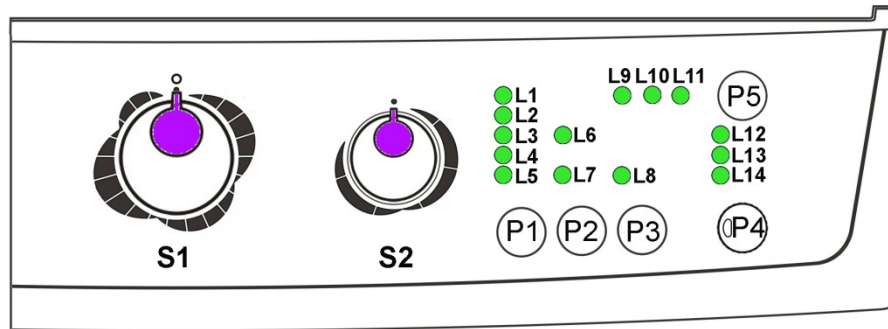
4.2.4 Display board

- Positioning of LEDs and buttons



4.2.5 Configuration of control panel Z5-Z6

Only one styling will be taken into consideration: the most complete one, since they are identical: both in terms of functions and button layout.



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

4.2.6 Programme selector (S1)

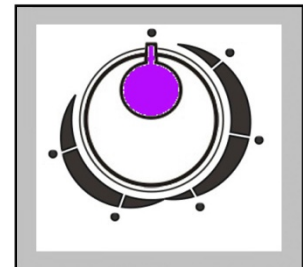
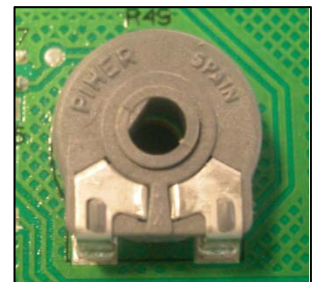
See paragraph 3.3.1..... on page 9

4.2.7 Secondary selector (S2) only for functions Z5

Certain models may be fitted with a second six-position selector. Each position is teamed with a temperature value and the selector can only be turned clockwise.

In the event of an incorrect temperature setting, the same is limited to the maximum value set for the chosen type of fabric, irrespective of the position of the dial.

Position	Temperature
1	0°
2	20°
3	30°
4	40°
5	60°
6	90°



4.2.8 Buttons and LEDs

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

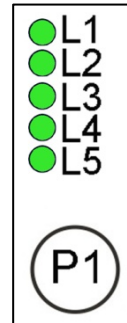
- **Button no. 1:** this button is related to LEDs (L1÷L5)

Styling Z5:

press this button in sequence to vary the spin speed from max., to no spin or rinse hold.

Styling Z6:

press this button in sequence to vary the temperature of the washing cycle from 90°C to cold cycle.



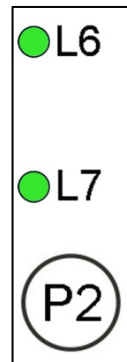
- **Button no. 2:** this button is configurable and is related to LEDs (L6 and L7). Depending on the configuration of the appliance, it can perform the function of:

Styling Z5

super quick, easy-iron, super rinse, rinse hold, spin speed regulation, delayed start (4 – 8 hours).

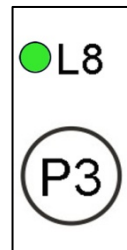
Styling Z6

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

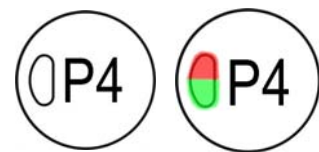


- **Button no. 3:** this button is configurable and is related to LED (L8). Depending on the configuration of the appliance, it can perform the function of:

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



- **Button no. 4:** this button is configurable and has the function of START/PAUSE.
See paragraphButton 6 START/PAUSE on page 10

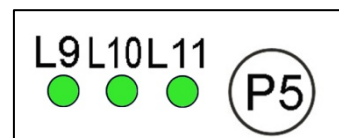


- **Button no. 5:**

Styling Z6: this button is configurable and is related to LEDs (L9÷L11).

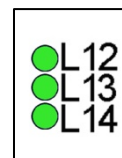
It performs the function of delayed start.

Press it in sequence to choose from one of the three delayed start options: 3h-6h-9h with the related LED lighting.



- **Wash phase indicator LEDs:**

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



Three combinations are envisaged:

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

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

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

Summary table of the three combinations

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

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

Possible indications	
Wash	Lights up in selection mode if the programme includes the wash phase and during the wash cycle.
Rinses / Spin	Lights up in selection mode if the programme includes rinses and spin and during the performance of these phases.
Extra rinse	Lights up when this option has been memorised (if included in the cycle) and during the rinse phase.
Cycle in progress	Lights up during the performance of the cycle.
End of cycle	Lights up when the programme has been completed and the door has been released.
Door closed	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 or two minutes to open).

5 COMPATIBILITY BETWEEN WASHING PROGRAMMES AND OPTIONS

Programme	Temperature	Maximum Spin (*)	Delayed start	Super quick	Extra rinse	Easy iron	Reduced spin speed	No spin	Rinse hold
Cotton	95° ÷ 0° (40°)	1400 rpm	√	√	√	√	√	√	√
Cotton + pre-wash	95° ÷ 0° (40°)	1400 rpm	√	√	√	√	√	√	√
Cotton + economy	60°, 40° (60°)	1400 rpm	√		√	√	√	√	√
Synthetic fabrics	60°, 0° (40°)	1200 rpm	√	√	√	√	√	√	√
Delicates	40° ÷ 0° (40°)	700 rpm	√	√	√		√	√	√
Wool/Hand Wash	40°, 0° (30°)	1200 rpm	√				√	√	√
Jeans	60°, 0° (40°)	1200 rpm	√			√	√	√	√
Mini/Teddy Bear/Sport Light	30°	700 rpm	√				√	√	
Child	30°, 0° (30°)	700 rpm	√				√	√	
Shoes	30°, 0° (30°)	1000 rpm	√				√	√	
Blankets	40°, 0° (40°)	700 rpm	√				√		
5 Shirts	30°	900 rpm	√				√	√	√
Mix. 40°	40°	1400 rpm	√		√	√	√	√	√
Mix. 20° Oko	20°	1200 rpm	√		√		√	√	√
Soak	30°		√						
Rinses / Conditioner		1400 rpm	√		√	√	√	√	√
Spin		1400 rpm	√				√		
Drain									
Phases during which an option can be selected									
Selection	√	√	√	√	√	√	√	√	√
Washing cycle pause		√			√	√	√	√	√
Rinse cycle pause									√

The information is purely indicative

(T°) the default temperature is displayed on the cycle temperature LED (Styling Z6).

(*) default set speed when a cycle is selected, limited to the one declared for the specific model.

5.1 Description of options

- **Rinse hold**

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

- **Pre-wash**

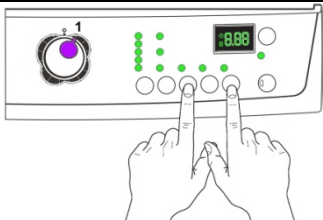
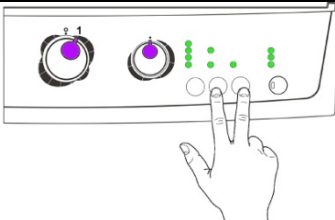
- Adds a pre-wash phase at the start of the cycle with water heating to 30 °C (or cold, if selected).
- Available in COTTON cycles, performs a short spin before passing on to the washing phase.

- **Economy / Energy label**

- Modifies the structure of the COTTON 40÷90 - SYNTHETIC FABRICS 50/60 programmes to reduce energy consumption, guaranteeing washing performance levels.
- Reduces the washing temperature.
- Increases the duration of the wash phase.

- **Super rinse**

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

ENABLING SUPER RINSE	
Appliances which do not envisage this option combined with a button can enable it through a key combination (see instruction manual).	
Z3	Styling Z5/Z6
	
During the selecting phase, press the two buttons shown in the figure simultaneously for at least 5 seconds until the related LED lights up. This option also remains enabled during subsequent cycles. To disable it, press the two buttons simultaneously for at least 5 seconds until the related LED is turned off.	

- **Easy-iron**

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

- **No spin**

- Eliminates all the spin phases
- It adds **three** rinses to the COTTON cycle and **one** to the SYNTHETIC FABRICS cycle

- **Super quick**

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

- **Delayed start**

- Adds a pause before the start of the programme. The delay time is displayed on the corresponding LEDs or on the Display (see page 11 or page 16 button 5, for Display or LED display respectively).
- To start the cycle immediately after the countdown to the delayed start has already begun: press the Start/Pause button, cancel the delay time by pressing the relevant button, then press Start/Pause again.

- **Reduced spin speed**

Styling Z5

It is combined with the button with 4 LEDs, (the possible combinations are shown below):

- Maximum - Maximum spin speed declared.
- Reduction 1 - Reduced spin speed to between the maximum speed and the minimum speed (400 rpm).
- Reduction 2 - Reduced spin speed to between the reduction 1 speed and the minimum speed (400 rpm).
- Automatic reduction – reduces the maximum speed for the programme by half, but not less than 400 rpm.
- Rinse hold - only excludes the final spin, but not the intermediate spins and ends the cycle with water in the tub.

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

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

Button with 5 LEDs						
Maximum spin speed (rpm)	600/700	800/900	1000÷1400	1000÷1400	1300÷1400	1400
Intermediate 1	500	700	900	900	1100	1200
Intermediate 2	400	500	700	700	900	900
Intermediate 3	No speed	No speed	No speed	500	700	700
Last selection	Rinse hold	Rinse hold	Rinse hold	No spin or Rinse hold	No spin or Rinse hold	No spin or Rinse hold

Button with 4 LEDs			
Maximum spin speed (rpm)	600/700	800/900	1000÷1400
Intermediate 1	500	700	900
Intermediate 2	400	500	700
Last selection	No spin or Rinse hold	No spin or Rinse hold	No spin or Rinse hold

Button with 3 LEDs			
Maximum spin speed (rpm)	600/700	800/900	1000÷1400
Intermediate 1	500	700	900
Intermediate 2	400	500	700

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

Styling A3-Z3

It can be combined with buttons with 3 LEDs. The combination is the one described for the previous version. The following tables contain the possible configurations of the "Spin" button depending on the combination of LEDs:

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

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

When a programme is selected, the LED corresponding to the spin speed for which it was configured lights up. If the "Rinse hold" option is combined with another button and it is selected, all the LEDs will be turned off.

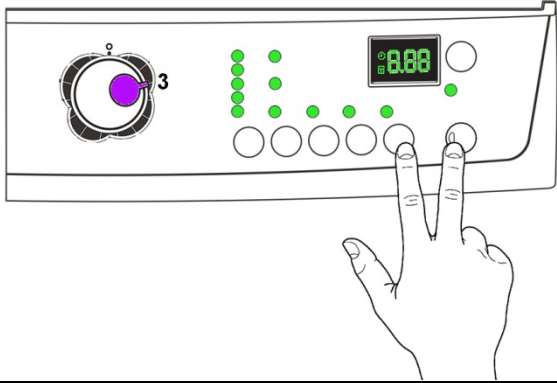
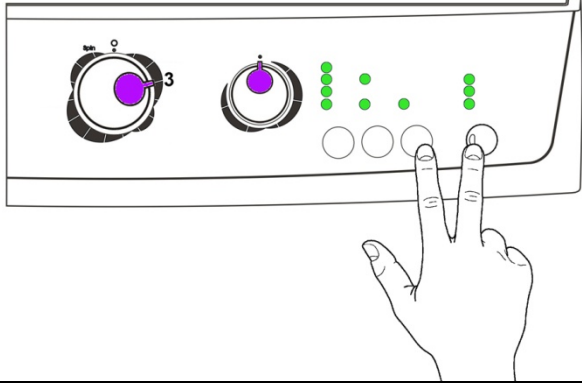
6 DEMO MODE SETTING

A special cycle is designed to demonstrate the operation of these appliances in shops, without connecting them to the water mains, with the interaction of the user:

- ◆ this interactive mode consists in selecting one of the programmes, adding any options and, once the start button has been pressed, 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: shows all the phases of the programme very quickly.
- ↖ Alarms: for safety reasons, the families of alarms E40 (door closed), E50 (motor) and E90 (communication between boards/configuration) are enabled.

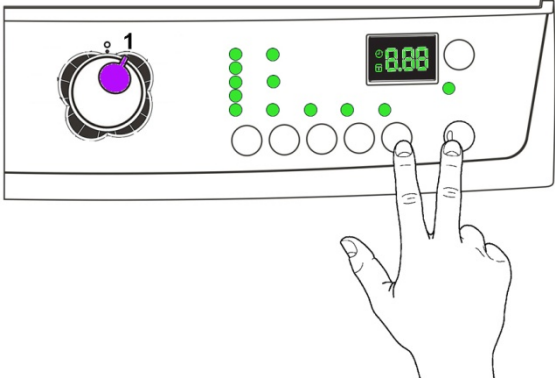
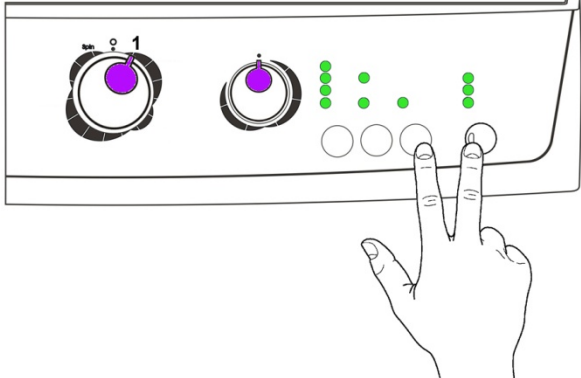
Z3	Z5-6
	
<ol style="list-style-type: none">1. Set the selector dial to position 0 (zero).2. Press the START/PAUSE button and the nearest option button simultaneously (as shown in the figure).3. Holding down both buttons, switch the appliance on by turning the programme selector by three position clockwise.4. Hold the buttons down until the LEDs start to flash (at least 3 seconds). <p>Where a display is fitted, the word "DEM" is shown for 2 seconds.</p>	

6.1 Exiting DEMO mode

Unplug the appliance from the socket.

7 DIAGNOSTIC SYSTEM

7.1 Accessing diagnostics

Z3	Z5-Z6
	
<ol style="list-style-type: none">1. Set the selector dial to position 0 (zero).2. Press the START/PAUSE button and the nearest option button simultaneously (as shown in the figure).3. Holding down both buttons, switch the appliance on by turning the programme selector by one position clockwise.4. Hold the buttons down until the LEDs start to flash (at least 2 seconds). <p>In the first position, the operation of the buttons and the related LEDs 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.</p>	



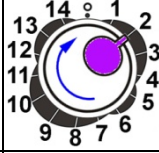



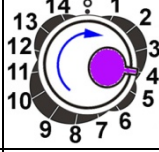

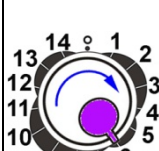

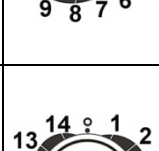
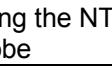
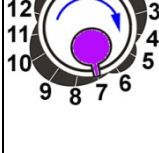
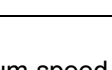


7.2 Quitting the diagnostics system

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

7.3 Diagnostic test phases

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

Concurrently, a control code of the selector (or of the second selector, where envisaged) is shown: in styling Z3 on the display for **two** seconds, before displaying items described in the last column of the table below, whereas in stylings Z5/6 the code is displayed by lighting the LEDs for **three** seconds (see tables 2 and 3). All alarms are enabled in the diagnostic cycle.

TABLE 1					
Selector position	Components activated	Working conditions	Function tested	Where a display is fitted	
1	 All the LEDs light up in sequence. When you press a button, the corresponding group or LED lights up.	Always active	User interface functions		
2	 Door safety interlock Wash solenoid	Door closed Water level below anti-flooding level Maximum time 5 mins	Water fill to wash compartment	 Water level in the tub (mm)	
3	 Door safety interlock Pre-wash solenoid	Door closed Water level below anti-flooding level Maximum time 5 mins	Water fill to pre-wash compartment	 Water level in the tub (mm)	
4	 Door safety interlock Solenoid valve conditioner and washing	Door closed Water level below anti-flooding level Maximum time 5 mins	Water fill to conditioner compartment	 Water level in the tub (mm)	
6	 Door safety interlock Wash solenoid valve if the water level in the tub does not cover the heating element. Heating element	Door closed Water level above the heating element. Maximum time 10 mins or up to 90°C. (*)	Heating	 Temperature in °C measured using the NTC probe	
7	 Door safety interlock Wash solenoid valve if the water level in the tub does not cover the heating element. Motor (55 rpm clockwise, 55 rpm anticlockwise, pulse at 250 rpm)	Door closed Water level high enough to cover the heating element	Check for leaks from the tub	 Drum speed in rpm/10	
8	 Door safety interlock Drain pump Motor up to 650 rpm then at maximum spin speed (**)	Door closed Water level lower than anti-boiling level for spinning	Drain, calibration of analogue pressure switch and spin	 Drum speed in rpm/10	
9	----	----	----		
10	 Reading/Deleting the last alarm	----	----		

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

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

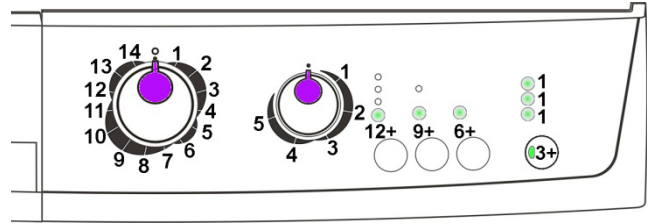
7.4 Selector efficiency check

Diagnostic testing also provides the opportunity to check the efficiency of the selectors.

7.4.1 Programme selector

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

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



The table below includes all the possible selector control combinations:

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

7.4.2 Temperature selector

The same description as the programme selector applies to the temperature selector.

TABLE 3					
0			1		
2			3		
4			5		

8 ALARMS

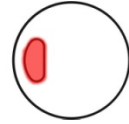
8.1 Displaying the alarms to the user

8.1.1 Styling Z3

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

The alarms displayed to the user are listed below:

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



8.1.2 Styling Z5 Z6

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

The table below illustrates the various combinations of LED lightings.

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

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

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

- ↵ **EF0 – Water leakage (Aqua Control System)**
- ↵ **EH0 – Voltage or frequency outside the normal values**

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

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

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

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

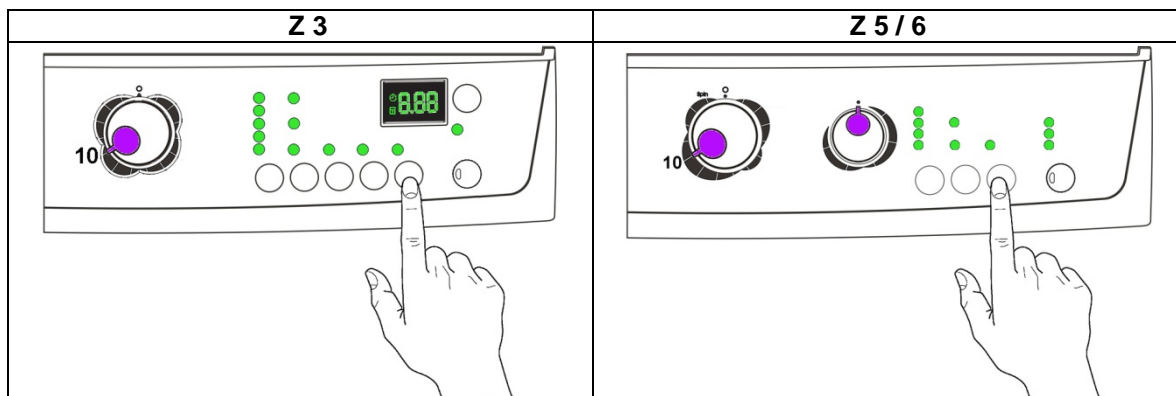
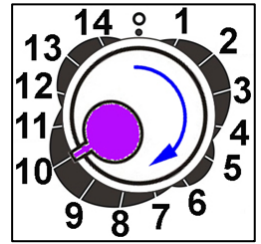
Certain alarm conditions require a drain phase to be performed before the door can be opened for safety reasons:

- cooling water fill if the temperature is higher than 65 °C;
- drain until the analogue pressure switch is on empty, during a max. 3-minute time.

8.2 Reading the alarms

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

- enter the diagnostic mode.
- Irrespective of the type of PCB and configuration, turn the programme selector dial **clockwise** to the **tenth position**.
- The last alarm will be displayed.
- To display the previous alarms, press the button to the left of the START/PAUSE button in sequence (as shown in the figure).



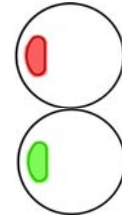
- To return to the last alarm, press the START/PAUSE button.

8.2.1 Displaying the alarm

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

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

These two LEDs are featured in all models.



Notes

- The first letter of the alarm code “E” (Error) is not displayed, since this letter is common to all alarm codes.
- Alarm code families are shown in hexadecimals; in other words:
 - **A** is represented by **10** flashes
 - **B** is represented by **11** flashes
 - ...
 - **F** is represented by **15** flashes
- Configuration errors are shown by the flashing of all LEDs (user interface not configured).

8.2.2 Example of alarm display

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

- the sequence of four flashes of the START / PAUSE button with the red light indicates the first number **E43**;
- the sequence of three flashes of the START / PAUSE button with the green light indicates the second number **E43**;

START / PAUSE button with red light			START / PAUSE button with green light		
ON/OFF	Time (Sec.)	Value	ON/OFF	Time (Sec.)	Value
	0.5	1		0.5	1
	0.5			0.5	
	0.5	2		0.5	2
	0.5			0.5	
	0.5	3		0.5	3
	0.5			0.5	
	0.5	4		2.5	Pause
	0.5				
	1.5	Pause			

8.2.3 Operation of alarms during the diagnostic cycle

All alarms are enabled during the diagnostic cycle of components.

8.2.4 Rapid reading of alarms

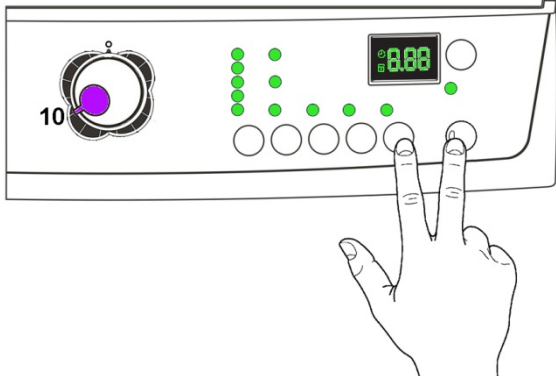
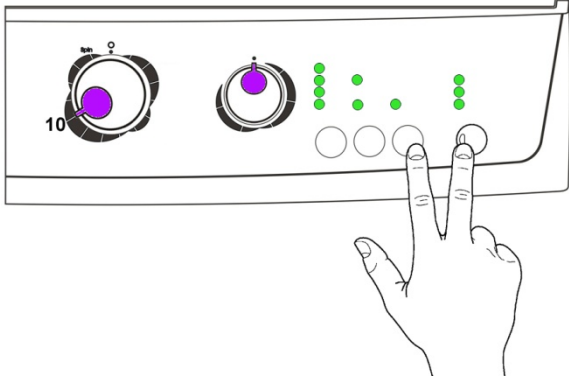
The last alarm can be displayed even if the programme selector is not in the tenth position (diagnostics) or if the appliance is in normal operating mode (e.g. during the execution of the washing programme):

- Press the **START/PAUSE** button and the nearest **option button** simultaneously (as if you were entering DIAGNOSTIC mode) for at least 2 seconds: the LEDs initially switch off, and then display the flashing sequence indicating the last alarm.
- The alarm continues to be displayed for the amount of time required, and then the display returns to its normal operation.
- The alarm reading system is as described in para. 8.2
- While the alarm is being displayed, the appliance continues to perform the cycle or, if in the programme selection phase, it maintains the previously selected options stored in the memory.

8.2.5 Deleting the last alarms

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

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

Z 3	Z 5 / 6
	
<ol style="list-style-type: none">1. Select diagnostic mode, turn the programme selector to the tenth position (reading of alarms).2. Press the START/PAUSE button and the nearest option button simultaneously (as shown in the figure).3. Hold down the buttons until the LEDs stop flashing and the display shows “E00” (at least 5 seconds).	<ol style="list-style-type: none">1. Select diagnostic mode, turn the programme selector to the tenth position (reading of alarms)2. Press the START/PAUSE button and the nearest option button simultaneously (as shown in the figure).3. Hold the buttons down until the LEDs stop flashing (at least 5 seconds).

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

9 Alarm Summary Table

Alarm	Description	Possible fault	Machine status/action	Reset
E00	No alarm			-----
E11	Water fill difficulty during washing	Tap closed or water pressure too low; Drain pipe improperly positioned; Water fill solenoid valve faulty; Leaks from water circuit on pressure switch; Pressure switch faulty; Wiring faulty; Main PCB faulty.	Cycle is paused with door locked.	START/RESET
E13	Water leaks	Drain pipe improperly positioned; Water pressure too low. Water fill solenoid valve faulty; Water circuit on pressure switch is leaking/clogged; Pressure switch faulty.	Cycle is paused with door locked.	START/RESET
E21	Drain difficulty during washing	Drain pipe kinked/clogged/improperly positioned; Drain filter clogged/dirty; Wiring faulty; Drain pump faulty; Pressure switch faulty; Main PCB faulty.	Cycle paused (after 2 attempts)	START/RESET
E23	Faulty triac for drain pump	Wiring faulty; Drain pump faulty; Main PCB faulty.	Safety drain cycle - Cycle stops with door open	RESET
E24	Malfunction in sensing circuit on triac for drain pump (wrong input voltage to micro-processor)	Main circuit board faulty.	Safety drain cycle - Cycle stops with door unlocked	RESET
E31	Malfunction in electronic pressure switch circuit (frequency of signal from pressure switch outside limits)	Wiring; Electronic pressure switch; Main PCB.	Cycle stops with door locked.	RESET
E32	Calibration error of the electronic pressure switch (the electronic pressure switch generates a signal with unstable frequency during the drain phase).	Drain pipe kinked/clogged/improperly positioned; Solenoid valve faulty; Drain filter clogged/dirty; Drain pump faulty; Pressure chamber; Leaks from water circuit on pressure switch; Pressure switch; Wiring; main PCB.	Cycle paused	START/RESET
E35	Overflow	Water fill solenoid valve faulty; Leaks from water circuit on pressure switch; Wiring faulty; Pressure switch faulty; Main PCB faulty.	Cycle interrupted. Safety drain cycle. Drain pump continues to operate (5 min. on, then 5 min. off. etc.).	RESET
E38	Internal pressure chamber is clogged (water level does not change for at least 30 sec. of drum rotation).	Motor belt broken; Water circuit on pressure switch clogged.	Heating phase is skipped.	ON/OFF RESET
E41	Door open (after 20 sec.)	Check whether the door is closed properly; Wiring faulty; Door safety interlock faulty; Main circuit board faulty.	Cycle paused	START/RESET
E42	Problems with door lock Door still locked after 4' 25".	Wiring faulty; Door safety interlock faulty; Electrical current leak between heating element and ground; Main PCB faulty.	Cycle paused	START/RESET
E43	Faulty triac supplying power to door delay system	Wiring faulty; Door safety interlock faulty; Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET

Alarm	Description	Possible fault	Machine status/action	Reset
E44	Faulty sensing by door delay system	Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET
E45	Faulty sensing by triac on door delay system (wrong input voltage to micro-processor)	Main circuit board faulty.	(Safety drain cycle) Cycle blocked	RESET
E51	Motor power triac short-circuited.	Current leakage from motor or from wiring; Main PCB faulty.	Cycle stops with door open (after 5 attempts)	ON/OFF
E52	No signal from motor tachometric generator	Wiring faulty; Motor faulty; Main circuit board faulty.	Cycle stops with door locked. (after 5 attempts)	ON/OFF
E53	Motor triac sensing circuit faulty (wrong input voltage to micro-processor)	Main circuit board faulty.	Cycle blocked	RESET
E54	Motor relay contacts sticking (high voltage level when the relay switches to OFF)	Current leakage from motor or from wiring; Main PCB faulty.	Cycle blocked (after 5 attempts)	RESET
E62	Overheating during washing (temperature higher than 88°C for more than 5 min.)	Wiring faulty; NTC probe for wash cycle faulty; Heating element faulty; Main PCB faulty.	Safety drain cycle Cycle stops with door open	RESET
E66	Heating element power relay faulty (inconsistency between sensing and relay status).	Main PCB faulty.	Safety water fill Cycle stops with door closed.	ON/OFF RESET
E68	Earth-leakage (value of grid voltage different from main value).	Earth leakage between heating element and earth.	The heating phase is skipped.	START/RESET
E69	Heating element interrupted	Wiring faulty; Heating element for washing interrupted (thermal fuse open); Main circuit board faulty.	-----	START ON/OFF RESET
E6A	Heating relay sensing faulty	Main circuit board faulty.	Cycle stops with door locked.	RESET
E6H	Heating element power relay faulty (inconsistency between sensing and relay status).	Earth leakage between heating element and earth. Main circuit board faulty.	Safety water fill Cycle stops with door closed.	ON/OFF RESET
E71	NTC probe for wash cycle faulty (short-circuited or open).	Wiring faulty; NTC probe for wash cycle faulty; Main circuit board faulty.	The heating phase is skipped.	START/RESET
E74	NTC probe for wash cycle improperly positioned.	Wiring faulty; NTC probe for wash cycle improperly positioned; NTC probe faulty; Main PCB faulty.	The heating phase is skipped.	START/RESET
E83	Error in reading selector	Main PCB faulty (Incorrect configuration data).	Cycle cancelled.	START/RESET
E86	Selector configuration error	Display board	-----	START ON/OFF RESET
E91	Communication error between main PCB and display	Wiring faulty; Control/display PCB faulty; Main circuit board faulty.	-----	RESET

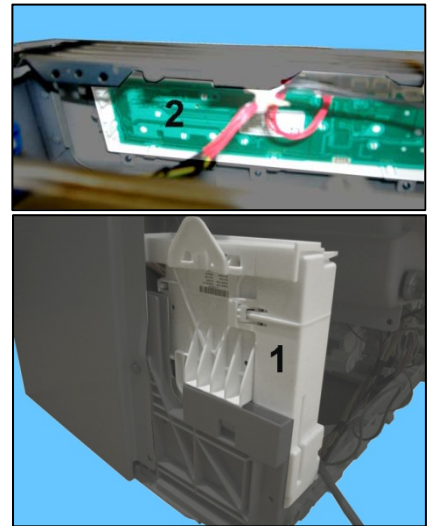
Alarm	Description	Possible fault	Machine status/action	Reset
E92	Communication inconsistency between main PCB and display 1(incompatible versions)	Incorrect control/display PCB. Incorrect PCB (does not correspond to the model).	Cycle blocked	ON/OFF
E93	Appliance configuration error	Main PCB faulty (Incorrect configuration data).	Cycle blocked	ON/OFF
E94	Incorrect configuration of washing cycle	Main PCB faulty (Incorrect configuration data).	Cycle blocked	ON/OFF
E97	Inconsistency between programme selector and cycle configuration	Main PCB faulty (Incorrect configuration data).	Cycle blocked	RESET
E9C	Display board configuration error	Display board	-----	START ON/OFF RESET
E9F	Communication error between main board and display board	Wiring faulty; Display board faulty; Main board faulty.	-----	ON/OFF RESET
EC4	AGS current sensor faulty.	Main board faulty.	Spin speed reduced to safety speed	RESET
EF1	Drain filter clogged (drain phase too long)	Drain filter clogged/dirty. Drain hose blocked/kinked/too high.	Warning displayed at the end of cycle.	START/RESET
EF2	Overdosing of detergent (too much foam during drain phases)	Excessive detergent dosing; Drain hose kinked/blocked; Drain filter clogged/dirty.	Warning displayed after 5 attempts or by the specific LED.	RESET
EF3	Aqua control system intervention	Water leaks onto base frame; Aqua control system faulty.	Appliance drains	ON/OFF RESET
EF5	Unbalanced load	Final spin phases skipped	-----	START/RESET
EF6	Reset	-----	No action to be performed; if it continues, replace the main circuit board.	-----
EH1	Power supply frequency of appliance outside the limits	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal frequency conditions.	ON/OFF
EH2	Supply voltage too high	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions.	ON/OFF
EH3	Supply voltage too low	Problem with the power supply network (incorrect/disturbed); Main PCB faulty.	Wait for nominal voltage conditions.	ON/OFF

10 TECHNICAL CHARACTERISTICS

10.1 Electronic control

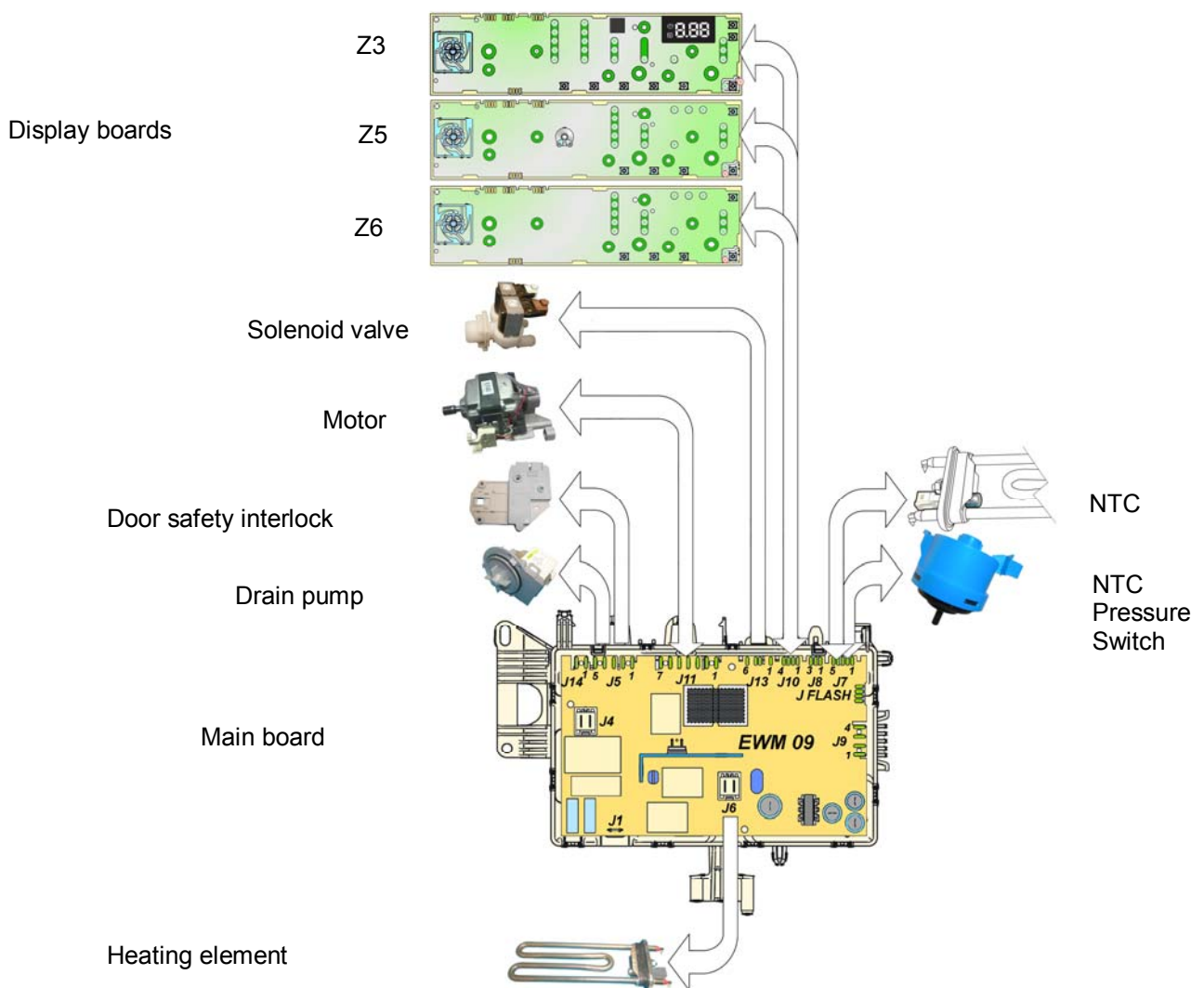
The electronic control is made up of:

1. Main circuit board
2. control/display circuit board



The control/display circuit board acquires the commands for the cycle set-up. This board includes: Buttons, LEDs, Display (where featured), programme selector and temperature control (where featured). The commands acquired by the display board are sent to the main circuit board, which powers all the electrical components (solenoid valve, washing motor, drain pump, heating element and door safety interlock).

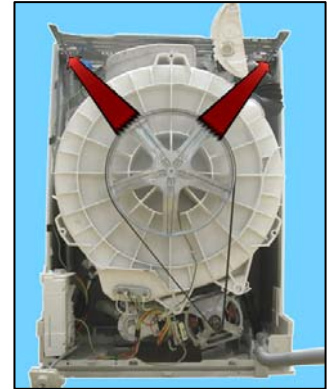
- It controls the temperature of the washing water via the NTC probe inserted in the heating element.
- It controls the speed of rotation of the motor using the signal from the tachometric generator.
- It controls the level of water via the analogue pressure switch.



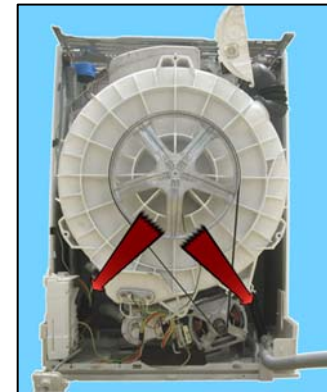
10.2 Washing unit

WASHING UNIT PROMETEO			GRUPPO LAVANTE PROMETEO STRIP		
Type	Load capacity (cotton) Max.	Drum volume	Type	Load capacity (cottons) Max:	Volume cesto
R30	6 / 7 Kg		R40	6 Kg	

The washing unit is suspended by two coil springs attached to an upper crosspiece secured to the cabinet.

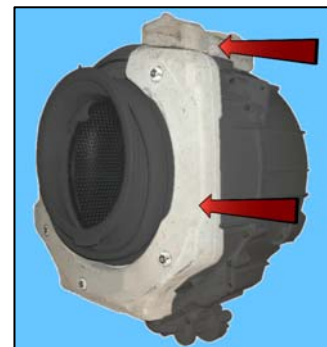


The oscillations are damped by two shock absorbers secured to the lower crossbars.



10.2.1 PROMETEO

The unit is balanced by two cement counterweights: one at the front and one at the top secured to the tub with screws.



10.2.2 PROMETEO STRIP

The unit is balanced by three cement counterweights: two at the front and one at the top secured to the tub with screws.



10.2.3 Tub assembly

The tub consists of two Carboran half-casings joined together by a series of self-tapping screws.

10.2.3.1 PROMETEO

The upper and front counterweights are secured to the half-casings with screws. The door bellow seal is secured to the front half-casing by a metallic spring ring.

The tub assembly incorporates: the drain circuit with the drain pump screw (a) and the pressure chamber (b).



10.2.3.2 PROMETEO STRIP

Three counterweights are secured to the casings using screws, one at the top and two at the front. The bellow seal is fastened to the front casing using a metal coated snap ring.

The tub assembly incorporates: the drain circuit with the drain pump screw (a) and the pressure chamber (b).



The tub interior contains the drum assembly consisting of a STAINLESS steel casing to which the two flanges are seamed.

The drum contains three blades:

PROMETEO

Two interlocked blades are locked in place with tabs onto the drum (Fig. a). One opening blade secured to the drum with screws (fig. b). The coloured part can be opened to allow for access / control by the end user to the drain filter (for further information see pag. 56).



PROMETEO STRIP (with opening blade)

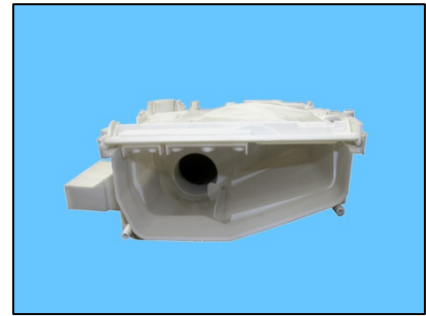
Two interlocked blades are locked in place with tabs onto the drum (Fig. a). One opening blade secured to the drum with screws (fig. c). The coloured part can be opened only by the technical service staff to grant access/to allow the drain trap to be checked (for more details see page 57).



PROMETEO STRIP (with fixed blade)

The three equal interlocked blades inside the drum are locked in place with tabs onto the drum (Fig. a). Subsequently it is no longer possible from inside of the drum to check / clean the drain trap. In order to clean the trap you need to open the tub (see pag. 73).

10.3 Detergent dispenser



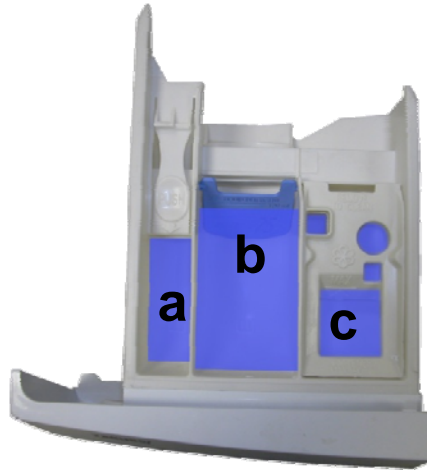
Operating principle.

<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 a dispenser with three compartments: the detergent contained in compartment “a” is loaded at the pre-wash start. • In certain models, featuring the "stain removal" option, compartment "a" can, instead, be filled with the stain remover, which is loaded during the washing 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 loaded at the start of the washing. 	
<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 to contain the conditioner, which is removed at the start of the last rinse: the pre-wash and wash solenoid valves are activated simultaneously. 	

10.4 Detergent dispenser

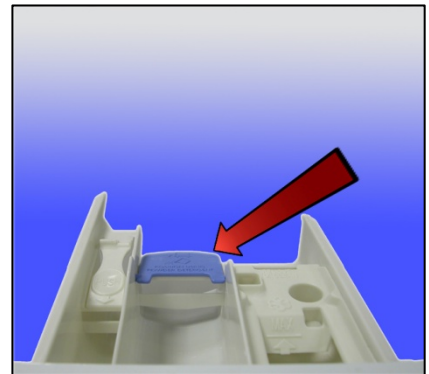
The detergent dispenser is designed for use with: powder detergent or liquid detergent.

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



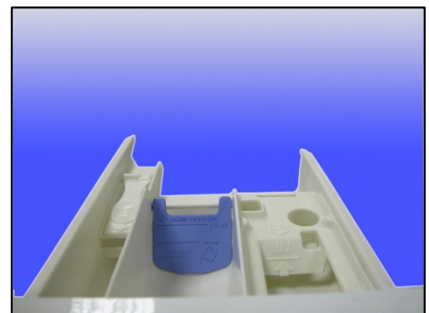
Flip it up to use powder detergent.

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 52).

Flip the flap down to use liquid detergent.



For further details, read the instruction manual.

11 ELECTRICAL COMPONENTS

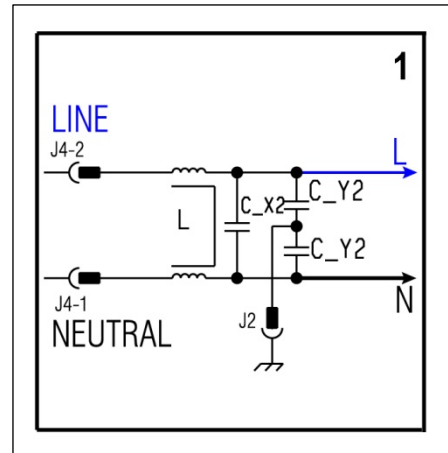
	<ul style="list-style-type: none"> When replacing any of the components, please refer to the code shown in the list of spare parts relating to the appliance.
---	--

11.1 Anti-disturbance filter

General characteristics

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

- Main circuit board



11.2 Display board

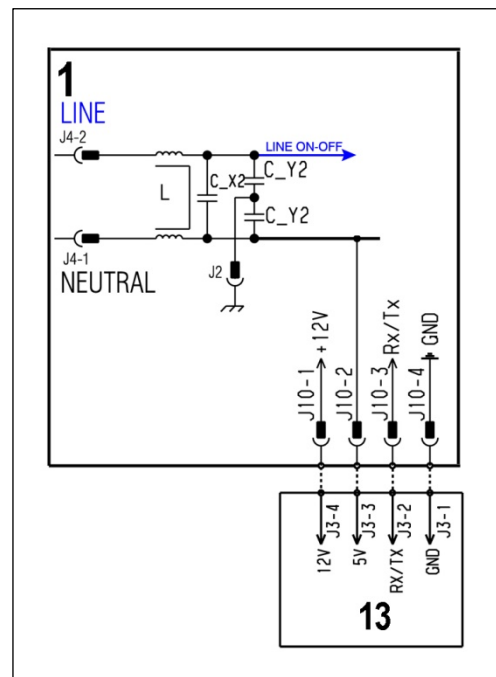
The main circuit board (1) supplies the power supply voltage to the control and display board (13).

The selector dial is used to select the programmes.

The selection of the options or start/pause is done on the buttons on the board (13).

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

- Main circuit board
- Display board



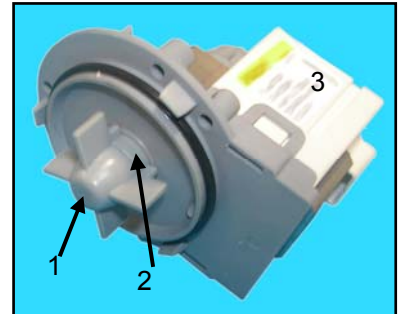
11.3 Drain pump



- 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 actuated 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 22÷25 l/min, and the maximum head is 90 cm.

Important!

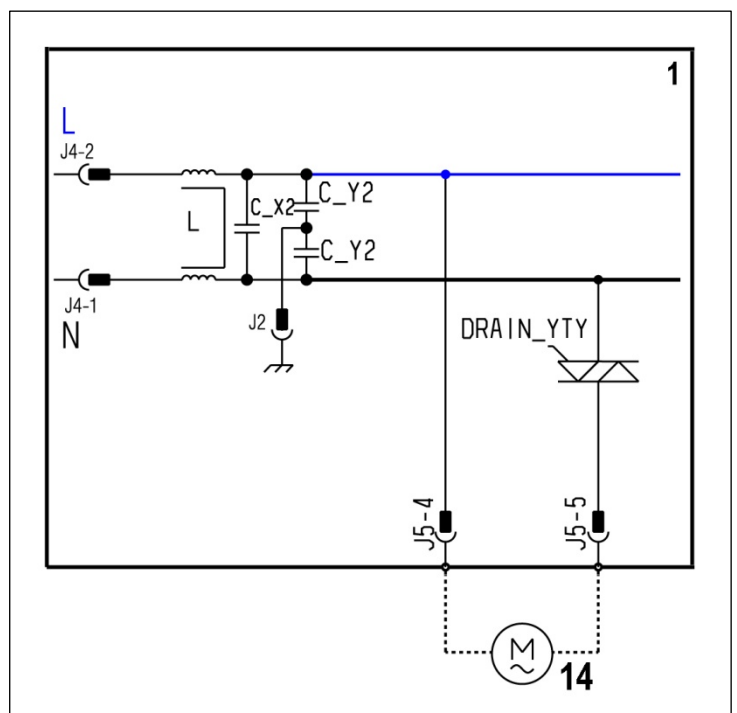
Synchronous pumps, when powered on empty (disconnected from the water circuit), may not start in some cases because their very construction makes them need an antagonist torque on the wheel to allow the rotor to move in one of the two directions.

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);
- ↪ 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. PCB
14. Drain pump

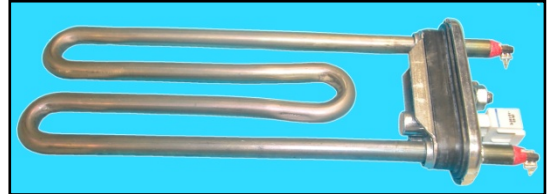


11.4 Heating element



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

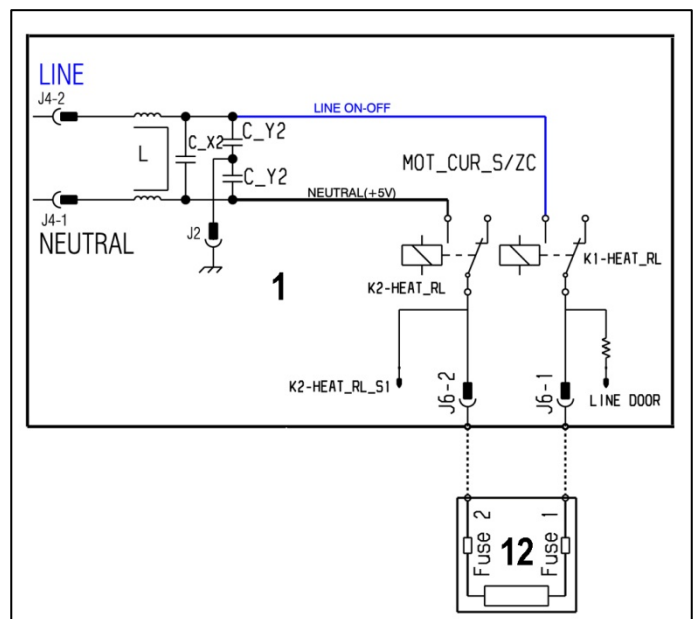
11.4.1 General characteristics



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.

1. Main circuit board
12. Heating element



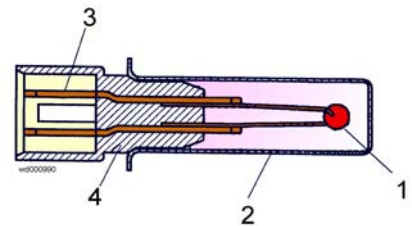
11.5 Temperature sensor



- 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!!! (such as replacing the NTC probe, etc...)

11.5.1 General characteristics

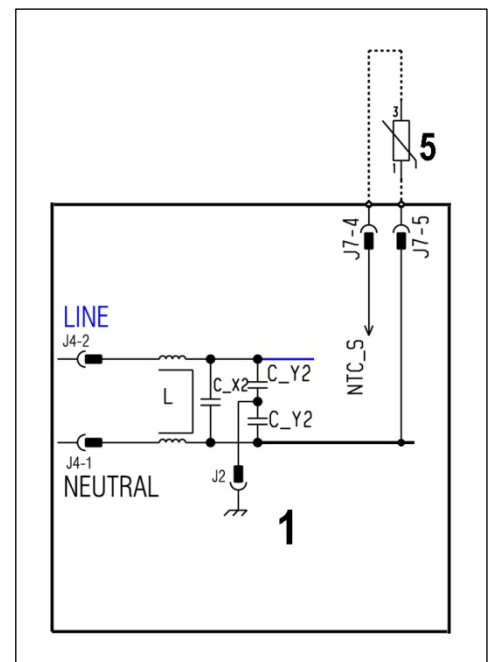
1. NTC heating element
2. Metal capsule
3. Terminals
4. Plastic casing



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

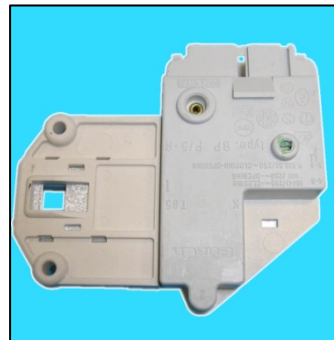
The temperature of the water is controlled by the circuit board by means of an NTC probe incorporated in the heating element.

1. Main circuit board
5. NTC probe



11.6 Volumetric door safety interlock with PTC

11.6.1 General characteristics



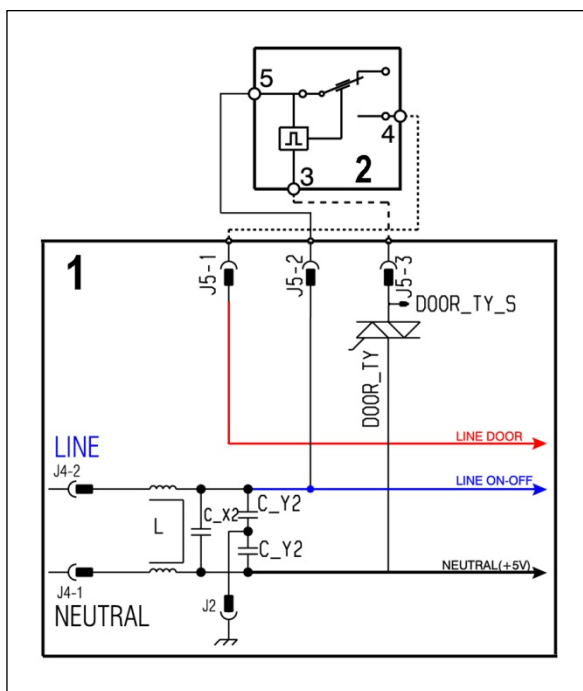
An electromechanical device is used as the door safety interlock, with the following functions:

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

The door safety interlock, in the applications analysed to this point, was positioned after the anti-disturbance filter. Consequently, it powered all the electrical components of the appliance; in this platform, it only powers the solenoid valves and the motor.

• Operating principle

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



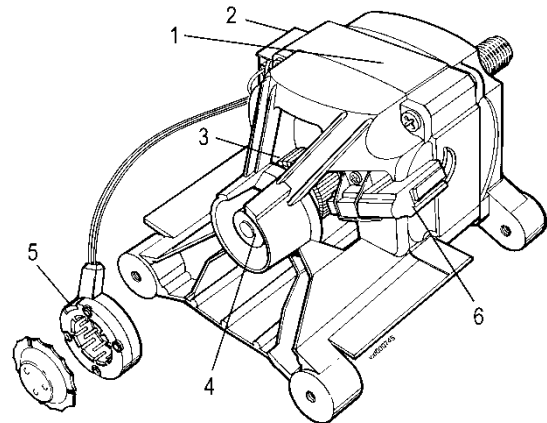
1. Main circuit board
2. Traditional door safety interlock

11.7 Motor

11.7.1 General characteristics

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

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



11.7.2 Operating principle

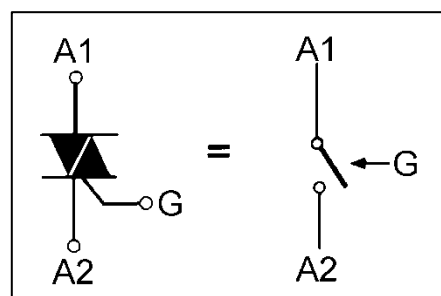
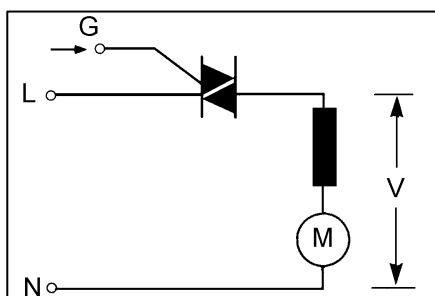
The stator winding is connected in series to the rotor winding (serial excitation).

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

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

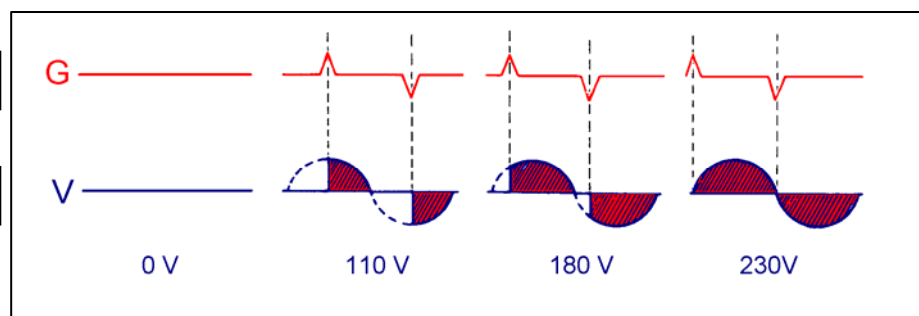
11.7.2.1 Motor speed control

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



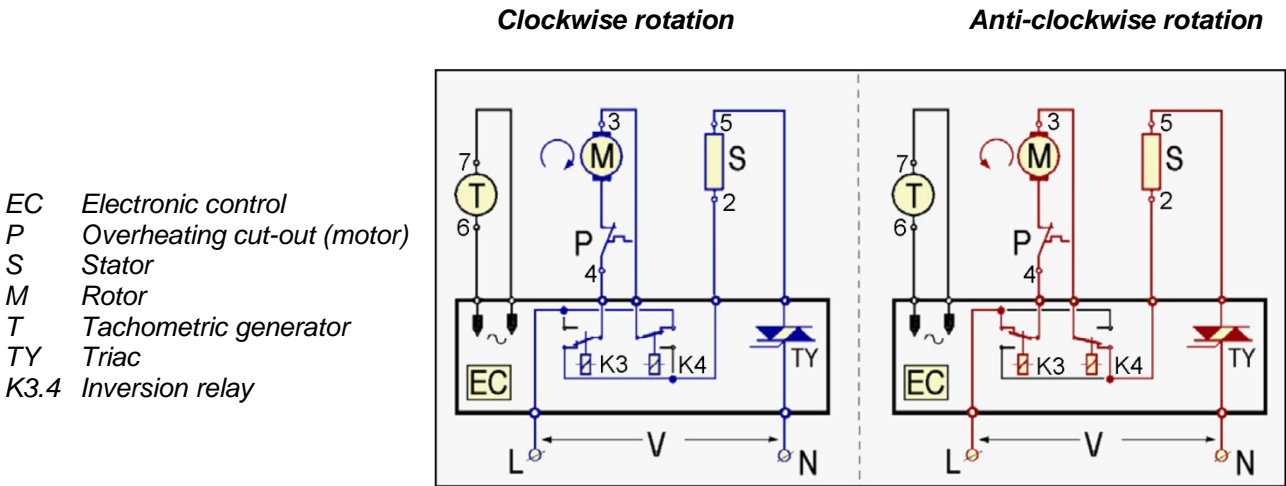
Starting pulses

Voltage on motor



11.7.2.2 Direction of rotation of the motor

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

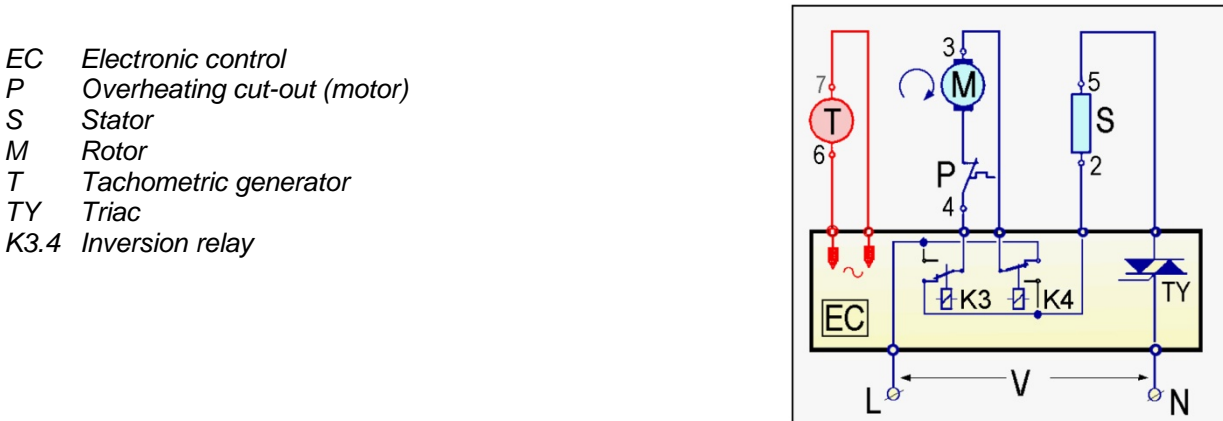


11.7.2.3 Tachometric generator

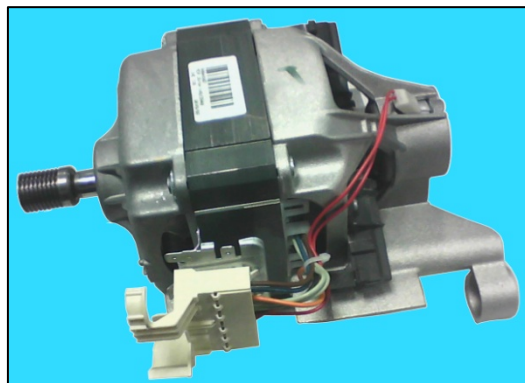
The speed of the collector motor, like all motors with serial excitation, depends on the load; so the speed decreases as the load increases. This makes it necessary for the power supply voltage to the motor, and therefore its speed, to be constantly controlled by an electronic speed control.

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

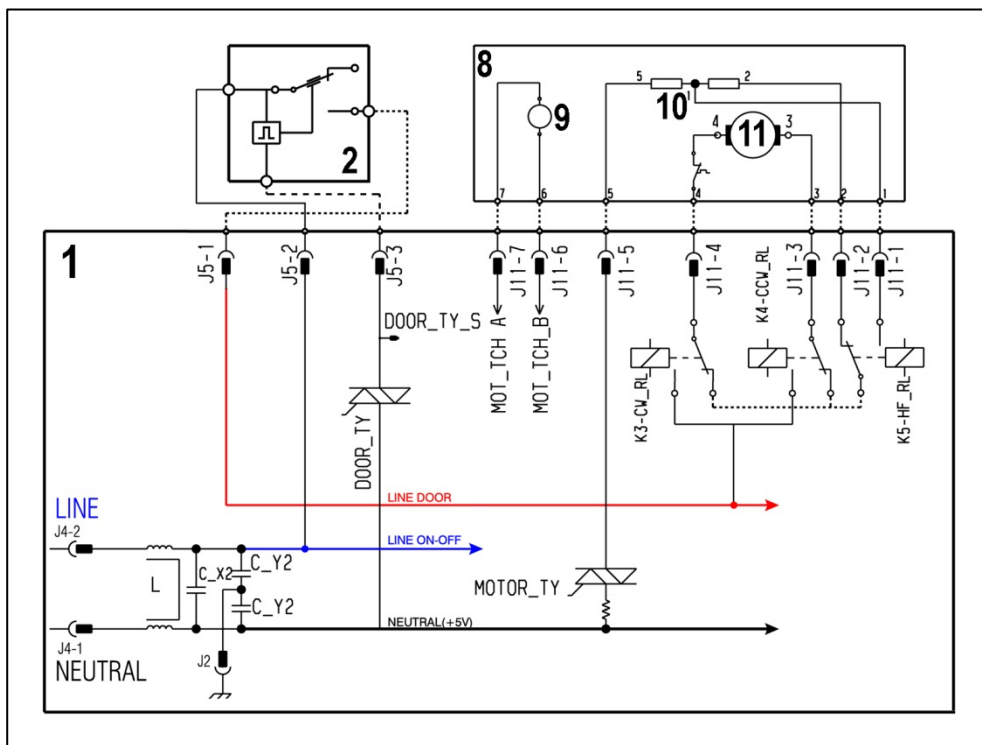
All the electronic controls have a protection system, which is more or less sophisticated, to avoid the operation of the motor in the event of a failure in the tachometric generator.



11.7.3 Power supply to motor



The PCB powers the motor via a triac; the direction of rotation is reversed by switching the contacts on the two relays (K3-K4), which modify the connection between the rotor and the stator. In certain models, a third relay (K5) is used to power the stator (full or half range) according to the spin speed. The speed of rotation of the motor is determined by the signal received from the tachometric generator. During the spin phases, the micro-processor performs the anti-foam and the anti-unbalancing control procedure.



1. Main circuit board
2. Door safety interlock
8. Universal motor
9. Tachometric generator
10. Stator
11. Rotor

11.7.4 Anti-foam control system

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

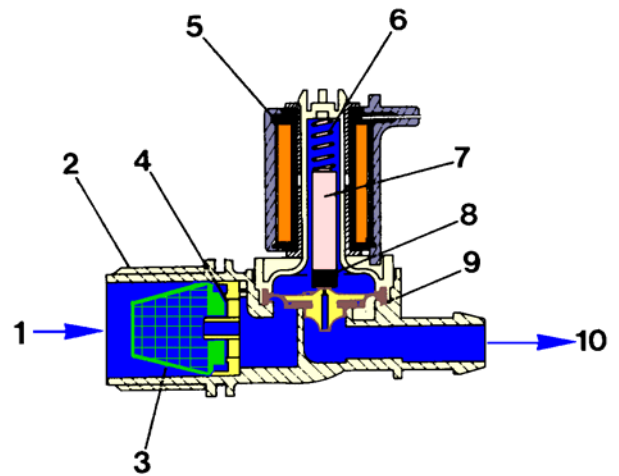
- **Spin with little foam:** if the contact of the electronic pressure switch closes on "full", the spin phase is interrupted; the drain pump continues to operate and, when the contact returns to "empty", the spin phase is resumed.
- **Spin with excessive foam in the tub (critical situation):** the control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

11.8 Solenoid valves

11.8.1 General characteristics

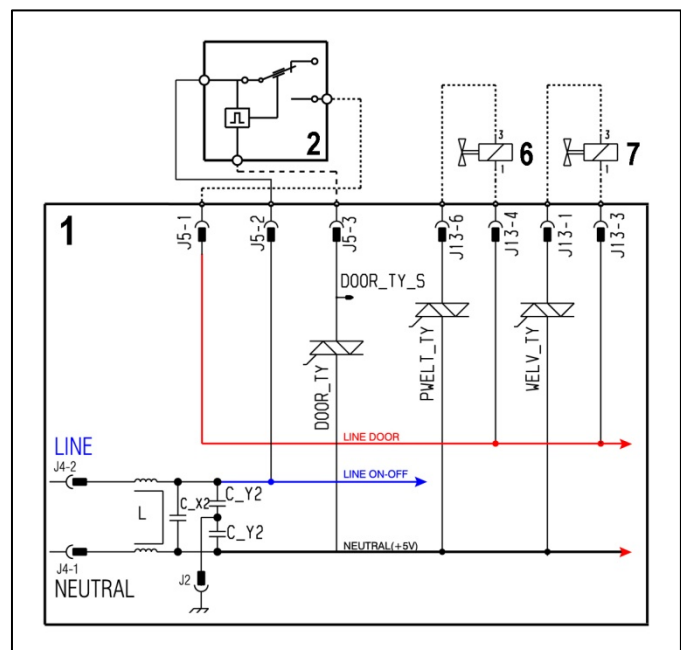
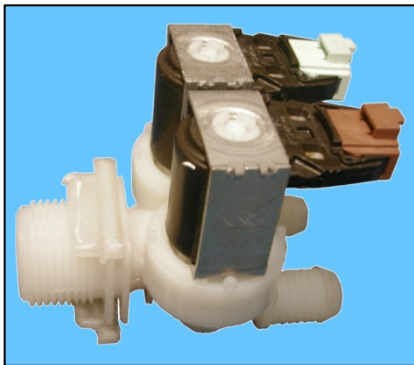
This component introduces water into the detergent dispenser and is controlled electrically by the main circuit board via Triac. The level of water in the tub is controlled by the analogue pressure switch.

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



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

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



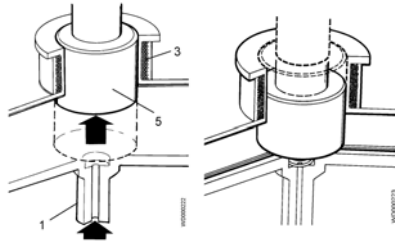
1. Main circuit board
2. Door safety interlock
6. Pre-wash solenoid
7. Wash solenoid

11.9 Analogue pressure switch of water level control in the tub

11.9.1 General characteristics

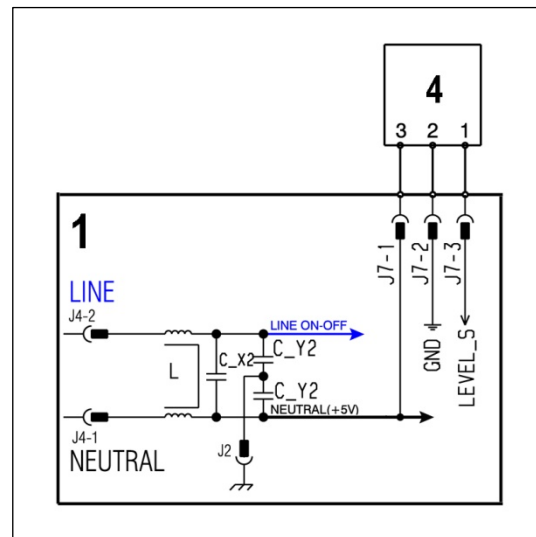
The electronic pressure switch is an analogue device that controls the water level in the tub, used in the models with electronic control system and it is directly connected to the main PCB.

- 1 pipe
- 3 oscillating coil
- 5 core

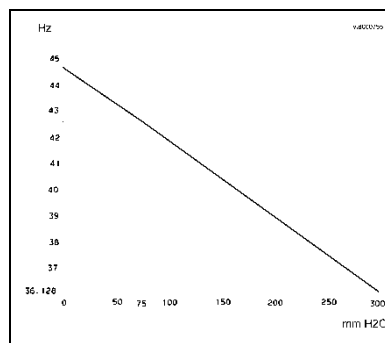


The pressure switch is connected via a pipe to the pressure chamber. When water is introduced into the tub, this creates a pressure inside the hydraulic circuit that causes the membrane to change position. This in turn modifies the position of the core inside the coil, thus changing the inductance and the frequency of the oscillating circuit. The PCB recognises how much water has been introduced into the tub according to the frequency.

- 1. Main circuit board
- 4. analogue pressure switch

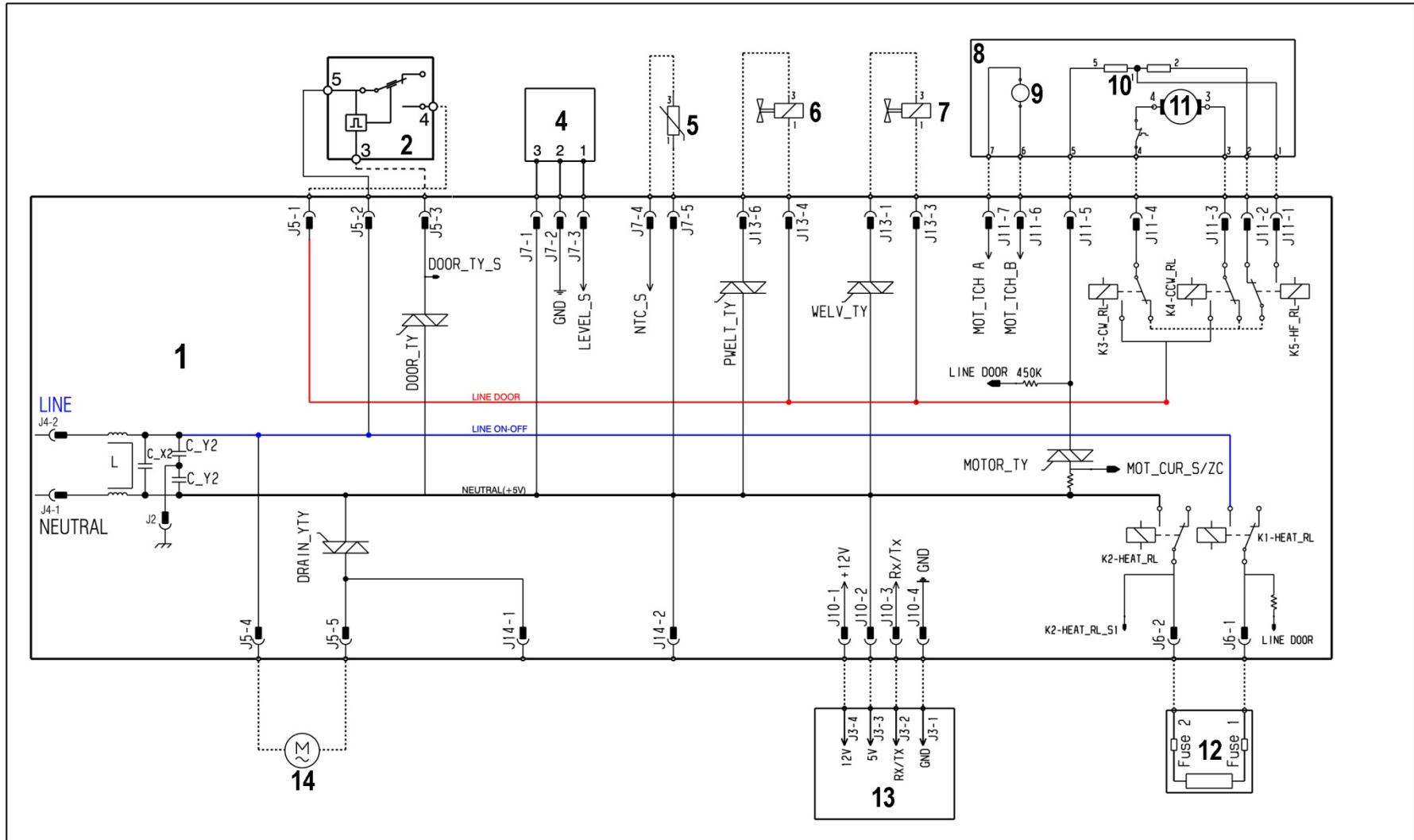


Operating frequency variation according to the quantity of water in the tub



12 OPERATING CIRCUIT DIAGRAM

12.1 Diagram



12.2 Key to diagram

Appliance electrical components	PCB components	
<ol style="list-style-type: none"> 1. Main circuit board 2. Door safety interlock (without flange) 4. Electronic pressure switch 5. NTC 6. Pre-wash solenoid 7. Wash solenoid 8. Universal motor 9. Tachometric (motor) 10. Stator (motor) 11. Rotor (motor) 12. Heating element 13. Display board 14. Drain pump 	DRAIN_YTY DOOR_TY PWELT_TY WELV_TY MOTOR_TY K1 K2 K3 K4 K5	Drain pump Triac Door interlock Triac Pre-wash solenoid Triac Wash solenoid Triac Motor Triac Heating element relay Heating element relay Motor relay: clockwise rotation Motor relay: anti-clockwise rotation Motor relay: half-range power supply

13 ACCESS

13.1 Worktop

Remove the two screws that secure it to the back panel.



Push it towards the back.



13.2 From the worktop, you can access:

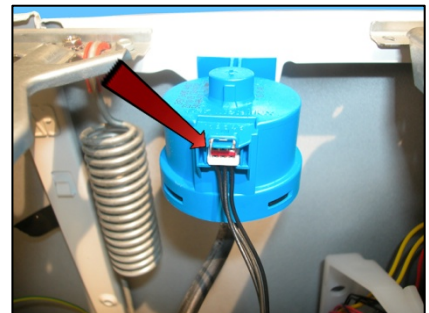
1. Analogue pressure switch
2. Solenoid valve
3. control panel
4. Display board / light diffuser / buttons / buttons springs assembly



13.2.1 Analogue pressure switch

Remove the worktop (see relevant paragraph).

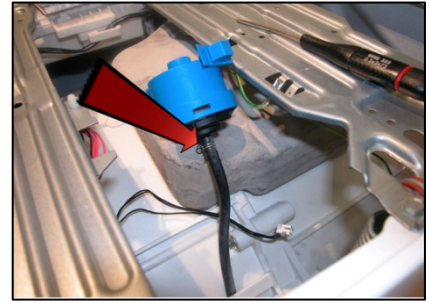
Remove the connector.



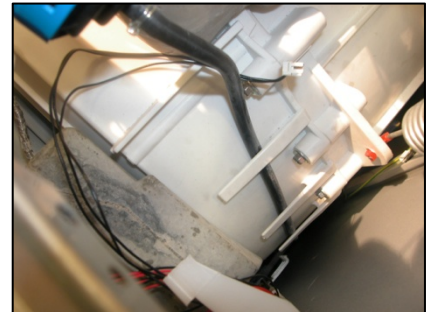
Tighten the two tabs which secure it to the cabinet and remove it.



Use a pair of pliers to press the tabs of the clamp and remove the pipe from the pressure switch.



If the pipe connecting the pressure chamber to the pressure switch is being replaced, position it as shown in the figure.



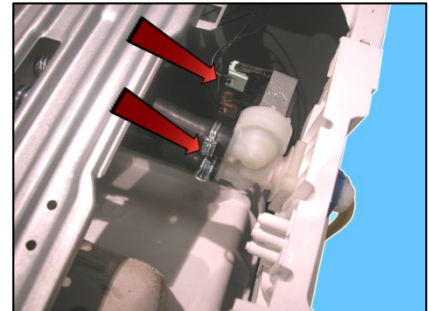
13.2.2 Solenoid valve

Remove the worktop (see relevant paragraph).

Disconnect the connectors.

Pull out the pipes which connect the solenoid valve to the detergent dispenser.

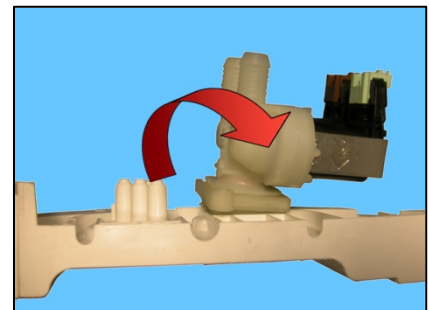
Unscrew the water fill pipe from the solenoid valve.



Release the solenoid valve support from the cabinet using a screwdriver.



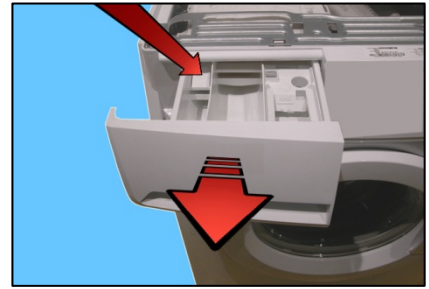
Release the solenoid valve from its support.



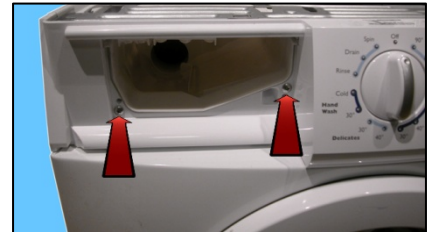
13.2.3 control panel

Remove the worktop (see relevant paragraph).

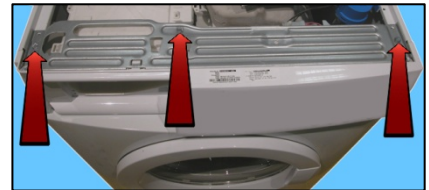
Press the drawer lock and remove it.



Loosen the screws that attach the control panel to the detergent dispenser assembly.



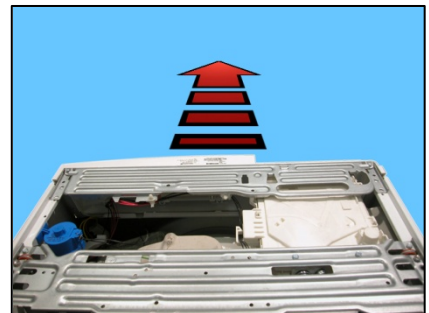
Remove the two screws which secure the crosspiece to the cabinet. Remove the screw securing the crosspiece to the conveyor.



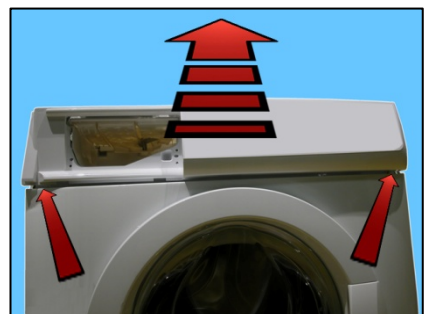
Release the anchor tab which secures the detergent dispenser to the crosspiece.



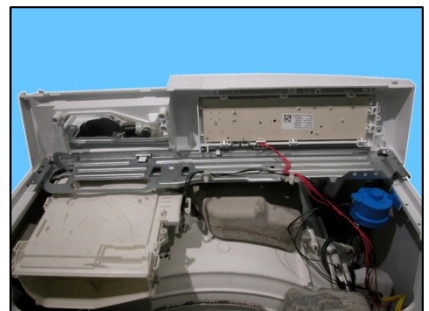
Move the control panel forward



Raise it to remove the tabs which secure it laterally to the front of the cabinet.



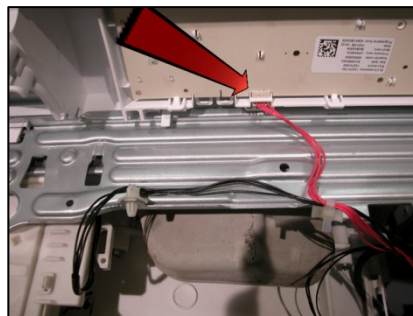
Remove the control panel and position it as shown in the figure, making sure you introduce a protection to prevent scratching it.



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

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

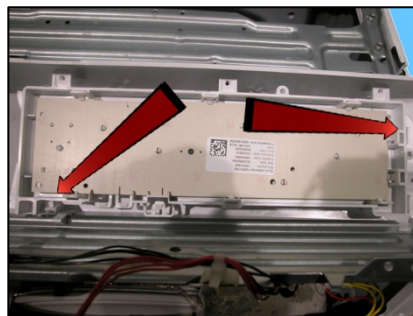
Remove the connector which connects the display board.



Remove the screws which secure the display board assembly to the control panel.

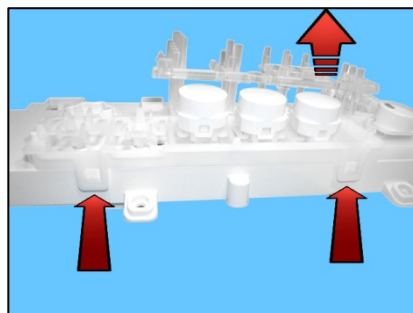


Release the tabs which secure the display board assembly to the control panel.



Remove the display board assembly.

To remove the light diffuser, raise it as indicated by the arrow.

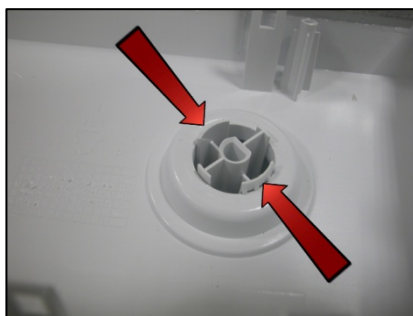


To access the buttons spring, release it from the board assembly.

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

Dial

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



13.3 Accessing the front part

1. Door safety interlock
2. Door - Door hinge
3. Drain filter
4. Fixed blade
5. Opening blade
6. Door seal

13.3.1 Door safety interlock

Remove the plastic ring securing the bellow seal to the cabinet.
Release the bellow seal from the cabinet and turn it inside out towards the inside of the drum.



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



Pull out the door safety interlock.
Release the protection from the device.
Disconnect the wiring connectors.

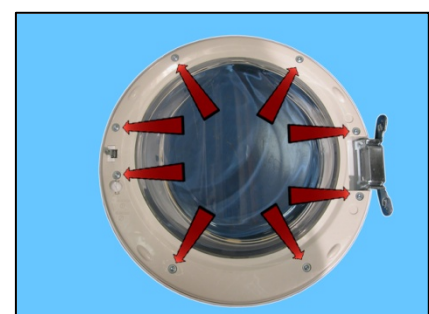


13.3.2 Door door hinge

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

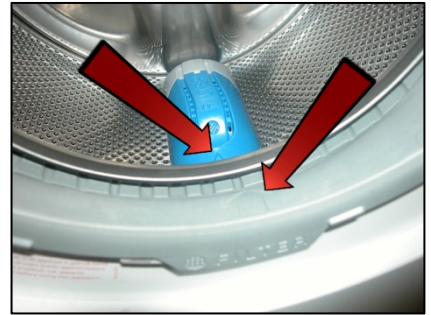


Unfasten the screws which join the two front and rear door frames indicated in the figure.



13.3.3 PROMETEO drain filter

To access the drain filter, place the opening blade against the arrow printed on the bellow seal.



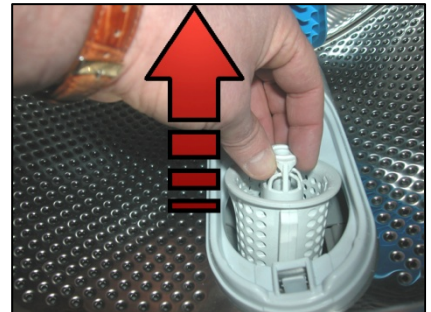
Insert a finger into the moving part of the blade, as shown in the figure, and press the button indicated by the arrow, lifting it up.



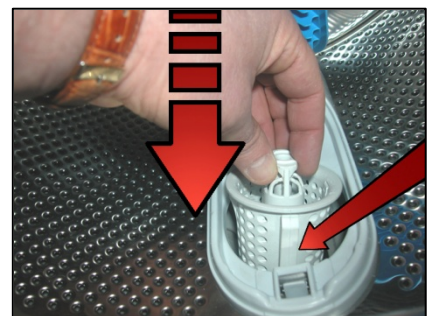
The drain filter is inside.



To remove it, lift it out.



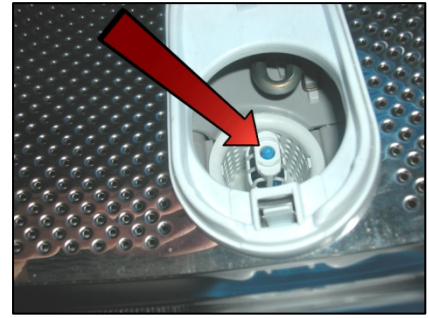
When repositioning the filter in its seat, follow the tabs which guide it into place.



If the filter is not positioned correctly, the insertion indicator remains in its seat.



If the filter is positioned correctly, the insertion indicator appears at the centre of the filter.



13.3.4 PROMETEO STRIP drain trap

To gain access to the drain trap:

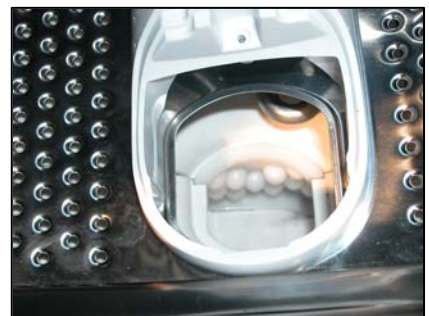
Loosen the screw securing the opening part of the blade shown in the figure.



Lift the opening part of the blade



Position the blade corresponding to the trap to inspect/clean it (take care as the edges of the drum opening are sharp).



In the event that the perforated wall (arrowed) is blocked off or the cleaning carried out from inside the drum is not enough, you can act on it by taking it out to make a more thorough cleaning or to replace it (see par.13.5.20. page 73).



13.3.5 Fixed Blade

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



13.3.5.1 Replacing the PROMETEO fixed blade

To remove it from the drum:

insert a screwdriver into the fourth slot (start counting from the rear of the blade);



13.3.5.2 Replacing the PROMETEO STRIP fixed blade

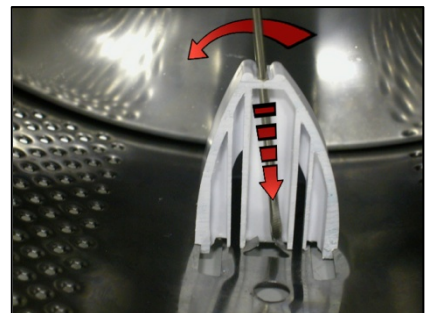
To remove it from the drum:

Insert a flat-tip screwdriver into the middle hole.

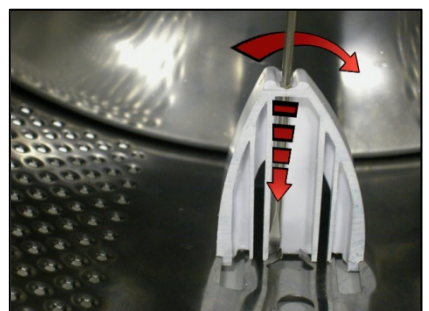


After inserting the screwdriver in the hole in the blade, the following steps are the same for both versions.

insert the screwdriver with the handle tilted towards the left;
push the right-hand tab down;



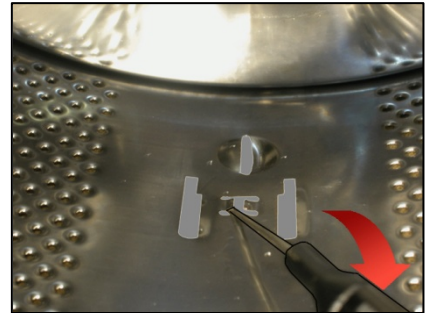
insert the screwdriver with the handle tilted towards the right;
push the left-hand tab down.



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



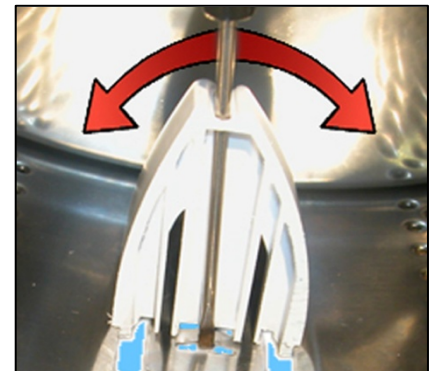
Before securing the new blade,
insert a screwdriver beneath the tabs and raise them a little.



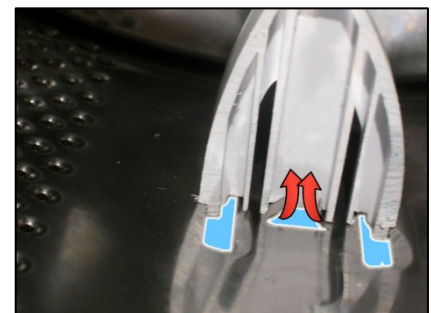
Position the new blade inside the drum guides.
Push it towards the back.



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

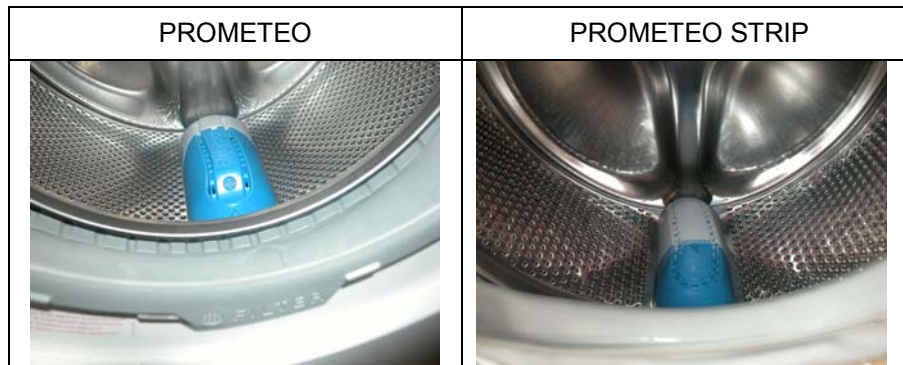


to move the tabs up (as indicated by the arrows in the figure) and insert
them inside the blade, securing it to the drum.



13.3.6 Opening blade

Secured to the drum by four screws (Torx head).



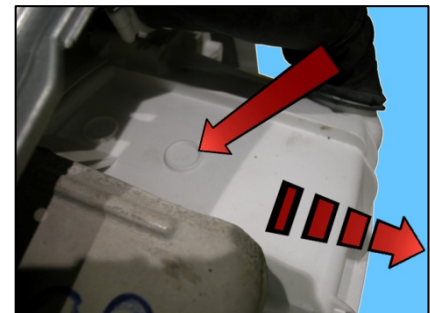
The following steps are the same for both versions.

13.3.6.1 Replacing the opening blade

There are two circular references printed on the upper part of the tub casings (front and rear) (one is indicated by the arrow), corresponding to the position of the screws securing the mobile blade to the drum.

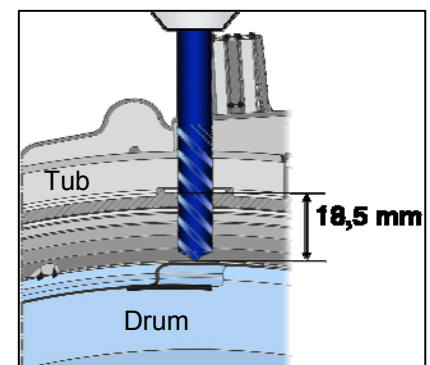


To access the reference for the rear casing assembly, it should be moved in the direction shown by the arrow.



Using a \varnothing 11 mm drill bit, drill the tub in the centre of the references.

WARNING
To avoid damaging/drilling the drum, the drill bit must under no circumstances exceed a depth of 18.5 mm.



Hole at the centre of a reference point.



Turn the drum and position the screws in the hole.



Use a magnetic screwdriver to loosen the screws (Torx head), making sure you don't drop them inside the tub.



Once the mobile blade replacement is complete, cover the holes with plugs and seal with silicone.
(Code 5028 80 48-00/7).



13.3.7 Door seal

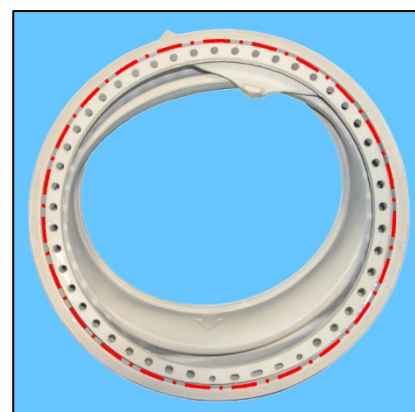
Remove the plastic ring to release the door bellow seal from the front cabinet.



Remove the seal (held in place by a spring ring) pulling it outwards.

To reassemble:

using soap, lubricate the seat of the seal in contact with the front casing (red dotted line).



Align the bellow seal reference with those printed on the front casing.



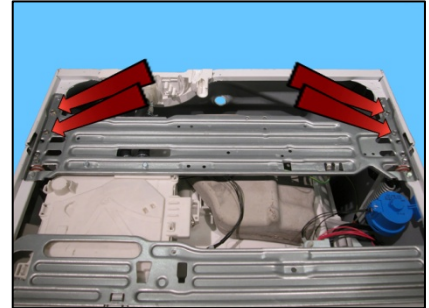
Insert the seal in its seat, along with the spring ring.

Attach the seal to the front cabinet casing, then reposition the plastic ring.

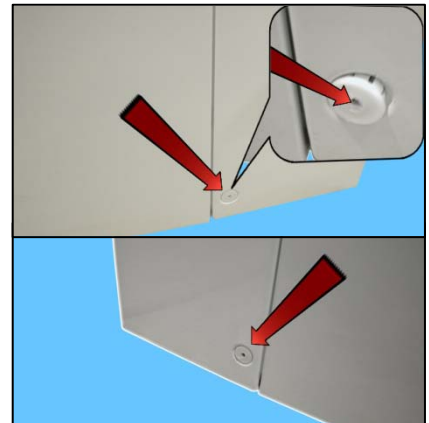
13.4 Rear cabinet casing

Remove the worktop (see relevant chapter).

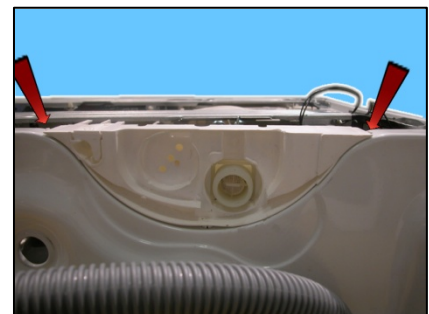
Loosen the screws that secure the upper crosspiece to the rear cabinet casing.



Insert a screwdriver into the centre of the plugs, remove them and loosen the screws that secure the lateral parts to the base, left and right.

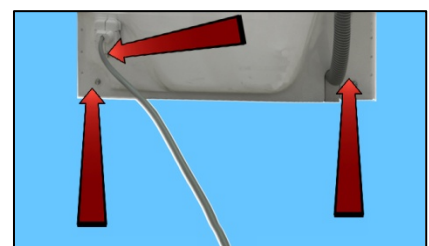


Release the solenoid valve support from the cabinet using a screwdriver.



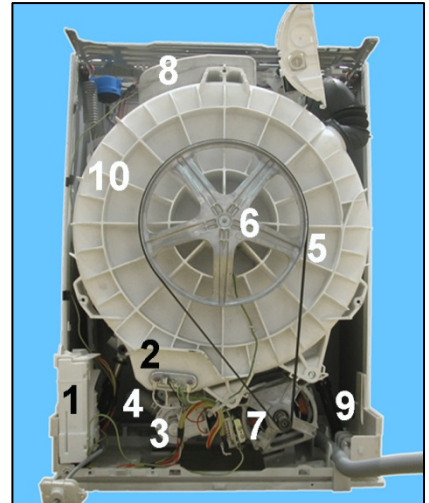
Unfasten the two screws securing the rear to the base.
Loosen the screw securing the cable clamp to the back panel.

Remove the rear casing from the base.



13.5 From the rear part, you can access:

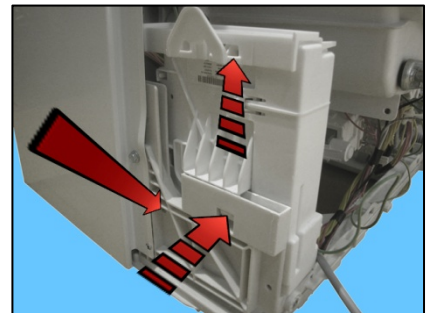
1. Main circuit board
2. Heating element
3. Drain pump
4. Drain pipe
5. Belt
6. Aluminium pulley
7. Motor
8. Upper counterweight
9. Shock absorbers
10. Washing unit



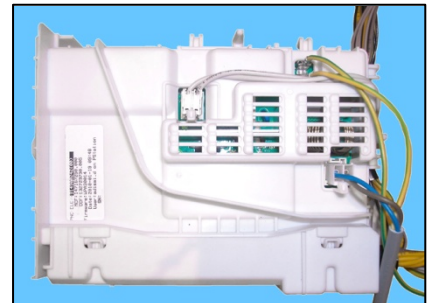
13.5.1 Main circuit board

Remove the worktop (see relevant chapter).
Remove the rear cabinet casing (see relevant chapter).

Remove the screw securing the board to the base.
Push the retainer hook securing it to the base inwards.
Pull it upwards to remove it.



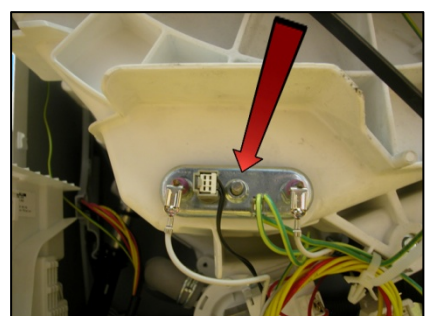
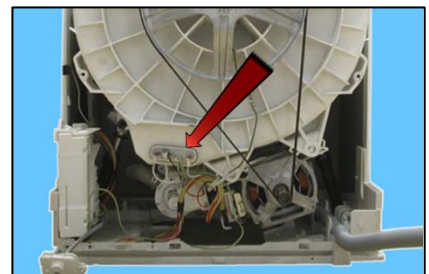
Disconnect the connectors.



13.5.2 Heating element

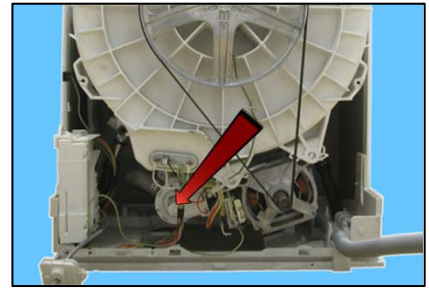
Remove the worktop (see relevant chapter).
Remove the rear cabinet casing (see relevant chapter).

Disconnect the wiring connectors (heating element and probe).
Unfasten the heating element flange fastening screw.

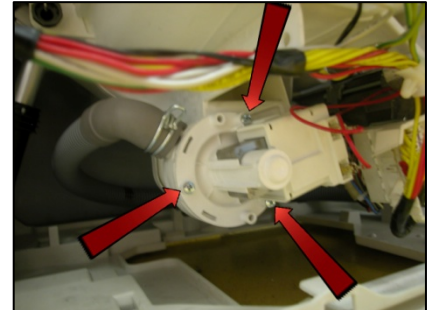


13.5.3 Drain pump

Remove the worktop (see relevant chapter).
Remove the rear casing (see relevant chapter).



Disconnect the wiring connectors.
Unfasten the three screws securing it to the screw.

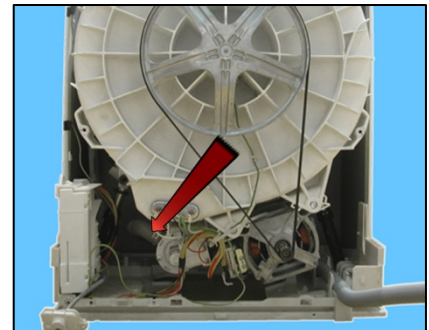


The screw is fitted with six slots to secure the pump in place. If three slots are damaged, the other three can be used.

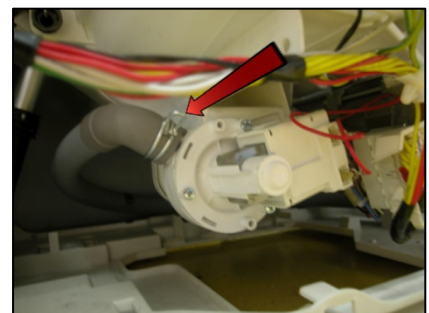


13.5.4 Drain pipe

Remove the worktop (see relevant chapter).
Remove the rear cabinet casing (see relevant chapter).



Use a pair of pliers to tighten the tabs of the clamp.
Remove it from the screw.
Release it from the retainer hooks securing it to the base.
Remove it.

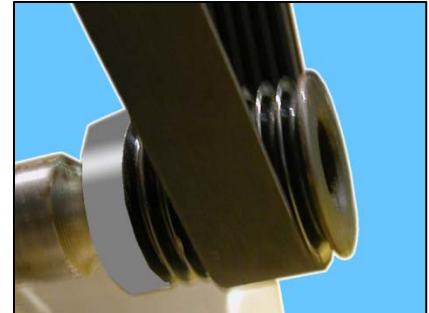


Some of these tasks can also be performed from the bottom of the appliance.

13.5.5 Belt

Remove the worktop (see relevant chapter).
Remove the rear cabinet casing (see relevant chapter).

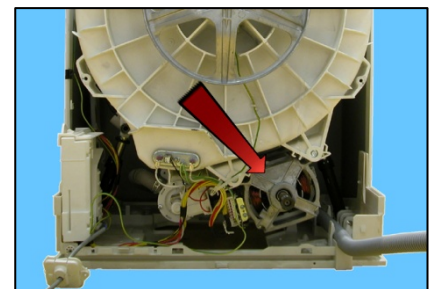
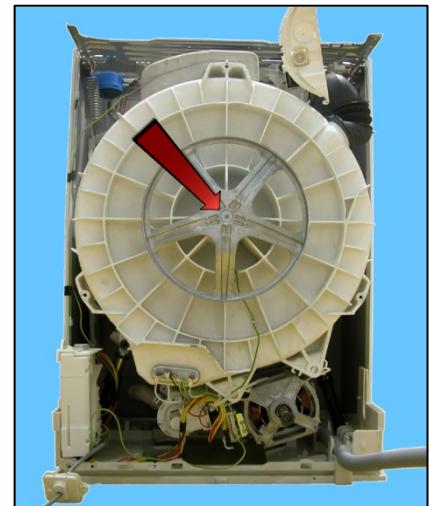
Take the belt, turning the pulley, and remove it.



When reassembling, reposition the belt onto the pulley as shown in the figure.

13.5.6 Aluminium pulley

Remove the worktop (see relevant chapter).
Remove the rear cabinet casing (see relevant chapter).
Remove the belt (see relevant paragraph).
Insert a retainer to secure the pulley in place.
Unfasten the screw securing the pulley to the drum shaft.

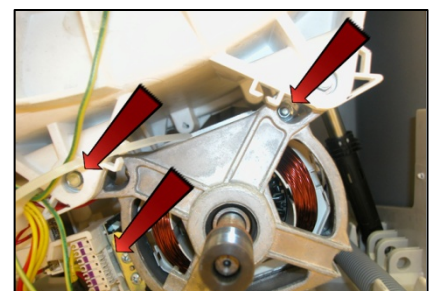


13.5.7 Motor

Remove the worktop (see relevant chapter).
Remove the rear cabinet casing (see relevant chapter).
Remove the belt (see relevant paragraph).

Disconnect the connector.

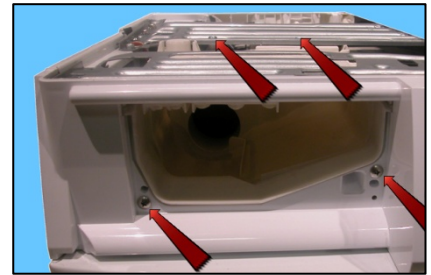
Unfasten the four screws securing it to the rear casing assembly.



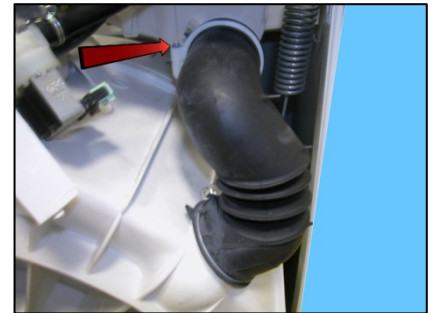
13.5.8 Detergent dispenser

Remove the worktop (see relevant paragraph).
Remove the rear cabinet casing (see relevant chapter).
Extract the detergent dispenser.
Pull out the pipes.

Remove the screws that secure the detergent dispenser to the upper crosspiece and to the control panel.



Remove the screws from the clamp that secures the detergent fill pipe to the detergent dispenser and remove it.



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

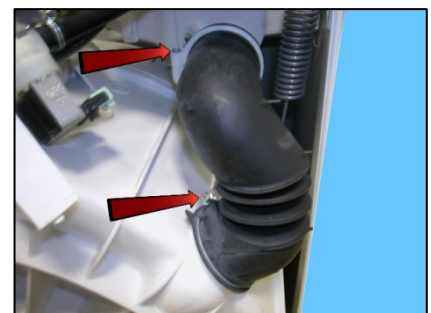
Remove it.



13.5.9 Detergent fill pipe

Remove the worktop (see relevant paragraph).
Remove the rear cabinet casing (see relevant chapter).

Remove the screws of the two clamps that secure the detergent fill pipe to the detergent dispenser and to the rear casing assembly.



13.5.10 Upper counterweight

13.5.10.1 PROMETEO

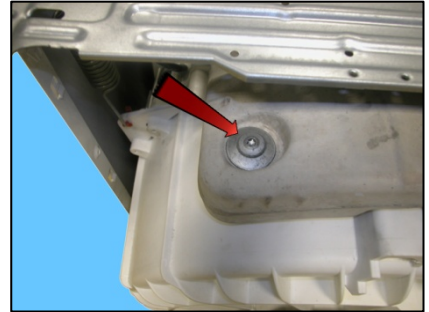
Remove the worktop (see relevant paragraph).
Remove the rear cabinet casing (see relevant chapter).

Remove the left side screw securing the counterweight to the casing.

Push the washing unit towards the front.

Loosen the screw positioned at the centre of the counterweight.

Remove the screws.
Lower the washing unit and remove the counterweight.



13.5.10.2 PROMETEO STRIP

Remove the worktop (see relevant paragraph).
Remove the mobile rear casing (see relevant chapter)

Take out the central screw fastening the counterweight to the casing.

Push the washing unit towards the rear.

Loosen and remove the screws from the counterweight.

Lower the washing unit and take out the counterweight.

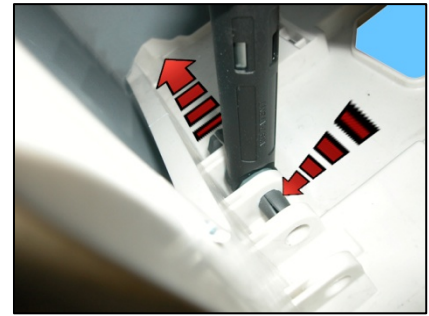
For both versions:
Tighten the screws with a torque of 20Nm if the unit is new.
Tighten the screws with a torque of 10Nm if the unit is not new.



13.5.11 Shock absorbers

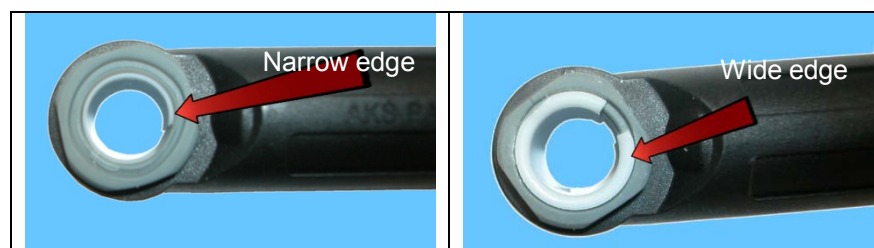
Remove the worktop (see relevant paragraph).
Remove the rear cabinet casing (see relevant chapter).

To remove the pins from their seats, press the locking tooth and at the same time remove it with pliers. Repeat the same task for both pins relating to each shock absorber.
Take the shock absorber out of its seat.

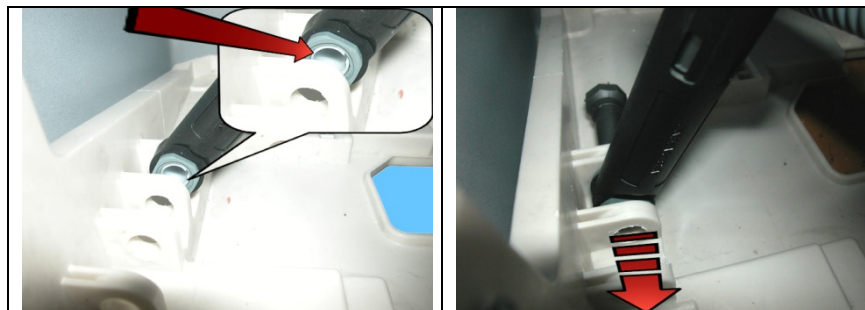


13.5.12 Shock absorber pin

There is a bushing on either end of the shock absorber. It has a wider edge 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 edge. The spare bushing is supplied under Code 344 91 25-30/5

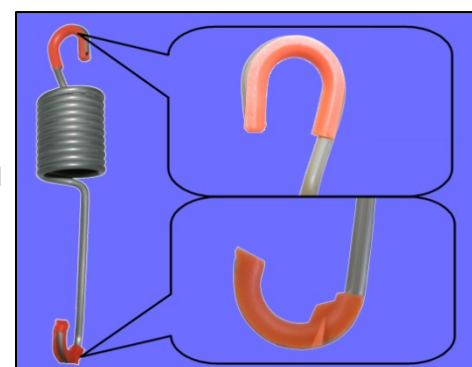


If you are having difficulty inserting the pin, grease it a little (Code 5026 24 16-00/6).

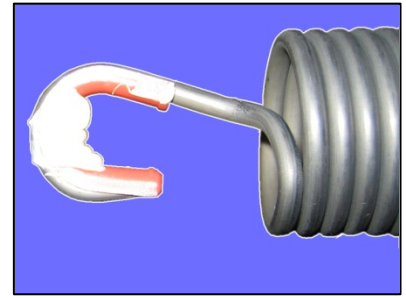
13.5.13 Unit suspension springs

When reattaching the springs (after repair work which required their removal), make sure that the bushings shown in the figure are featured on both ends.
Pay attention to the differences between the bushings (see enlarged details).
Spare bushings are available, under the following codes:

Upper bushing Code 405506251/9
Lower bushing Code 405506252/7



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



13.5.13.1 PROMETEO

Arrange the left/right spring (viewed from the back) as shown in the figure with the short end attached to the crosspiece and the long end to the tub (reverse assembly is strictly forbidden).

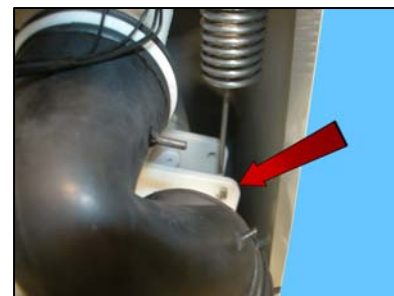


If the tub assembly features two supports, arrange the springs as shown in the figure..

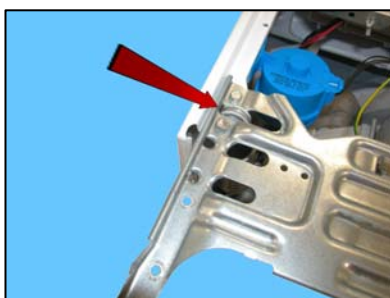


13.5.13.2 PROMETEO STRIP

Arrange the left/right spring (viewed from the back) as shown in the figure with the short end attached to the crosspiece and the long end to the tub (reverse assembly is strictly forbidden). The spring should be secured to the tub in the rear support (towards the rear casing).



Securing the left/right side springs to the crosspiece



13.5.14 Washing unit

Remove the worktop (see relevant paragraph).

Remove the plastic ring, pull out the door bellow seal from the front part of the cabinet (see related chapter).

Remove the rear cabinet casing (see relevant chapter).

Disconnect all the wiring connectors connecting the heating element, the NTC probe, the motor and the drain pump.

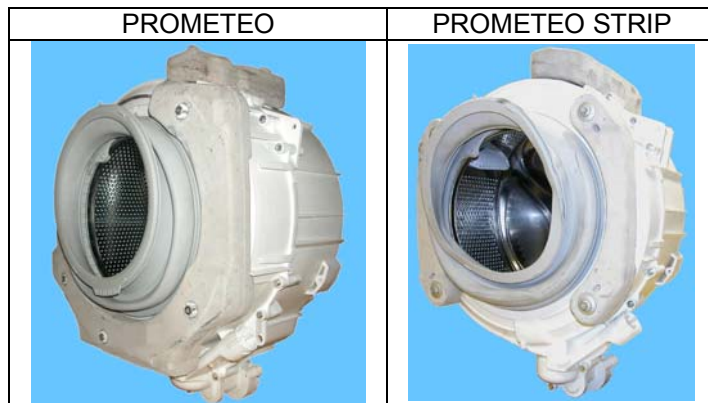
Remove the analogue pressure switch pipe, the detergent fill pipe and the drain pipe.

Remove the two pins securing the shock absorbers to the tub.

Lay the washing machine on its front (insert a protection: such as polystyrene, cardboard, etc. to avoid damaging the cabinet).

Release the springs.

Take out the tub.



13.5.14.1 PROMETEO

Front counterweights

Remove the worktop (see relevant paragraph).

Remove the rear cabinet casing (see relevant chapter).

Remove the washing unit assembly (see relevant paragraph).

Unfasten the five screws securing it to the front casing.



If the front counterweight is being replaced, also replace the front casing.

13.5.14.2 PROMETEO STRIP

Front counterweights

Remove the worktop (see relevant paragraph).

Remove the mobile rear casing (see relevant chapter).

Take out the washing unit assembly (see relevant paragraph).

Unfasten the screws securing it to the front casing

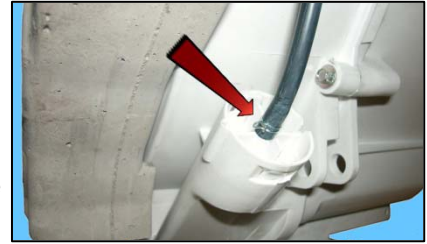
When replacing front counterweights.



13.5.15 Pressure chamber

Remove the worktop (see relevant paragraph).
Remove the rear cabinet casing (see relevant chapter).
Remove the washing unit assembly (see relevant paragraph).

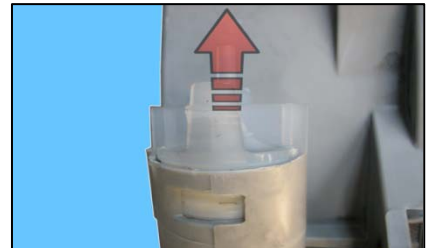
Using pliers, press the tabs of the clamp.
Pull out the tube connecting the plug (closing the pressure chamber) to the analogue pressure switch.



Release the retainers that secure the plug to the pressure chamber.



Remove the plug.



To reassemble

Use a new plug to close the pressure chamber.

Before introducing the plug into its seat, lubricate the plug seal or the edge of the pressure chamber interior.

Once repaired, check that no water leaks from the plug.

13.5.16 Tub shells

Remove the worktop (see relevant paragraph).
Remove the rear cabinet casing (see relevant chapter).
Remove the washing unit assembly (see relevant paragraph).

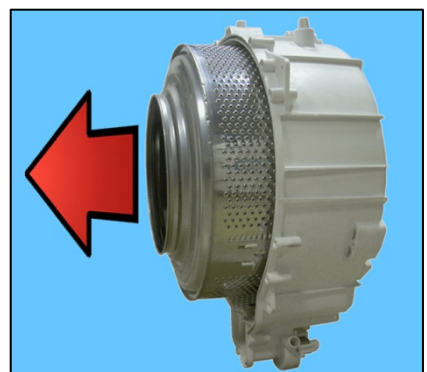
Loosen the screws that join the two casings.



13.5.17 Drum

Remove the worktop (see relevant paragraph).
Remove the rear cabinet casing (see relevant chapter).
Remove the washing unit assembly (see relevant paragraph).
Remove the upper counterweight.
Loosen the screws that join the two casings.

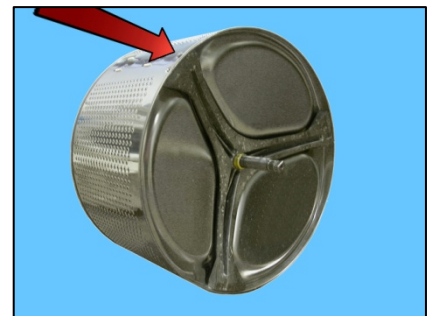
Remove the drum.



13.5.18 Drum assembly

Remove the worktop (see relevant paragraph).
Remove the rear cabinet casing (see relevant chapter).
Remove the washing unit assembly (see relevant paragraph).
Remove the upper counterweight.
Loosen the screws that join the two casings.
Remove the drum.

Remove the screws that secure it to the drum casing.
Remove it.



When reassembling, it is advisable to replace the seal between the two casings every time the tub is opened.

13.5.19 Drum shaft bearings

Remove the worktop (see relevant paragraph).
Remove the rear cabinet casing (see relevant chapter).
Remove the washing unit assembly (see relevant paragraph).
Remove the upper counterweight.
Loosen the screws that join the two casings.
Remove the drum.

Should the bearings need to be replaced, it is possible to:

- replace the rear casing complete with bearings and seal;
- replace the bearings and the seal.

In this case:

- remove the tub from the appliance and remove the drum;
- first take out the external bearing, followed by the internal one with the relevant seal.

When reassembling, fill the entire internal part of the seal with specific grease for bearings.

Check that the drum shaft bushing is intact. If it is damaged or worn, replace the drum assembly or drum.



When reassembling, it is advisable to replace the seal between the two casings every time the tub is opened.

13.5.20 Prometeo Strip

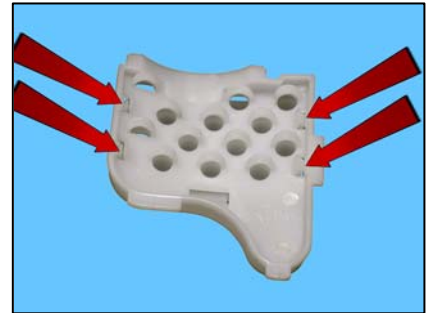
After opening the tub assembly, you may notice a perforated wall, which is designed to prevent certain objects from blocking the drain pump rotor.



Take the perforated wall out of its seat.



The perforated wall consists of two sections; to separate them, release the hooks.



13.5.21 Front cabinet casing

Remove the worktop (see relevant paragraph).
Remove the control panel.
Remove the appliance door.
Release the door bellow seal from the front panel.
Unfasten the two screws securing the door safety interlock to the front panel.
Loosen the screws that secure the rear cabinet casing to the upper crosspiece and to the base.
Pull out the rear cabinet casing by 1÷2 cm in order to loosen the side screws securing the front casing to the base (see figure).
Reposition the rear casing and tighten the screws that secure it to the upper crosspiece and to the base.
Lay the washing machine on its back, placing suitable protection on the floor.
Loosen the screws that secure the front cabinet casing to the upper crosspiece.
Release the tub suspension springs.
Lift the crosspiece, remove the front casing from the base.



REVISIONS:

Revision	Date	Description	Author	Approved by:
00	0X/201X	Document creation	DMM	XX – 0X/201X
01	11/2011	Pag. 6 "WARNINGS" updated Page 36 - Description of the blades updated	DMM	XX – 0X/201X