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INTRODUCTION

1.1 Purpose of this manual

The purpose of this Service Manual is to provide a simple and clear description of the procedure to be followed by service engineers when confronted by problems identified by the various alarm codes generated by appliances with the ENV06 electronic control system version EWM25xx and EWM35xx.

Depending on the configuration of the appliance, the alarm codes may be displayed partially or completely to the user (the alarm codes are generally displayed partially). The diagnostic system can be used by service engineers for the following purposes:
♦ To read the alarms
♦ To cancel alarm conditions stored in memory
♦ To test the operation of the appliance

1.2 Procedure

1. Identify the type of control system (page 7/8) and access the diagnostic cycle (See page 9).

2. Read the alarm code stored in memory (page 13) and refer to the instructions for the corresponding alarm code, page 17-21.

3. Cancel the alarm stored in memory (page 16).

4. If access to the diagnostic cycle is not possible, refer to the section “Access to diagnostic system impossible” (page 23).

5. If the main PCB is replaced, check that there are no burned parts (see page 119-120).

6. After any repair, always check the operation of the appliance using the diagnostic cycle (page 10).

7. Cancel any alarms stored in memory during the diagnostic procedure (page 16).
## EWM25xx APPLIANCES CONTROL PANELS

<table>
<thead>
<tr>
<th>Brand</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ELECTROLUX</strong></td>
<td>TC4</td>
<td>TC3</td>
<td>TC2</td>
<td>TC2 ICON</td>
</tr>
<tr>
<td><strong>SMART ACTION</strong></td>
<td>A3 AF3-A4.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SMART CATALOGUE</strong></td>
<td>C3 CF3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INPUT</strong></td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SMART ZANKER</strong></td>
<td>K3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### 3 EWM35xx APPLIANCES CONTROL PANELS

<table>
<thead>
<tr>
<th>ELECTROLUX</th>
<th>AEG</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC1 ICON</td>
<td>Serie 8</td>
</tr>
</tbody>
</table>

These are the available stylings at the moment in this Service Manual, in future some others could be developed.
4 DIAGNOSTIC SYSTEM

4.1 ACCESS TO THE DIAGNOSTIC CYCLE

All versions

1. Switch off the appliance.
2. Press and hold down the START/PAUSE button and the nearest OPTION button simultaneously (as represented in figure).
3. Holding down both buttons, switch the appliance on by turning the programme selector one position clockwise.
4. Continue to hold down the buttons until the LEDs begin to flash (at least 2 seconds).

In the first position, the cycle tests the operation of the buttons and the relative LEDs. If the selector is turned clockwise, the cycle performs the diagnostics for the various components and reads the alarm codes.

5. Switch off the appliance.
6. Press and hold down START/PAUSE button and the nearest option button (as represented in figure).
1. Holding down both buttons, switch the appliance on pushing button ON/OFF.
2. The test of the display board starts immediately.

Pushing sequentially button P1 positions from 2 to 10 are analysed in an increasing way, on the contrary push button P2.
Each position is confirmed by the switching on of the corresponding LED.

4.2 Exiting diagnostics mode

→ To exit the diagnostics cycle, switch the appliance off, then on, and then off again.
4.3 PHASES OF THE DIAGNOSTIC CYCLE

Irrespective of the type of PCB and the configuration of the programme selector it is possible, after entering diagnostic mode, turning the programme selector clockwise or pushing the buttons P1 or P2 (INPUT version), to perform diagnostics on the operation of the various components and to read the alarms. All the alarms are enabled during the diagnostic cycle.

<table>
<thead>
<tr>
<th>Selector position</th>
<th>Components actioned</th>
<th>Operating conditions</th>
<th>Function checked</th>
<th>LCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INPUT</td>
<td>- All the LEDs and symbols light in sequence.</td>
<td>Always activated</td>
<td>Operation of the user interface All symbols are activated in sequence, the backlight lights up and then switches off.</td>
</tr>
<tr>
<td>2</td>
<td>INPUT</td>
<td>- Door interlock - Wash solenoid</td>
<td>Door locked Water level below anti-flooding level Maximum time 5 minutes</td>
<td>Water ducted through washing compartment Displays the water level in tub</td>
</tr>
<tr>
<td>3</td>
<td>INPUT</td>
<td>- Door interlock - Pre-wash solenoid</td>
<td>Door locked Water level below anti-flooding level Maximum time 5 minutes</td>
<td>Water ducted through pre-wash compartment (bleach) Displays the water level in tub</td>
</tr>
<tr>
<td>4</td>
<td>INPUT</td>
<td>- Door interlock - Pre-wash and wash solenoids</td>
<td>Door locked Water level below anti-flooding level Maximum time 5 minutes</td>
<td>Water ducted through conditioner compartment Displays the water level in tub</td>
</tr>
<tr>
<td>5</td>
<td>INPUT</td>
<td>- Door interlock - Bleach/stains solenoids</td>
<td>Door locked Water level below anti-flooding level Maximum time 5 minutes</td>
<td>Water ducted through conditioner/stains compartments Displays the water level in tub</td>
</tr>
<tr>
<td>6</td>
<td>INPUT</td>
<td>- Door interlock - Wash solenoid if the level of water in the tub does not cover the heater - Heating element - Recirculation pump</td>
<td>Door locked Water level above the heater Maximum time 10 minutes or up to 90°C (*)</td>
<td>Heating Recirculation Wash water temperature Displays the drum speed (the real value divided by ten)</td>
</tr>
<tr>
<td>7</td>
<td>INPUT</td>
<td>- Door interlock - Wash solenoid if the level of water in the tub does not cover the heater - Motor (55 rpm clockwise, 55 rpm counter-clockwise, 250 rpm impulse)</td>
<td>Door locked Water level above the heater</td>
<td>Check for leaks from the tub Displays the drum speed (the real value divided by ten)</td>
</tr>
<tr>
<td>8</td>
<td>INPUT</td>
<td>- Door interlock - Drain pump - Motor up to 650 rpm then at maximum spin speed (**)</td>
<td>Door locked Water level lower than anti-boiling level for spinning</td>
<td>Drain and spin; control of congruence in closure of level pressure switches Displays the drum speed (the real value divided by ten)</td>
</tr>
<tr>
<td>9</td>
<td>INPUT</td>
<td>- Door interlock - Drain pump - Motor fan - Condensation solenoid valve - Drying heating element</td>
<td>Door locked Water level lower than anti-boiling level</td>
<td>Drying Displays the air temperature</td>
</tr>
</tbody>
</table>
(*) 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 FUCS and no clothes have to be inserted inside the appliance.
5 ALARMS

5.1 Displaying the alarms to the user

The alarms displayed to the user are listed below:

- Door open
- Drain difficulty (dirty filter)
- Water fill difficulty (closet tap)

AEG Version

The alarms are represented through the flashing of the yellow LED, which is above the START-PAUSE button, and can be solved directly by the end user;

Other versions

The alarms are represented through the flashing of the red LED, which is inside the START-PAUSE button its shape depends on the styling) and can be solved directly by the user;

The alarm listed below:

- EF0 – Water leakage (Aqua Control System)
  for its solution it is necessary the intervention of the Service.

While for the alarm:

- EH0 – Voltage or frequency out of nominal values
  It is necessary to wait that the voltage and/or the frequency of the electric line reset the nominal conditions.

The alarms are enabled during the execution of the washing programme, with the exception of alarms associated with 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 lower than 55°C
- Motor stopped

Certain alarm conditions require that a drain phase 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.
5.2 Reading the alarm codes

It is possible to display the last three memorised alarms in the FLASH memory of the electronic board:

- Enter diagnostic mode (par. 4.1)
- Irrespective of the type of PCB and configuration: turn the programme selector clockwise (version with knob) pushing button P1 (version INPUT) to the tenth position.

- The last alarm is displayed.

- To display the previous alarms, press sequentially the left button of the START/PAUSE button (as represented in figure).

Appliances with functionality EWM35xx

- After having displayed the last alarm (position 10 of the selector).
- To display the previous ones, press button TEMPERATURE (P1 or 1) or SPIN (P2 or 2).

- To return to the last alarm push button START/PAUSE.
5.2.1 Alarm displaying

AEG Version:
The alarm is displayed by a repeated flashing sequence of the LED placed above the button START / PAUSE with yellow and red light (0,5 seconds on, 0,5 seconds off with a 2,5 second pause between the sequences).

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

These two LEDs are featured in all models.

Other versions:
The alarm is displayed by a repeated flashing sequence of the START / PAUSE button with red and green light (0,5 seconds on, 0,5 seconds off with a 2,5 second pause between the sequences).

- LED indicator START / PAUSE with red light → indicates the first digit of the alarm code (family)
- LED indicator START / PAUSE with green light → indicates the second digit of the alarm code (internal number of 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.
- The alarm code “families” are shown in hexadecimal; 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 the LEDs, placed inside or above the button START/PAUSE.

5.2.2 Examples of alarm display
Example: Alarm E43 (problems with the door interlock Triac) will display the following:

- the sequence of four flashes of the START / PAUSE button with red light (version AEG LED yellow light), indicates the first number E43;
- the sequence of three flashes of the START / PAUSE button with green light (version AEG LED red light), indicates the second number E43;
<table>
<thead>
<tr>
<th>Button/LED - START / PAUSE</th>
<th>ON/OFF</th>
<th>Time (Sec.)</th>
<th>Value</th>
<th>ON/OFF</th>
<th>Time (Sec.)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>red/yellow light</td>
<td>0.5</td>
<td>1</td>
<td>0.5</td>
<td>0.5</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>red/green light</td>
<td>0.5</td>
<td>2</td>
<td>0.5</td>
<td>0.5</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>3</td>
<td>0.5</td>
<td>0.5</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>4</td>
<td>0.5</td>
<td>2.5</td>
<td>Pause</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.5</td>
<td>Pause</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 5.2.3 Operation of alarams during diagnostics

All alarms are enabled during the components diagnostic phase.
5.3 Rapid reading of alarm codes
The last three alarm codes 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 and hold down START/PAUSE and the nearest option button (as to enter the DIAGNOSTICS), for at least two seconds: the LEDs initially switch off, and then display the flashing sequence indicating the last alarm.
→ To display the previous alarms press the left button of the START/PAUSE button sequentially.
→ To return to the last alarm, press the START/PAUSE button.
→ The alarm sequence continues as long as the two buttons are held down.
→ The alarm reading system is as described in paragraph 5.2.
→ While the alarms are displayed, the appliance continues to perform the cycle or, if in the programme selection phase, maintains the previously-selected options in memory.

5.4 Cancelling the last alarm
It is good practice to cancel the last alarm:
• after reading the alarm code, to check whether the alarm re-occurs during diagnostics;
• after repairing the appliance, to check whether it re-occurs during testing.

EWM25xx

1. Select diagnostic mode.
2. Turn the selector (version with knob) or push button P2 (version INPUT) to the tenth position (reading of alarm).
3. Press and hold down START/PAUSE and the nearest option button (as represented in figure).
4. Hold down the buttons till the LEDs stop to flash (at least 5 seconds).

EWM35xx

1. Select diagnostic mode, turn the selector to the tenth position.
2. Press the buttons simultaneously (as represented in figure).
3. Hold down the buttons till the LCD display shows “Deleted memories” (at least 5 seconds).

N.B. With this operation all the memorised alarms are deleted.
### 5.5 TABLE OF ALARMS

<table>
<thead>
<tr>
<th>Alarm</th>
<th>Possible fault</th>
<th>Action/machine status</th>
<th>Reset</th>
<th>Alarm</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>E00</td>
<td>No alarm</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E11</td>
<td>Difficulties in water fill for washing</td>
<td>Tap closed or water pressure too low; Water fill solenoid valve is faulty; Leaks from water circuit on pressure switch; Pressure switch faulty; Wiring faulty; PCB faulty.</td>
<td>Cycle is paused with door locked.</td>
<td>START/RESET</td>
<td>24</td>
</tr>
<tr>
<td>E12</td>
<td>Difficulties in water fill for drying</td>
<td>Tap closed or water pressure too low; Water fill solenoid valve is faulty; Leaks from water circuit on pressure switch; Pressure switch faulty; Wiring faulty; PCB faulty.</td>
<td>Cycle is paused with door locked.</td>
<td>START/RESET</td>
<td>26</td>
</tr>
<tr>
<td>E13</td>
<td>Water leakage</td>
<td>Drain hose incorrectly positioned; mains pressure insufficient; water fill solenoid faulty; leakage/blockage of pressure switch hydraulic circuit; pressure switch faulty.</td>
<td>Cycle is paused with door locked.</td>
<td>START/RESET</td>
<td>28</td>
</tr>
<tr>
<td>E21</td>
<td>Difficulties in draining for washing</td>
<td>Drain tube kinked/clogged/improperly positioned; Drain filter clogged/dirty; Drain pump faulty; Pressure switch faulty; Wiring faulty; PCB faulty.</td>
<td>Cycle is paused (after 2 attempts).</td>
<td>START/RESET</td>
<td>30-32</td>
</tr>
<tr>
<td>E22</td>
<td>Difficulties in draining for drying</td>
<td>Drain tube kinked/clogged/improperly positioned; Drain filter clogged/dirty; Drain pump faulty; Pressure switch faulty; Wiring faulty; PCB faulty.</td>
<td>Cycle is paused.</td>
<td>START/RESET</td>
<td>34-36</td>
</tr>
<tr>
<td>E23</td>
<td>Drain pump triac faulty</td>
<td>Drain pump faulty; Wiring faulty; PCB faulty.</td>
<td>Safety drain cycle - Cycle stops with door unlocked.</td>
<td>RESET</td>
<td>38-39</td>
</tr>
<tr>
<td>E24</td>
<td>Fault in “sensing” circuit of drain pump triac (wrong input signal to microprocessor)</td>
<td>PCB faulty.</td>
<td>Safety drain cycle - Cycle stops with door unlocked.</td>
<td>RESET</td>
<td>40</td>
</tr>
<tr>
<td>E31</td>
<td>Electronic pressure switch circuit faulty (frequency of pressure switch signal out of limits)</td>
<td>Electronic pressure switch; Wiring; PCB faulty.</td>
<td>Cycle blocked with door closed.</td>
<td>RESET</td>
<td>40</td>
</tr>
<tr>
<td>E32</td>
<td>Incorrect calibration of electronic pressure switch (The electronic pressure switch generates a signal with instable frequency during the drain phase)</td>
<td>Drain tube kinked/clogged/improperly positioned; Drain filter clogged/dirty; Drain pump faulty; Leaks from water circuit on pressure switch; Pressure switch; Wiring faulty; PCB faulty.</td>
<td>Cycle is paused.</td>
<td>START/RESET</td>
<td>41</td>
</tr>
<tr>
<td>E35</td>
<td>Water overflow</td>
<td>Water fill solenoid faulty; Leaks from water circuit on pressure switch; pressure switch faulty; wiring faulty; PCB faulty.</td>
<td>Cycle blocked. Safety drain cycle. Drain pump always in operation (5 minutes on, 5 minutes off etc.).</td>
<td>RESET</td>
<td>42</td>
</tr>
<tr>
<td>E38</td>
<td>Pressure chamber blocked (water level does not vary for at least 30 sec. during drum rotation)</td>
<td>Motor drive belt broken; Hydraulic circuit pressure switch clogged.</td>
<td>Heating phase skipped.</td>
<td>ON/OFF RESET</td>
<td>43</td>
</tr>
<tr>
<td>E3A</td>
<td>Heating elem. relay sensing faulty (input signal to microprocessor always 0V or 5V)</td>
<td>PCB faulty.</td>
<td>Cycle blocked with door closed.</td>
<td>RESET</td>
<td>43</td>
</tr>
<tr>
<td>E41</td>
<td>Door open (after 15 sec.)</td>
<td>Door interlock faulty; wiring faulty; PCB faulty.</td>
<td>Cycle paused.</td>
<td>START/RESET</td>
<td>44-46</td>
</tr>
<tr>
<td>Alarm</td>
<td>Possible fault</td>
<td>Action/machine status</td>
<td>Reset</td>
<td>Alarm</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td>------------</td>
<td>------</td>
</tr>
<tr>
<td>E42</td>
<td>Problems of door closure</td>
<td>Door interlock faulty; wiring faulty; PCB faulty.</td>
<td>Cycle paused.</td>
<td>START/RESET</td>
<td>48-50</td>
</tr>
<tr>
<td>E43</td>
<td>Interlock power supply triac faulty</td>
<td>Door interlock faulty; wiring faulty; PCB faulty.</td>
<td>(Safety drain cycle) Cycle blocked.</td>
<td>ON/OFF RESET</td>
<td>52-53</td>
</tr>
<tr>
<td>E44</td>
<td>Door interlock sensing circuit triac faulty</td>
<td>PCB faulty.</td>
<td>(Safety drain cycle) Cycle blocked.</td>
<td>ON/OFF RESET</td>
<td>54</td>
</tr>
<tr>
<td>E45</td>
<td>Door interlock sensing circuit triac faulty (wrong input signal to microprocessor)</td>
<td>PCB faulty.</td>
<td>(Safety drain cycle) Cycle blocked.</td>
<td>ON/OFF RESET</td>
<td>55</td>
</tr>
<tr>
<td>E52</td>
<td>No signal from motor tachometric generator</td>
<td>Motor faulty; wiring faulty; PCB faulty.</td>
<td>Cycle blocked, door locked (after 5 attempts).</td>
<td>RESET</td>
<td>56-58</td>
</tr>
<tr>
<td>E57</td>
<td>Inverter is drawing too much current (&gt;15A)</td>
<td>Motor-Inverter wiring faulty; Inverter board faulty, Motor faulty.</td>
<td>Cycle blocked, door locked (after 5 attempts).</td>
<td>RESET</td>
<td>60</td>
</tr>
<tr>
<td>E58</td>
<td>Inverter is drawing too much current (&gt;4.5A)</td>
<td>Motor abnormal operation (overloaded); Motor-Inverter wiring faulty; Motor faulty; Inverter board faulty.</td>
<td>Cycle blocked, door locked (after 5 attempts).</td>
<td>RESET</td>
<td>62</td>
</tr>
<tr>
<td>E59</td>
<td>No signal from tachometric generator for three seconds</td>
<td>Motor-Inverter wiring faulty; Inverter board faulty, Motor faulty.</td>
<td>Cycle blocked, door locked (after 5 attempts).</td>
<td>RESET</td>
<td>64</td>
</tr>
<tr>
<td>E5A</td>
<td>Overheating for heat dissipator for Inverter</td>
<td>Overheating caused by continuous operation or ambient conditions (let appliance cool down); Inverter board faulty. NTC open (on the Inverter board).</td>
<td>Cycle blocked, door locked (after 5 attempts).</td>
<td>RESET</td>
<td>66</td>
</tr>
<tr>
<td>E5H</td>
<td>Input voltage is lower than 175V</td>
<td>Wiring faulty; Inverter board faulty.</td>
<td>Cycle blocked, door locked (after 5 attempts).</td>
<td>RESET</td>
<td>67</td>
</tr>
<tr>
<td>E5C</td>
<td>Input voltage is too high</td>
<td>Input voltage is too high (measure the masters voltage); Inverter board faulty.</td>
<td>Cycle blocked, door locked (after 5 attempts).</td>
<td>RESET</td>
<td>68</td>
</tr>
<tr>
<td>E5d</td>
<td>Data transfer error between Inverter and main board</td>
<td>Line interference; Wiring faulty; Main board or Inverter faulty.</td>
<td>.................................</td>
<td>RESET</td>
<td>69</td>
</tr>
<tr>
<td>E5E</td>
<td>Wrong communication between main board and Inverter</td>
<td>Main board-Inverter wiring faulty; Inverter board faulty; Main board faulty.</td>
<td>Cycle blocked (after 5 attempts).</td>
<td>ON/OFF</td>
<td>70</td>
</tr>
<tr>
<td>E5F</td>
<td>Inverter board does not start the motor</td>
<td>Wiring faulty; Inverter board faulty; Main board faulty.</td>
<td>Cycle blocked, door locked (after 5 attempts).</td>
<td>RESET</td>
<td>70</td>
</tr>
<tr>
<td>E61</td>
<td>Insufficient heating during washing</td>
<td>NTC sensor faulty; heating element faulty; wiring faulty; PCB faulty.</td>
<td>The heating phase is skipped.</td>
<td>START/RESET</td>
<td>71</td>
</tr>
<tr>
<td>E62</td>
<td>Overheating during washing (temperature higher than 88°C for a time higher than 5 min.)</td>
<td>NTC sensor faulty; heating element faulty; wiring faulty; PCB faulty.</td>
<td>Safety drain cycle – Cycle stopped with door open.</td>
<td>RESET</td>
<td>72-73</td>
</tr>
<tr>
<td>E66</td>
<td>Heating element power relay faulty (incongruence between sensing and relay)</td>
<td>PCB faulty.</td>
<td>Safety drain cycle – Cycle stopped with door open.</td>
<td>RESET</td>
<td>74-75</td>
</tr>
<tr>
<td>E68</td>
<td>Current dispersion to earth (value of mains voltage different from main value)</td>
<td>Current dispersion between between heating element and earth.</td>
<td>Cycle blocked with door open.</td>
<td>RESET</td>
<td>76-77</td>
</tr>
<tr>
<td>E69</td>
<td>Heating element interrupted</td>
<td>Wiring faulty; Heating element for washing interrupted (thermofuse open).</td>
<td>.................................</td>
<td>START/RESET</td>
<td>78-79</td>
</tr>
<tr>
<td>E71</td>
<td>Washing NTC sensor faulty (short-circuited or open)</td>
<td>Wiring faulty; Washing NTC sensor faulty; PCB faulty.</td>
<td>The heating phase is skipped.</td>
<td>START/RESET</td>
<td>80</td>
</tr>
<tr>
<td>Alarm</td>
<td>Possible fault</td>
<td>Action/machine status</td>
<td>Reset</td>
<td>Alarm</td>
<td>Page</td>
</tr>
<tr>
<td>--------</td>
<td>--------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>E72</td>
<td>Drying condenser NTC sensor faulty (voltage value out of limits, sensor short-circuited or open)</td>
<td>Wiring faulty; Drying NTC sensor (condenser) badly positioned or faulty; WD board faulty.</td>
<td>The drying heating phase is skipped.</td>
<td>START/RESET</td>
<td>81</td>
</tr>
<tr>
<td>E73</td>
<td>Drying duct NTC sensor faulty (voltage value out of limits, sensor short-circuited or open)</td>
<td>Wiring faulty; Drying NTC sensor (duct) badly positioned or faulty; WD board faulty.</td>
<td>The drying heating phase is skipped.</td>
<td>START/RESET</td>
<td>82</td>
</tr>
<tr>
<td>E74</td>
<td>Washing NTC sensor badly positioned</td>
<td>Wiring faulty; Washing NTC sensor badly positioned; NTC sensor faulty; PCB faulty.</td>
<td>The heating phase is skipped.</td>
<td>START/RESET</td>
<td>83</td>
</tr>
<tr>
<td>E82</td>
<td>Error in selector reset position</td>
<td>PCB faulty (Wrong configuration data).</td>
<td></td>
<td>RESET</td>
<td>84</td>
</tr>
<tr>
<td>E83</td>
<td>Error in selector reading</td>
<td>PCB faulty (Wrong configuration data).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E91</td>
<td>Communication error between PCB and display board</td>
<td>Wiring faulty; Control/display board faulty: PCB faulty.</td>
<td></td>
<td>RESET</td>
<td>85</td>
</tr>
<tr>
<td>E92</td>
<td>Communication incongruence between main PCB- display board (versions not compatible)</td>
<td>Wrong control/display board; Wrong PCB (do not correspond to the model).</td>
<td>Cycle interrupted.</td>
<td>OFF/ON</td>
<td>85</td>
</tr>
<tr>
<td>E93</td>
<td>Incorrect configuration of appliance</td>
<td>PCB faulty; (Incorrect configuration data).</td>
<td>Cycle interrupted.</td>
<td>OFF/ON</td>
<td>85</td>
</tr>
<tr>
<td>E94</td>
<td>Incorrect configuration of washing cycle</td>
<td>PCB faulty; (Incorrect configuration data).</td>
<td>Cycle interrupted.</td>
<td>OFF/ON</td>
<td>85</td>
</tr>
<tr>
<td>E95</td>
<td>Communication error between microprocessor and EEPROM</td>
<td>PCB faulty.</td>
<td>Cycle interrupted.</td>
<td>RESET</td>
<td>85</td>
</tr>
<tr>
<td>E97</td>
<td>Incongruence between programme selector and cycle configuration</td>
<td>Faulty PCB (Wrong configuration data).</td>
<td>Cycle interrupted.</td>
<td>RESET</td>
<td>85</td>
</tr>
<tr>
<td>E98</td>
<td>Communication error between main board - Inverter</td>
<td>Incompatibility between main board and Inverter.</td>
<td>Cycle interrupted.</td>
<td>OFF/ON</td>
<td>86</td>
</tr>
<tr>
<td>E9H</td>
<td>Communication error between microprocessor and FLASH memory</td>
<td>Display board.</td>
<td></td>
<td>OFF/ON</td>
<td>87</td>
</tr>
<tr>
<td>E9C</td>
<td>Machine configuration error</td>
<td>Display board.</td>
<td></td>
<td>OFF/ON</td>
<td>87</td>
</tr>
<tr>
<td>E9d</td>
<td>Clock faulty</td>
<td>Display board.</td>
<td></td>
<td>OFF/ON</td>
<td>87</td>
</tr>
<tr>
<td>E9F</td>
<td>Communication error between PCB and remote devices</td>
<td>Wiring between PCB and Inverter faulty; PCB faulty; Inverter faulty.</td>
<td>Cycle interrupted.</td>
<td>OFF/ON</td>
<td>88</td>
</tr>
<tr>
<td>EA1</td>
<td>Drum positioning (DSP) faulty</td>
<td>Motor belt broken; Wiring faulty; PCB faulty; DSP sensor faulty.</td>
<td>Positioning phase skipped</td>
<td>ON/OFF</td>
<td>89</td>
</tr>
<tr>
<td>EA6</td>
<td>DSP door opening faulty</td>
<td>Motor belt broken; Wiring faulty; Drum cover open. Motor faulty; PCB faulty.</td>
<td>Cycle paused.</td>
<td>ON/OFF</td>
<td>90</td>
</tr>
<tr>
<td>EC1</td>
<td>Solenoid valve blocked with flowmeter working</td>
<td>Wiring faulty; Solenoid valve faulty/block, PCB faulty.</td>
<td>Cycle blocked with door closed. Drain pump always works (5 min., then it stops for 5 min. etc.).</td>
<td>RESET</td>
<td>95</td>
</tr>
<tr>
<td>EC3</td>
<td>Problems with Weight sensor (no signal or out of limits)</td>
<td>Wiring faulty; Weight sensor faulty; PCB faulty.</td>
<td></td>
<td>START/RESET</td>
<td>96</td>
</tr>
<tr>
<td>Alarm</td>
<td>Possible fault</td>
<td>Action/machine status</td>
<td>Reset</td>
<td>Alarm</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
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<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>Ed1</td>
<td>Data communication error between WD board and PCB</td>
<td>Wiring faulty between PCB and WD board; WD board faulty; PCB faulty.</td>
<td>Cycle interrupted.</td>
<td>OFF/ON</td>
<td>97</td>
</tr>
<tr>
<td>Ed2</td>
<td>Drying heating element relay 1 faulty</td>
<td>Wiring faulty between WD board and thermostats; thermostats faulty; WD board faulty, PCB faulty.</td>
<td>Cycle blocked with door open.</td>
<td>RESET</td>
<td>98</td>
</tr>
<tr>
<td>Ed3</td>
<td>Drying heating element relay 2 faulty</td>
<td>Wiring faulty between WD board and thermostats; thermostats faulty; WD board faulty, PCB faulty.</td>
<td>Cycle blocked with door open.</td>
<td>RESET</td>
<td>101</td>
</tr>
<tr>
<td>Ed4</td>
<td>Relay which commutates power between washing heating element and drying (in the WD board)</td>
<td>Wiring faulty; WD board faulty; PCB faulty.</td>
<td>Cycle blocked with door open.</td>
<td>RESET</td>
<td>102</td>
</tr>
<tr>
<td>Ed6</td>
<td>No communication between PCB and display board (INPUT)</td>
<td>Wiring faulty between PCB and programme display board; PCB faulty.</td>
<td></td>
<td></td>
<td>104</td>
</tr>
<tr>
<td>EF1</td>
<td>Drain filter blocked (drain phase too long)</td>
<td>Drain tube blocked/kinked/too high; Drain filter dirty/blacked.</td>
<td>Warning displayed at the end of cycle (specific LED).</td>
<td>START/RESET</td>
<td>94</td>
</tr>
<tr>
<td>EF2</td>
<td>Excessive detergent dosing (excessive foam during draining)</td>
<td>Excessive detergent dosing; drain tube kinked/blacked; Drain filter dirty/blacked.</td>
<td>Warning displayed after 5 attempts or by the specific LED.</td>
<td>RESET</td>
<td>94</td>
</tr>
<tr>
<td>EF3</td>
<td>Aqua control intervention</td>
<td>Water leaks onto base frame; water control system defective.</td>
<td>Water drain.</td>
<td>ON/OFF RESET</td>
<td>94</td>
</tr>
<tr>
<td>EF4</td>
<td>Water fill pressure low, no signal of flowmeter and solenoid valve open</td>
<td>Tap closed; water fill pressure low.</td>
<td></td>
<td>RESET</td>
<td>94</td>
</tr>
<tr>
<td>EF5</td>
<td>Unbalanced load</td>
<td>Final spin phases skipped.</td>
<td></td>
<td>RESET</td>
<td>94</td>
</tr>
<tr>
<td>EF6</td>
<td>Reset</td>
<td></td>
<td></td>
<td></td>
<td>94</td>
</tr>
<tr>
<td>EH1</td>
<td>Frequency power of appliance out of limits</td>
<td>Power supply problems (incorrect / disturbance); PCB faulty.</td>
<td>Wait for frequency nominal conditions.</td>
<td>OFF/ON</td>
<td>92</td>
</tr>
<tr>
<td>EH2</td>
<td>Voltage too high</td>
<td>Power supply problems (incorrect / disturbance); PCB faulty.</td>
<td>Wait for frequency nominal conditions.</td>
<td>OFF/ON</td>
<td>92</td>
</tr>
<tr>
<td>EH3</td>
<td>Voltage too low</td>
<td>Power supply problems (incorrect / disturbance); PCB faulty.</td>
<td>Wait for frequency nominal conditions.</td>
<td>OFF/ON</td>
<td>92</td>
</tr>
<tr>
<td>EHE</td>
<td>Incongruence between safety relay (in the PCB) and the safety “sensing” circuit</td>
<td>Wiring faulty; PCB faulty.</td>
<td>Safety drain cycle – Cycle stopped with door open.</td>
<td>RESET</td>
<td>93</td>
</tr>
<tr>
<td>EHF</td>
<td>Safety “sensing” circuit faulty (input voltage to microprocessor wrong)</td>
<td>PCB faulty.</td>
<td>Safety drain cycle – Cycle stopped with door open.</td>
<td>RESET</td>
<td>93</td>
</tr>
</tbody>
</table>
5.6 Notes concerning certain alarm codes

- **Configuration alarms E93**: If this alarm is generated (when the appliance is switched on), operation of the appliance is blocked, the LEDs placed above or inside the START/PAUSE button start to flash displaying the complete codification (family plus alarm), the display shows the alarm code on condition that the configuration part of the display is ok. The diagnostic procedure cannot be accessed; the only option is to switch the appliance OFF.

- **Configuration alarm E94**: all LEDs placed above or inside the START/PAUSE button start to flash displaying the complete codification (family plus alarm) and the code is displayed. It is not possible to enter the diagnostics or to use the mode “rapid displaying of the alarm”.

- **Alarms EH1(Eb1)-EH2(Eb2)-EH3(Eb3)**: In the event of problems with the mains power supply, the appliance remains in alarm mode until the mains frequency or voltage are restored to the correct value or the appliance is switched off (programme selector on “0”). The family of alarm “b or H” only is displayed if the problem occurs during the normal operation of the appliance, while the family plus the alarm are displayed if the problem occurs at the switching on, through the flashing of the LEDs placed above or inside the START/PAUSE button. At the same time the code is represented also in the display. It is not possible to enter the diagnostics or to use the mode “rapid displaying of the alarm”: the complete alarm can be read only when the abnormal situation has terminated.

- **Alarms E51 - E52**: During the diagnostic test, all the alarms are displayed. Normally, when the programme selector is turned from one test phase to another, the appliance exits the alarm condition and performs the phase selected. This does not take place in the case of alarms E51 (power triac on motor short-circuited) and E52 (no signal from the tachometric generator on the motor): in these cases, the only option to exit the alarm condition is to switch the appliance OFF by turning the selector to position “0” (reset) or pushing the ON/OFF button (INPUT styling).
6 THE DIAGNOSTIC PROGRAMME CANNOT BE ACCESSED

6.1.1 All LEDs on the circuit are board switched off

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are the power cable and connection OK?</td>
<td></td>
<td>Replace or repair the power cable, check the connector.</td>
</tr>
<tr>
<td>Does the suppressor function correctly?</td>
<td></td>
<td>Replace the suppressor.</td>
</tr>
<tr>
<td>Is the wiring from the suppressor to the circuit board (connectors <strong>U3.1-U3.2</strong>) OK?</td>
<td></td>
<td>Replace or repair the wiring.</td>
</tr>
<tr>
<td>Does the programme selector function correctly?</td>
<td></td>
<td>Replace or repair the knob or knob spindle.</td>
</tr>
<tr>
<td>Replace the circuit board and perform the diagnostic programme.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.1.2 Some of the LEDs of the circuit board light

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do the keys move without hindrance in the housings in the control panel and correctly action the corresponding buttons?</td>
<td></td>
<td>Solve the mechanical problems (control panel / keys / spindles).</td>
</tr>
<tr>
<td>Replace the circuit board and perform the diagnostic programme.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If there are traces of burning on the circuit board, refer to pages 119-120.
7 TROUBLESHOOTING ACCORDING TO ALARM CODES

E11: Difficulty in filling water during washing phase

Maximum water fill time for each pressure switch level
(this time is reset to zero each time the level is reached)

Tests to be performed:

Access the diagnostic cycle and duct water through all the compartments (phases 2,3,4,5)
Is water ducted through all the compartments?

Is the drain hose positioned correctly so as not to create the siphon effect? (fig.1)
Position the drain circuit correctly and restart the diagnostic cycle to check for further alarms.

Is the hydraulic circuit efficient (leaks)?
Repair the hydraulic circuit and restart the diagnostic cycle to check for further alarms.

Is the hydraulic circuit of the pressure switch efficient (leaks/blockage)? Fig. 2
Repair the hydraulic circuit of the pressure switch and restart the diagnostic cycle to check for further alarms.

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

Do any or all the solenoids fail to function?
Check that the tap is open, that the mains water pressure is sufficient and that the hoses are correctly connected and not kinked.

Is the ohmic resistance of the solenoid about 3.5 ÷ 4.5 KΩ? (Measure directly on the solenoid valve without wiring) -see fig. 3-
Replace the solenoid and restart the diagnostic cycle to check for further alarms.

Re-attach the connector and measure about 3.5 ÷ 4.5 KΩ on the solenoid wiring connector (circuit board side (fig.4):
across J9-3 and J9-1 (wash),
across J9.4 and J9.6 (prewash),
across J8-3 and J8-1 (bleach).
Is the solenoid valve wiring OK?
Replace or repair the wiring and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120
If there are traces of burning on the circuit board, refer to pages 119-120.
E12: Difficulty in filling water during drying phase

To check if the condensation valve is working, machine measures the increasing water level at the beginning of the drying phase. (Alarm appears after 10 min. of filling without reaching the level).

Tests to be performed:

Start the diagnostic cycle and perform the phase 9 drying.

YES

Is a small quantity of water going through the hose that connects the condenser to the detergent compartment? (see fig. 27)- YES

Restart the diagnostic cycle to check for further alarms.

NO

Are the tap and hoses letting the water coming in? (tap open, hoses connected and not kinked).

YES

Is the Ohm value of the valve about 3,5÷4,5 kΩ? (Measure directly on the solenoid valve without cable). – (see fig. 26)- YES

Replace the electronic board and restart the diagnostic cycle to check for further alarms.

NO

Reconnect the connector and measure about 3,5÷4,5 KΩ on the valve wiring connector on the PCB side: across J8-3 and J8-1. Is the solenoid valve wiring ok? NO

Replace/reset wiring and restart the diagnostic cycle to check for further alarms.

SI

NO

Open the tap / position the hoses and restart the diagnostic cycle to check for further alarms.
If there are traces of burning on the circuit board, refer to pages 119-120.

Little hose which connects the condenser to the detergent.
**E13: Water leakage**

Overall maximum water fill time exceeded (the sum of all the water fills between one drain phase and the next, to avoid exceeding the maximum volume).

*Tests to be performed:*

This alarm could appear during a normal washing cycle with towels.

Access the diagnostic cycle and duct water through all the compartment *(phases 2,3,4,5)*

Is water ducted through all the compartments?

- **YES**
  - Is the drain hose positioned correctly so as not to create the siphon effect? *(fig.1)*
    - **NO** Position the drain circuit correctly and restart the diagnostic cycle to check for further alarms.
    - **YES**
      - Is the hydraulic circuit efficient *(leaks)*?
        - **NO** Repair the hydraulic circuit and restart the diagnostic cycle to check for further alarms.
        - **YES**
          - Is the hydraulic circuit of the pressure switch efficient *(leaks/blockage)*? *(fig.2)*
            - **NO** Repair the hydraulic circuit of the pressure switch and restart the diagnostic cycle to check for further alarms.
            - **YES** Replace the circuit board and restart the diagnostic cycle to check for further alarms.
  - **NO**
    - Do any or all the solenoids fail to function?
      - **YES**
        - Is the ohmic resistance of the solenoid about 3.5÷4.5 KΩ? *(Measure directly on the solenoid valve without wiring)* -see *(fig.3)*-
          - **NO** Replace the solenoid and restart the diagnostic cycle to check for further alarms.
          - **YES** Re-attach the connector and measure about 3.5 ÷ 4.5 KΩ on the solenoid wiring connector *(circuit board side)* see *(fig. 4):*
            - across J9-3 and J9-1 (wash)
            - across J9-4 and J9-6 (preshare),
            - across J8-3 and J8-1 (bleach).
          - Is the solenoid valve wiring OK?
            - **YES** Replace the circuit board and restart the diagnostic cycle to check for further alarms.
            - **NO** Replace or repair the wiring and restart the diagnostic cycle to check for further alarms.

*Warning!!!!!!*

If there are traces of burning on the circuit board, refer to pages 119-120.
If there are traces of burning on the circuit board, refer to page 119-120.
E21: Difficulty in draining

Maximum drain time exceeded (measured for each phase of the cycle)

Tests to be performed:

- **Is the drain filter clean?**
  - **NO**
    - Clean the filter and restart the diagnostic cycle to check for further alarms.
  - **YES**

- **Is the drain system OK? (drain hose and domestic hydraulic circuit)**
  - **NO**
    - Disconnect and check the drain system.
  - **YES**

- **Does the drain pump function? (in the diagnostic cycle, select phase 2 fill and phase 8 drain) (noise from the pump)**
  - **NO**
    - Is the ohmic resistance of the pump about 155~200Ω? (measure directly on the connector on the circuit board side across J4-1 and J4-2) **-fig. 4-**
      - **NO**
        - Replace the pump and restart the diagnostic cycle to check for further alarms.
      - **YES**
        - Check and if necessary replace the wiring and restart the diagnostic cycle to check for further alarms.
  - **YES**
    - Is the pump impeller jammed or broken?
      - **NO**
        - Replace the circuit board and restart the diagnostic cycle to check for further alarms.
      - **YES**
        - Clean or replace the drain pump and restart the diagnostic cycle to check for further alarms.

- **Is the hydraulic circuit of the pressure switch efficient? (i.e. not obstructed)**
  - **NO**
    - Repair the hydraulic circuit of the pressure switch and restart the diagnostic cycle to check for further alarms.
  - **YES**
    - Replace the pressure switch and restart the diagnostic cycle to check for further alarms.

*If there are traces of burning on the circuit board, refer to page 119-120*
E21: Difficulty in draining (with Aqua Control device)

Maximum drain time exceeded (measured for each phase of the cycle)

Tests to be performed:

- Is the drain filter clean?
  - **NO**: Clean the filter and restart the diagnostic cycle to check for further alarms.
  - **YES**: Is the drain system OK? (drain hose and domestic hydraulic circuit) - fig. 1

- Disconnect and check the drain system.

- Does the drain pump function? (in the diagnostic cycle, select phase 2 fill and phase 8 drain) (noise from the pump)
  - **NO**: Is the ohmic resistance of the pump about 155÷200Ω? (measure directly on the connector on the circuit board side across J4-2 and U3-1) - fig. 4 -
  - **NO**: Replace the pump and restart the diagnostic cycle to check for further alarms.
  - **YES**: Is the pump impeller jammed or broken?
    - **NO**: Replace the circuit board and restart the diagnostic cycle to check for further alarms.
    - **YES**: Clean or replace the drain pump and restart the diagnostic cycle to check for further alarms.

- Is the hydraulic circuit of the pressure switch efficient? (i.e. not obstructed)
  - **NO**: Repair the hydraulic circuit of the pressure switch and restart the diagnostic cycle to check for further alarms.
  - **YES**: Replace the pressure switch and restart the diagnostic cycle to check for further alarms.

*If there are traces of burning on the circuit board, refer to page 119-120*
E22: Difficulty in draining water during drying phase

Tests to be performed:

Is the condenser clean? - (see fig.24) -

- NO - Clean the condenser and restart the diagnostic cycle to check for further alarms.

- YES -

Is the drain filter clean?

- NO - Clean the filter and restart the diagnostic cycle to check for further alarms.

- YES -

Is the drain system OK? (Drain hose and domestic hydraulic circuit) - (fig.1)

- NO - Disconnect and check the drain system.

- YES -

Does the drain pump function? (in the diagnostic cycle, select phase 2 fill and phase 8 drain) (noise from the pump).

- NO -

Is the ohmic resistance of the pump about 155-200Ω? (Measure directly on the connector on the circuit board side across J4-1 and J4-2) - (see fig.4) -

- NO - Replace the pump and restart the diagnostic cycle to check for further alarms.

- YES -

Check / replace the wiring and restart the diagnostic cycle to check for further alarms.

- NO -

Is the pump impeller jammed or broken?

- NO -

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

- YES -

Clean or replace the drain pump and restart the diagnostic cycle to check for further alarms.

- NO -

Is the hydraulic circuit of the pressure switch efficient? (i.e. not obstructed)

- NO -

Repair the hydraulic circuit of the pressure switch and restart the diagnostic cycle to check for further alarms.

- YES -

Replace the pressure switch and restart the diagnostic cycle to check for further alarms.
**E22: Difficulty in draining water during drying phase (with Aqua Control device)**

Tests to be performed:

- **Is the condenser clean?**
  - NO: Clean the condenser and restart the diagnostic cycle to check for further alarms.
  - YES: 
    - **Is the drain filter clean?**
      - NO: Clean the filter and restart the diagnostic cycle to check for further alarms.
      - YES: 
        - **Is the drain system OK?** (Drain hose and domestic hydraulic circuit) *(fig.1)*
          - NO: Disconnect and check the drain system.
          - YES: 
            - **Does the drain pump function?** (in the diagnostic cycle, select **phase 2** fill and **phase 8** drain) *(noise from the pump).*
              - NO: 
                - **Is the ohmic resistance of the pump about 155-200Ω?** *(measure directly on the connector on the circuit board side across J4-2 and U3-1)* *(see fig.4)-*
                  - NO: Replace the pump and restart the diagnostic cycle to check for further alarms.
                  - YES: Check / replace the wiring and restart the diagnostic cycle to check for further alarms.
                - **Is the pump impeller jammed or broken?**
                  - NO: Replace the circuit board and restart the diagnostic cycle to check for further alarms.
                  - YES: Clean or replace the drain pump and restart the diagnostic cycle to check for further alarms.
              - YES: 
                - **Is the hydraulic circuit of the pressure switch efficient?** *(i.e. not obstructed)*
                  - NO: Clean or replace the drain pump and restart the diagnostic cycle to check for further alarms.
                  - YES: Replace the pressure switch and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to page 119-120.
E22 (with Aqua Control device)
**E23**: Malfunction of the component (triac) that controls the drain pump

**Tests to be performed:**

1. **Is the resistance of the pump about 150-200 Ω?**
   - **NO**
     - (Measure across connectors J4-1 and J4-2 on circuit board side – [fig.4]-)
     - Replace the pump and restart the diagnostic cycle to check for further alarms.
   - **YES**
     - Measure across connectors J4-1 / J4-2 and the structure of the appliance - [fig.6] -
     - Is there any current leakage?
     - **NO**
       - Replace the main circuit board and restart the diagnostic cycle to check for further alarms.
     - **YES**
       - Check and if necessary replace the wiring and restart the diagnostic cycle to check for further alarms.

*If there are traces of burning on the circuit board, refer to pages 119-120*
E23: Malfunction of the component (triac) that controls the drain pump (with Aqua Control device)

Tests to be performed:

Is the resistance of the pump about 150-200 Ω? (Measure across connectors J4-2 and U3-1 on circuit board side –fig.4–)

- NO
  - Is the resistance of the pump about 150-200 Ω? (Measure directly on the pump) –(see fig.5)–
    - YES
      - Replace the pump and restart the diagnostic cycle to check for further alarms.
    - NO
      - Check and if necessary replace the wiring and restart the diagnostic cycle to check for further alarms.

- SI
  - Measure across connectors J4-2 / U3-1 and the structure of the appliance - fig.6 -
  - Is there any current leakage?
    - NO
      - Replace the main circuit board and restart the diagnostic cycle to check for further alarms.
    - YES
      - Check and if necessary replace the wiring and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
E24: «Sensing» circuit of the component (triac) that controls the drain pump faulty

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120

E31: The analogic pressure switch is giving to the main board a signal outside the range

Tests to be performed:

Measure a close circuit across J10-1, J10-2, J10-3 and the connector on analogic pressure switch (they are 3 independent connections see fig. 7).

Is the cable between main board and analogic pressure switch OK and connected correctly on both sides?

NO

Reconnect and/or replace the cable and restart the diagnostic cycle to check for further alarms.

YES

Replace the analogic pressure switch and restart the diagnostic cycle to check for further alarms. Does the appliance display the alarm code again?

YES

Replace the main circuit board and restart the diagnostic cycle to check for further alarms.

fig. 7

If there are burn marks on electronic board, see pages 119-120

0 Ω
E32: The analogic pressure switch is giving an error during the calibration phase
(At the beginning of each cycle the appliance drain to empty the tub and create a 0 level to verify the calibration of the analogic pressure switch)

Tests to be performed:

1. Drain the water from the tub. Are pressure switch hose and air trap system free? (You can disconnect the hose and blow in it to check if the system is free) (fig. 2 and 8)
   - NO: Clean/change the hoses and/or air trap system and repeat completely the diagnostic cycle to check for further alarms.
   - YES: Set the drain circuit. Select a washing cycle. After few minutes did the machine fill with water and the motor is turning?
     - NO: Replace the analogic pressure switch and run again the diagnostic cycle to check for further alarms.
     - YES: Restart the diagnostic cycle and to check for further alarms.

2. Check the draining system (filter, drain pump, drain hose). Is the machine draining correctly?
   - NO: Replace the analogic pressure switch and run again the diagnostic cycle to check for further alarms.
   - YES: Run again the diagnostic cycle to check for further alarms.

3. Select a washing cycle. After few minutes did the machine fill with water and the motor is turning?
   - NO: Replace the analogic pressure switch and run again the diagnostic cycle to check for further alarms.
   - YES: Run again the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
E35: Water level too high

The electronic board measures a water level from analogic pressure switch higher than 300 mm for more than 15 seconds.

Tests to be performed:

Empty the machine. Are pressure switch hose and air trap system free? (You can disconnect the hose and blow in it to check if the system is free) -see fig. 2 and 8-

Clean/change the hoses and/or air trap system and repeat completely the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120

Replace the inlet valves and repeat completely the diagnostic cycle to check for further alarms.

If the machine filling water when main switch is turned OFF?

NO

Get inside diagnostic cycle at step 8. After door lock is the machine also filling water?

NO

Is the machine filling water when main switch is turned OFF?

YES

Replace the main board and repeat completely the diagnostic cycle to check for further alarms.

Reconnect and/or replace the cable and do the diagnostic cycle completely again to check for further alarms.

Replace the analogic pressure switch and run the diagnostic cycle to check for further alarms.

If the cable between main board and analogic pressure switch connected correctly on both sides?

NO

YES

Reconnect and/or replace the cable and do the diagnostic cycle completely again to check for further alarms.

Replace the main board and repeat completely the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120

Get inside diagnostic cycle at step 8. After door lock is the machine also filling water?

NO

YES

Replace the main board and repeat completely the diagnostic cycle to check for further alarms.

Replace the analogic pressure switch and run the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120

Replace the main board and repeat completely the diagnostic cycle to check for further alarms.
**E38: Pressure chamber blocked**

The analogic pressure switch is not able to measure any variation of the water level for at least 30-sec. during drum movement.

Tests to be performed:

- Start the diagnostic cycle and set the phase 6. Is the motor turning and the drum not moving?
  - NO
  - YES
    - Change/refit the drive belt and run again the diagnostic cycle to check for further alarms.
  - Empty the machine. Verify the air trap system and the pressure switch hose. Is the system free?
    - NO
    - YES
      - Replace the analogic pressure switch and run again the diagnostic cycle to check for further alarms.
    - (see fig.2)
  - Clean the air trap system and/or the pressure switch hose and run again the diagnostic cycle.

**E3A: Problems with “Sensing” circuit of the heating element relay**

Tests to be performed:

Replace the circuit board and run the diagnostic cycle again to check for further alarms.
Tests to be performed:

If there are traces of burning on the circuit board, refer to pages 119-120

Detach the connectors and effect measurement on the component (fig. 9):
- across connectors 3 and 5, the circuit must not be open (the resistive value should be measurable).
- across connectors 4 and 5, the circuit must be open (the numbers are printed on the component).

Is the door safety interlock is OK?

To check the wiring (with the door open), measure the following wiring connectors:
- between wires J1-3 and J1-1, the circuit must NOT be open (Measure the resistive value of the PTC).
- between wires J1-1 and J1-2, the circuit must be OPEN.

Is the system ok?

Replace the door interlock and restart the diagnostic cycle to check for further alarms.

Replace the door locking device.

Does the appliance function correctly?

Restart the diagnostic cycle to check for further alarms.
E41 (3-contact device)

If there are traces of burning on the circuit board, refer to pages 119-120.
Instantaneous door interlock with 4 connections.
- fig 28 -

To check the wiring (with the door open), measure the following wiring connectors (fig.4):
- between J1-1 and J1-3, the circuit must NOT be open (Measure the resistive value of the PTC).
- between J1-1 and J1-4, the circuit must be OPEN (Measure the resistive value of the PTC).
- between J1-1 and J1-2, the circuit must be OPEN. Is the system OK?

YES

Detach the connectors and measure on the component:
- across connectors 3 and 4 the circuit must NOT be open (measure the resistive value of PTC)
- across connectors 2 and 4 the circuit must NOT be open (measure the resistive value of PTC)
- across connectors 4 and 5 the circuit must be OPEN (the numbers are printed on the component).

Is the door safety interlock is OK? (fig. 28)

YES

Replace the door interlock and restart the diagnostic cycle to check for further alarms.

NO

Replace the door interlock.

NO

Replace the door natch/the door.

SI

Replace the door interlock. Is the machine working correctly?

YES

Restart the diagnostic cycle to check for further alarms.

NO

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

IF THERE ARE TRACES OF BURNING ON THE CIRCUIT BOARD, REFER TO PAGES 119-120.
If there are traces of burning on the circuit board, refer to pages 119-120.
Tests to be performed:

Is the door correctly closed?

YES

NO

The door interlock is traditional with 3 connections as represented in (fig. 9)?

YES

NO

Detach the connectors and effect measurement on the component (fig. 9):
- across connectors 3 and 5 the circuit must not be open (the resistive value should be measurable).
- across connectors 4 and 5, the circuit must be open (the numbers are printed on the component).

Is the system OK?

YES

NO

To check the wiring (with the door open), measure the following wiring connectors:
- between wires J1-3 and J1-1, the circuit must NOT be open (measure the resistive value of the PTC).
- between wires J1-3 and J1-2, the circuit must be OPEN.

Is the system OK?

YES

NO

Measure the continuity across connector J1 (PCB) and the door interlock connector.

Is the wiring OK?

YES

NO

Replace the door interlock and restart the diagnostic cycle to check for further alarms.

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

Replace the door natch/the door.

Check for mechanical coupling between the door interlock and the door natch. Is the system OK?

YES

NO

Replace the door interlock. Is the machine working correctly?

YES

NO

Restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
E42 (3-contact device)

If there are traces of burning on the circuit board, refer to pages 119-120.
Instantaneous door interlock device with 4 Connections.

To check the wiring (with the door open), measure the following wiring connectors (fig. 4):
- between wires J1-3 and J1-1, the circuit must NOT be open (Measure the resistive value of the PTC).
- between wires J1-1 and J1-4, the circuit must NOT be open (Measure the resistive value of the PTC).
- between wires J1-1 and J1-2, the circuit must be OPEN (the numbers are printed on the component).

Is the door safety interlock OK? (fig. 28)

YES

Detach the connectors of the door interlock and measure on the component:
- across connectors 3 and 4, the circuit must NOT be open (Measure the resistive value of the PTC).
- across connectors 2 and 4, the circuit must NOT be open (Measure the resistive value of the PTC).
- across connectors 4 and 5, the circuit must be OPEN (the numbers are printed on the component).

Is the system OK?

YES

Measure the continuity across connector J1 (PCB) and the door interlock connector. Is the wiring OK?

YES

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

NO

Replace the door natch/the door.

Check for mechanical coupling between the door interlock and the door natch. Is the system OK?

YES

Replace the door interlock. Is the machine working correctly?

YES

Restart the diagnostic cycle to check for further alarms.

NO

Replace the door interlock.

Replace the wiring and restart the diagnostic cycle to check for further alarms.

NO

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

Replace the door interlock and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to page 119-120.
If there are traces of burning on the circuit board, refer to pages 119-120.
Tests to be performed:

To check the wiring, (with the door open), measure the following wiring connectors (fig. 4):
- between wires J1-3 and J1-1, the circuit must NOT be open (measure the resistive value of the PTC).
- between wires J1-1 and J1-2, the circuit must be OPEN.

Is the system OK?

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

Detach the connectors and measure on the component (fig. 9):
- across connectors 3 and 5 the circuit must NOT be open (the resistive value should be measurable).
- across connectors 4 and 5, the circuit must be OPEN (the numbers are printed on the component).

Is the door safety interlock OK?

Measure the continuity across connector J1 (PCB) and the door interlock connector.

Is the wiring OK?

Replace the door interlock and restart the diagnostic cycle to check for further alarms.

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
Tests to be performed:

To check the wiring, (with the door open), measure the following wiring connectors (fig.4):
- between J1-1 and J1-3, the circuit must NOT be open (measure the resistive value of the PTC).
- between J1-1 and J1-4 the circuit must NOT be open (measure the resistive value of the PTC).
- between J1-1 and J1-2, the circuit must be OPEN.
Is the system OK?

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.

Detach the connectors of the door interlock and measure on the component (fig. 28):
- across connectors 3 and 4 the circuit must NOT be open (Measure the resistive value of the PTC).
- across connectors 2 and 4 the circuit must NOT be open (Measure the resistive value of the PTC).
- across connectors 4 and 5 the circuit must be OPEN (the numbers are printed on the component).
Is the door safety interlock OK?

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

Measure the continuity across connector J1 (PCB) and the door interlock connector.
Is the wiring OK?

Replace the wiring and restart the diagnostic cycle to check for further alarms.

Replace the circuit board and restart the diagnostic cycle to check for further alarms.
Tests to be performed:

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
| E45 | E45: Problems with the «sensing» circuit of the triac that actions the door interlock | E45 |

Tests to be performed:

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
**E52: No signal from the motor tachometric generator (first part)**

Cycle blocked after 5 attempts during the cycle or immediately if detected at the start or during diagnostics.

**Tests to be performed:**

- Perform phase 7 of the diagnostic cycle (the drum rotates at 55 rpm clockwise 55 rpm anti-clockwise with pulse at 250 rpm). Does the motor rotate correctly?

  - **NO** The motor does not rotate at all. - see page 58-
  - **YES**

- Measure across the terminals of the wiring connector J2-3 and J2-4. Are the values (Ω) of the tachometric generator correct? (refer to page 59 - Step 4, phase “A”).

  - **NO**
    - Detach the connector from the motor and measure (Ω) the coil of the tachometric generator -see fig.11-
    - Is the value correct? (refer to page 59 Step 4 - phase “A”).
    - **NO** Replace the motor or the tachometric generator and restart the diagnostic cycle to check for further alarms.
    - **YES** Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
  - **YES**

- Measure across the same terminals of the wiring connector (J2-3 and J2-4) and the structure of the appliance. Is there any current leakage? - see fig.36-

  - **NO**
    - Check for the positioning of the tachometric generator. Is it correct? - see fig.12 -
    - **NO** Replace the motor/ tachometric generator and restart the diagnostic cycle to check for further alarms.
    - **YES** Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.
  - **YES**

- Detach the connector from motor and measure across terminals and motor shield. – (see fig.10)- Is there any current leakage?

  - **NO**
    - Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
  - **YES**

- Replace the motor and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120
If there are traces of burning on the circuit board, refer to pages 119-120.
E52: No signal from the motor tachometric generator (second part)

Cycle blocked after 5 attempts during the cycle or immediately if detected at the start or during diagnostics.

Tests to be performed:

The motor does not rotate at all

To check the wiring, measure (Ω) across the following terminals of the circuit board connector (fig.35) and compare with the correct values (see page 59: step 4 – motor parameters)
- across J2-6 and J2-7, the value must be as in 4 - B (stator)
- across J2-5 and J2-6, if present, the value must be as in step 4 - C (stator)
- across J2-5 and J2-7, the value must be as in step 4-D (stator).
Are these values correct?

NO

Check the motor as described on page 59.

Is the motor OK?

NO

Replace the motor and restart the diagnostic cycle to check for further alarms.

YES

Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
Procedure for checking the Inverter motors

1) Check the connector blocks (wiring) and check for detached or bent terminals.

2) Check for traces, residue or deposits of water or detergent on the motor and identify the source.

3) Check for windings or other parts that may be grounded or poorly insulated. Use a tester with a minimum scale of 40 MΩ: between each terminal and the casing, this should read ∞ (fig. 10).

4) Check each winding against the values shown in the table below (fig. 11).

<table>
<thead>
<tr>
<th>TERMINALS ON MOTOR TERMINAL BLOCK</th>
<th>WINDING</th>
<th>CHECKS: C.E.SET.</th>
<th>ACC (SOLE)</th>
<th>ECM</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 4-5</td>
<td>Winding</td>
<td>108÷133</td>
<td>169÷207</td>
<td>85÷98</td>
</tr>
<tr>
<td>B 1-2</td>
<td>Stator</td>
<td>5.0÷5.8</td>
<td>5.0÷5.8</td>
<td>5.0÷5.8</td>
</tr>
<tr>
<td>C 2-3</td>
<td>Stator</td>
<td>5.0÷5.8</td>
<td>5.0÷5.8</td>
<td>5.0÷5.8</td>
</tr>
<tr>
<td>D 3-1</td>
<td>Stator</td>
<td>5.0÷5.8</td>
<td>5.0÷5.8</td>
<td>5.0÷5.8</td>
</tr>
</tbody>
</table>

If there are traces of burning on the circuit board, refer to pages 119-120.
E57: The current requested by the Inverter board is higher than 16A

Abnormal power absorption by the motor

Tests to be performed:

Measure between the terminals of wiring connector J2-5, J2-6, J2-7 and the structure of the appliance. Is there any current leakage? (see fig. 36)

- YES -

Detach the connector from the motor and measure across the terminals and the motor shield. (see fig. 10)

- YES -

Replace the motor and restart the diagnostic cycle to check for further alarms.

- NO -

Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.

- NO -

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
If there are traces of burning on the circuit board, refer to pages 119-120.
E58: The current requested by the Inverter board is higher than 6A

Abnormal power absorption by the motor

Tests to be performed:

- Has the washing cycle been carried out with a too heavy cloth load?
  - YES: Reduce the cloth load inside the drum and restart the diagnostic cycle to check for further alarms.
  - NO:
    - Check if the drum rotates freely without being blocked (see fig. 37). Is the drum turning with difficulty?
      - YES: Check if the attrition is caused by the motor (fig. 38) or by the bearings of the tub (fig. 39). Replace the faulty part. Restart the diagnostic cycle to check for further alarms.
      - NO:
        - Measure across all terminals of the wiring connector J2-5, J2-6, J2-7 and the structure of the appliance. Is there any current leakage? - (see fig. 36) -
          - YES: Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.
          - NO:
            - Detach the connector from the motor and measure between the terminals and the motor shield. (see fig. 10) - Is there any current leakage?
              - YES: Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
              - NO: Replace the motor and restart the diagnostic cycle to check for further alarms.

- If there are traces of burning on the circuit board, refer to pages 119-120.
E59: No signal from the tachometric generator
The absence of the signal must last at least 3 seconds

Tests to be performed:

Measure across the terminals of the wiring connector J2-3 and J2-4, (Step 4, phase “A” page 59).
Are the values of the tachometric generator (Ω) correct?

YES

NO

 Detach the connector from the motor and measure (Ω) the coil of the tachometric generator, (Step 4, phase “A” page 59)
- (see fig.11) -
Is the value correct?

YES

NO

 Replace the motor and the tachometric generator and restart the diagnostic cycle to check for further alarms.

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

Measure across the same terminals of the wiring connector (J2-3 and J2-4) and the structure of the appliance.
Is there any current leakage? -(see fig.36) -

YES

NO

 Detach the connector from the motor and measure across the terminals and the motor shield. -(see fig.10) -
Is there any current leakage?

YES

NO

 Replace the motor and restart the diagnostic cycle to check for further alarms.

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

Check the position of the tachometric generator. Is the value correct? - (see fig.12) -

YES

NO

 Replace the motor/generator and restart the diagnostic cycle to check for further alarms.

Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
E5A: Overheating of the Inverter dissipator

The dissipator exceeds the temperature of 88°C

Tests to be performed:

Have continuous washing cycles been performed or has the washing cycle been performed with an excessive cloth load?

NO

Check if the drum rotates freely without being blocked. (see fig.37).

YES

Is the drum rotating with difficulty?

NO

Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.

YES

Perform some pauses between the cycles or reduce the cloth load inside the drum.

Check if the attrition is caused by the motor (fig.38) or by the bearings of the tub (fig.39). Replace the faulty part. Restart the diagnostic cycle to check for further alarms.
E5H: The power supply of the Inverter board is too low  
(lower than 175V)  
The voltage must remain under 175V for at least 5 seconds  

Tests to be performed:

Are the connectors J3 (main board) and J1 (motor circuit board) correctly inserted?  

NO  
Reset the connectors and restart the diagnostic cycle to check for further alarms.

YES  
Measure the continuity between connectors J3-1, J3-2 (main board) and J1-1, J1-2 (motor circuit board).  
Is the wiring ok?  

NO  
Replace the wiring and restart the diagnostic cycle to check for further alarms.

YES  
Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.  
Is the appliance working?  

NO  
Replace the main board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120. 

Circuit board  
Motor circuit board  

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**E5C: The power supply of the Inverter board is too high**

(higher than 430V)

The voltage must remain above 430V for at least 5 seconds

Tests to be performed:

- Measure the mains voltage and check if it is included in the nominal values. The mains voltage is correct? **YES**
- Wait until the voltage of the electric line resets the nominal conditions and restart the diagnostic cycle to check for further alarms.
- Replace the motor circuit board and restart the diagnostic cycle to check for further alarms. **NO**
E5d: Data transfer error between Inverter board and main board

The failed transfer must last at least 2 sec.

Tests to be performed:

- Are the connectors J18 (main board) and J6 (motor circuit board) correctly inserted?
  - NO: Reset the connectors and restart the diagnostic cycle to check for further alarms.
  - YES: Measure the continuity between the connector J18-1, J18-5 (main board) and connector J6-1, J6-5 (motor circuit board).
    - NO: Replace the wiring and restart the diagnostic cycle to check for further alarms.
    - YES: Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.
      - NO: Replace the main board and restart the diagnostic cycle to check for further alarms.
      - YES: Is the appliance working?

If there are traces of burning on the circuit board, refer to pages 119-120!
<table>
<thead>
<tr>
<th><strong>E5E</strong></th>
<th><strong>E5E: Wrong communication between Inverter board and main board</strong></th>
<th><strong>E5E</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Communication protocol between the two boards not aligned</td>
<td></td>
</tr>
</tbody>
</table>

*Tests to be performed:*

Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.

<table>
<thead>
<tr>
<th><strong>E5F</strong></th>
<th><strong>E5F: The Inverter board does not start the motor</strong></th>
<th><strong>E5F</strong></th>
</tr>
</thead>
</table>

*Tests to be performed:*

Replace the motor circuit board and restart the diagnostic cycle to check for further alarms.
E61: Insufficient heating during washing

Maximum heating time exceeded

SOMETIMES THE ALARM CAN BE CAUSED BY THE POWER VOLTAGE TOO LOW!

Tests to be performed:

Measure the value of the NTC sensor across contacts J9-9 and J9-8 of the circuit board connector.
Is the value correct?
(between 5.7 and 6.3 KΩ at 20°C)

Detach the connector and measure the value directly on the NTC sensor.
Is the value correct?
- see fig. 14 -
(between 5.7 and 6.3 KΩ at 20°C)

Replace the NTC temperature sensor and restart the diagnostic cycle to check for further alarms.

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.

Fig. 4
E62: Overheating during washing (version WM)
The temperature of the NTC sensor exceeds 88°C for more than 5 minutes.

Tests to be performed:

Start the diagnostic cycle and fill with water up to the level of the door to ensure that the heating element is completely dipped into. Measure between wiring connector J2-2 and the structure of the appliance - see fig 6 - Is the circuit open?

NO

Detach the connector and measure across the heating element and the ground contact. 
- see fig. 15 -
Is the circuit open?

YES

Replace the heating element and restart the diagnostic cycle to check for further alarms.

NO

Measure the NTC sensor across terminals J9-9 and J9-8 of the circuit board connector. Is the value correct? (between 5.7 and 6.3 KΩ at 20°C)

YES

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

NO

Detach the connector and measure directly on the NTC sensor. 
- see fig. 14 -
Is the value correct? (between 5.7 and 6.3 KΩ at 20°C)

YES

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

NO

Replace the NTC sensor and restart the diagnostic cycle to check for further alarms.

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
E62: Overheating during washing (version WD)

The temperature of the NTC sensor exceeds 88°C for more than 5 minutes.

Tests to be performed:

Start the diagnostic cycle and fill with water up to the level of the door to ensure that the heating element is completely dipped into. Measure between wiring connector J2-2 and the structure of the appliance - see fig 6.

- Is the circuit open?

Measure the NTC sensor across terminals J9-9 and J9-8 of the circuit board connector.

- Is the value correct? (between 5.7 and 6.3 KΩ at 20°C)

Measure the NTC sensor across terminals J9-9 and J9-8 of the circuit board connector.

- Is the value correct? (between 5.7 and 6.3 KΩ at 20°C)

Replace the WD board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to page 119-120.
**E66: The contacts of the heating element power relay are always closed (version WM)**

**Tests to be performed:**

- **Measure across connector J2-1/J2-2 on the circuit board and the structure of the appliance. (Fig. 6)** Is there any current leakage?
  - **YES**
    - Detach the connector and measure across the heating element and the ground contact. **- fig. 15** - Is the circuit open?
      - **YES**
        - Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
      - **NO**
        - Replace the heating element and restart the diagnostic cycle to check for further alarms.
  - **NO**
    - Replace the circuit board and restart the diagnostic cycle to check for further alarms.

*If there are traces of burning on the circuit board, refer to page 119-120*
**Tests to be performed:**

Measure across connector J6-1/J62-2 on the WD board and the structure of the appliance. *(Fig. 6)* Is there any current leakage?

- **YES**
  - Detach the connector and measure across the heating element and the ground contact. *(fig. 15)* Is the circuit open?
  - **NO** Replace the heating element and restart the diagnostic cycle to check for further alarms.
  - **YES** Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

Replace the WD board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
Start the diagnostic cycle and fill with water up to the level of the door to ensure that the heating element is completely dipped into. Measure between wiring connector J2-1/J2-2 and the structure of the appliance -see fig.6-
Is the circuit open?

NO

YES

NO

YES

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

Detach the connector and measure across the heating element and the ground contact. -see fig.15-
Is the circuit open?

YES

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

Start phase 8 of the diagnostic cycle, drain water from tub. Replace the heating element and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
**Tests to be performed:**

Start the diagnostic cycle and fill with water up to the level of the door to ensure that the heating element is completely dipped into. Measure between wiring connector J6-1/J6-2 and the structure of the appliance -see fig.6- Is the circuit open?

- **NO**
  - Detach the connector and measure across the heating element and the ground contact. - see fig. 15 - Is the circuit open?
  - **NO**
  - Start phase 8 of the diagnostic cycle, drain water from tub. Replace the heating element and restart the diagnostic cycle to check for further alarms.
- **YES**
  - Replace the circuit board and restart the diagnostic cycle to check for further alarms.
  - Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

*If there are traces of burning on the circuit board, refer to pages 119-120*
**E69: Washing heating element interrupted (version WM)**

**Tests to be performed:**

1. **Measure the heating element value (Ω) across terminals J2-2 ÷ J2-1 of the wiring connector.**
   - See fig.4-
   - **NO**
     - Replace the circuit board and restart the diagnostic cycle to check for further alarms.
   - **YES**
     - Replace the heating element and restart the diagnostic cycle to check for further alarms.

2. **Measure the ohmic value directly on the terminals of the heating element (detach the connectors).**
   - See fig 13-
   - **NO**
     - Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
   - **YES**
     - Replace the heating element and restart the diagnostic cycle to check for further alarms.

---

*If there are traces of burning on the circuit board, refer to page 119-120*
Tests to be performed:

Measure the heating element value (Ω) across terminals J6-2 ÷ J6-1 of the wiring connector.
-see fig.4-
Is the value correct?

Measure the ohmic value directly on the terminals of the heating element (detach the connectors)
-see fig 13-
Is the value correct?

Replace the WD board and restart the diagnostic cycle to check for further alarms.

Replace the heating element and restart the diagnostic cycle to check for further alarms.

Controllare/sostituire il cablaggio e riavviare il ciclo diagnostico per verificare ulteriori possibili allarmi.

If there are traces of burning on the circuit board, refer to pages 119-120.
E71: NTC washing sensor faulty

Voltage not within limits (short-circuited or open)

**Tests to be performed:**

- **Perform phase 6 of the diagnostic cycle and wait until the fill ends.** Switch the appliance off and measure the value of the NTC sensor across contacts J9-8 and J9-9 of the wiring connector. **NO**
  - See fig. 4.
  - Is the value correct? (between 5.7÷6.3 KΩ at 20°C)

- **Measure across terminals J9-9, J9-8 of the connector and the structure of the appliance.** **NO**
  - See fig. 6.
  - Is there any current leakage?

- **Detach the connector and measure directly across the terminals of the NTC sensor and the structure of the appliance.** **NO**
  - (there must be water in the tub).
  - Is there any leakage?

- **Start phase 8 of the diagnostic cycle, drain water from the tub.** Replace the NTC sensor and restart the diagnostic cycle to check for further alarms.

- **Detach the connector and measure the NTC sensor directly.** **NO**
  - See fig. 14.
  - Is the value correct? (5.7÷6.3 KΩ at 20°C).

- **Controllare/sostituire il cablaggio e riavviare il ciclo diagnostico.**

- **Replace the circuit board and restart the diagnostic cycle to check for further alarms.**

- **Check/replace the wiring and restart the diagnostic cycle to check for further alarms.**

*If there are traces of burning on the circuit board, refer to pages 119-120.*

---

**Diagram:**

- **Circuit board**
- **Heating element**
- **Temperature probe**
- **5.7 ÷ 6.3K Ω (20°C)**
- **∞ Ω**
Tests to be performed:

Measure the value of the NTC sensor across contacts J7-3 and J7-4 of the WD board connector.  
- see fig. 32 -  
Is the value correct?  
(between 5.7 and 6.3kΩ at 20°C)

YES ▶ NO

Measure across terminals J7-3, J7-4 of the connector and the structure of the appliance – see fig. 6 -  
Is there any current leakage?

YES ▶ NO

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

NO ▶ YES

Detach the connector and measure the NTC sensor directly.  
Is the value correct?  
- see fig. 33 -

NO ▶ YES

Replace the NTC sensor and restart the diagnostic cycle to check for further alarms.

NO ▶ YES

Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

Replace the WD board and restart the diagnostic cycle to check for further alarms.

Temperature probe drying

If there are traces of burning on the circuit board, refer to pages 119-120...
E73: NTC sensor on drying duct faulty

Ohm value of the NTC out of limits

Tests to be performed:

Measure the value of the NTC sensor across contacts J7-1 and J7-2 of the WD board connector. - (see fig. 30) - Is the value correct? (between 4.7 and 5.3 KΩ at 20°C)

YES → Detach the connector and measure the NTC sensor directly. Is the value correct? - (see fig.31) -

NO → Replace the NTC sensor and restart the diagnostic cycle to check for further alarms.

NO → Measure across terminals J7-1, J7-2 of the connector and the structure of the appliance – see fig. 6 - Is there any current leakage?

NO → Check/replace the wiring and restart the diagnostic cycle to check for further alarms.

YES → Replace the WD board and restart the diagnostic cycle to check for further alarms.

YES → Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
**E74: NTC sensor wrongly positioned**

**Tests to be performed:**

1. **Is the sensor correctly positioned in its seat?**
   - **YES**
   - **NO**

   **NO**
   - **Position the sensor again into its seat and restart the diagnostic cycle to check for further alarms.**

   **YES**
   - **Measure the value of the NTC sensor (5.7+6.3kΩ at 20°C) across contacts J9-8 and J9-9 of the wiring connector (fig. 4). Is the value correct? (between 5.7 and 6.3 KΩ at 20°C)**

2. **Perform phase 6 of the diagnostic cycle and wait until the fill ends. Remain in this phase for five minutes. Switch the appliance off and measure the value of the NTC sensor across contacts J9-8 and J9-9 of the wiring connector (fig. 4). Is the value lower than 5 KΩ?**
   - **YES**
   - **NO**

   **NO**
   - **Replace the sensor and restart the diagnostic cycle to check for further alarms.**

   **YES**
   - **Check/replace the wiring and restart the diagnostic cycle to check for further alarms.**

3. **Replace the circuit board and restart the diagnostic cycle to check for further alarms.**

**!!ATTENTION!!**

DRAIN WATER FROM TUB BECAUSE IT IS BOILING

Replace the heating element/the sensor and restart the diagnostic cycle to check for further alarms.

---

**Fig. 4**

- **J16**
- **J15**
- **J14**
- **J13**
- **J12**
- **J11**
- **J10**
- **J9**
- **J8**
- **J7**
- **J6**
- **J5**
- **J4**
- **J3**
- **J2**
- **J1**
- **U3**

**Fig. 14**

**Fig. 17**

---

**Temperature probe**

- **5.7 + 6.3kΩ (20°C)**

---

**Circuit board**

- **∞ Ω**

---

**Heating element**

- **∞ Ω**
E82: Error in reading the RESET/OFF position of the programme selector

Reading of position “0” of the selector when the appliance is switched on, or configuration error

Tests to be performed:

Switch the appliance OFF (selector position “0”). Do any LEDs light?

YES

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

NO

Switch the appliance on and turn the programme selector (in the versions with knob), push the programme buttons (INPUT version) to every position: wait at least 10 seconds before passing to the next one. Does alarm E82 reappear?

YES

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

NO

Restart the diagnostic cycle to check for further alarms.

E83: Error in reading the programme selector code

Code for the position of the selector not included in configuration data or configuration error

Tests to be performed:

Switch the appliance on and turn the programme selector to every position. Wait 10 seconds at each position before passing to the next one. Does alarm E83 reappear?

YES

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

NO

Restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
<table>
<thead>
<tr>
<th>E91</th>
<th>E91: Communication error between user interface and main board</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Incongruence of configuration values at the switching on of the appliance</td>
</tr>
</tbody>
</table>

Tests to be performed:

Possible configuration error
Replace the circuit board and restart the diagnostic cycle to check for further alarms.

<table>
<thead>
<tr>
<th>E92</th>
<th>E92: Protocol incongruence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Incongruence of configuration values at the switching on of the appliance</td>
</tr>
</tbody>
</table>

Tests to be performed:

Possible configuration error
Replace the circuit board and restart the diagnostic cycle to check for further alarms.

<table>
<thead>
<tr>
<th>E93</th>
<th>E93: Appliance configuration error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Incongruence of configuration values at the switching on of the appliance</td>
</tr>
</tbody>
</table>

Tests to be performed:

Possible configuration error
Replace the circuit board and restart the diagnostic cycle to check for further alarms.

<table>
<thead>
<tr>
<th>E94</th>
<th>E94: Washing cycle configuration error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Incongruence of configuration values at the switching on of the appliance</td>
</tr>
</tbody>
</table>

Tests to be performed:

Possible configuration error
Replace the circuit board and restart the diagnostic cycle to check for further alarms.

<table>
<thead>
<tr>
<th>E95</th>
<th>E95: Communication failed between EEprom and Microprocessor</th>
</tr>
</thead>
</table>

Tests to be performed:

Replace the circuit board and restart the diagnostic cycle to check for further alarms.

<table>
<thead>
<tr>
<th>E97</th>
<th>E97: Incongruence between version of the control selector and configuration data</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Incongruence between configuration data of the programmes and those of the selector</td>
</tr>
</tbody>
</table>

Tests to be performed:

Possible configuration error
Replace the circuit board and restart the diagnostic cycle to check for further alarms.
Tests to be performed:

**E98: Communication error between main board and Inverter board**

- Incompatibility between main board and Inverter board

**Possibile errata configurazione.**
Replace the main board / Inverter board and restart the diagnostic cycle to check for further alarms.
Tests to be performed:

Replace the main board and restart the diagnostic cycle to check for further alarms.

Tests to be performed:

Replace the main board and restart the diagnostic cycle to check for further alarms.

Tests to be performed:

Replace the main board and restart the diagnostic cycle to check for further alarms.
Tests to be performed:

Measure the continuity between the connector J18 (main board) and J6 (Inverter board). Is the wiring ok?

- NO: Replace the wiring and restart the diagnostic cycle to check for further alarms.

- YES: Replace the Inverter board and restart the diagnostic cycle to check for further alarms.

If the alarm appears again, replace the main board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
## EA1: Drum positioning system faulty (top-loaders)

No signal or discontinuous signal from the sensor for more than 10 seconds during actioning of the motor to position the drum

### Tests to be performed:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the belt ok? Is the pulley ok and the ferrite plate correctly positioned? (fig. 20) YES</td>
<td>Replace the belt/pulley and restart the diagnostic cycle to check for further alarms.</td>
</tr>
<tr>
<td>NO</td>
<td>Replace the positioning sensor and restart the diagnostic cycle to check for further alarms.</td>
</tr>
<tr>
<td>Remove the connector and measure directly on the sensor: - closed circuit when it is in the normal part of the pulley (fig.18) - open circuit when it is on the plate (fig.19). Is the sensor ok? YES</td>
<td>Check/replace the wiring and restart the diagnostic cycle to check for further alarms.</td>
</tr>
<tr>
<td>NO</td>
<td>Replace the positioning sensor and restart the diagnostic cycle to check for further alarms.</td>
</tr>
<tr>
<td>Reconnect the connector on the sensor and measure across J12-1 and J12-3 of the connector wiring: turning the drum, the circuit must open and close. Check between the same contacts if there is current leakage. Is the wiring ok? YES</td>
<td>Start the diagnostic cycle (phase 9). If alarm EA1 appears again, replace the circuit board and restart the diagnostic cycle to check for further alarms.</td>
</tr>
</tbody>
</table>

**Figures:**
- **fig. 18**
- **fig. 19**
- **fig. 20**

**Diagrams:**
- Circuit board
- Connections

*If there are traces of burning on the circuit board, refer to pages 119-120.*
EA6: Drum flap faulty (top-loaders)

Cycle immediately blocked if a not correct tachometric signal is identified for at least 3 seconds.

Tests to be performed:

- Open the door and manually check if the drum turns easily. Is the drum blocked?
  - NO
  - YES
- Replace the drum flap and restart the diagnostic cycle to check for further alarms.
  - YES
- Measure across the terminals of the wiring connector J2-3 and J2-4. Are the values (Ω) of the tachometric generator correct? (see page 59 - Step 4, phase “A”).
  - NO
  - YES
- Detach the connector from the motor and measure (Ω) the coil of the tachometric generator -see fig.11-. Is the value correct? (see page 59 - Step 4, phase “A”).
  - NO
  - YES
- Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
  - YES
- Detach the connector from the motor and measure (Ω) the coil of the tachometric generator -see fig.11-. Is the value correct? (see page 59 - Step 4, phase “A”).
  - NO
  - YES
- Check/replace the wiring and restart the diagnostic cycle to check for further alarms.
  - YES
- Replace the motor or the tachometric generator and restart the diagnostic cycle to check for further alarms.
  - NO
  - YES
- Replace the motor or the tachometric generator and restart the diagnostic cycle to check for further alarms.
- Check for the positioning of the tachometric generator. Is it correct? - (see fig.12) -
  - NO
  - YES
- Replace the main circuit board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.
**EH1: Incorrect mains frequency**

The power supply frequency is not within the configured limits

**Tests to be performed:**

**Important!**
The appliance remains in alarm mode until the frequency returns to the correct value or the appliance is switched off (programme selector on "0"). Only the family of the alarm is displayed, and the diagnostic cycle cannot be started. The complete alarm can be read only when the alarm condition has ceased.

- Is there interference in the power line, or is the mains frequency outside the correct limits? 
  - NO: Replace the circuit board and restart the diagnostic cycle to check for further alarms.
  - YES: Let repair the domestic power supply circuit.

**If there are traces of burning on the circuit board, refer to page 119-120**

**EH2: Mains voltage too high**

Mains voltage higher than configured voltage (for more than 10 seconds)

**Tests to be performed:**

**Important!**
The appliance remains in alarm mode until the frequency returns to the correct value or the appliance is switched off (programme selector on "0"). Only the family of the alarm is displayed, and the diagnostic cycle cannot be started. The complete alarm can be read only when the alarm condition has ceased.

- Is there interference in the power line, or is the mains voltage outside the correct limits? 
  - NO: Replace the circuit board and restart the diagnostic cycle to check for further alarms.
  - YES: Let repair the domestic power supply circuit.

**EH3: Mains voltage too low**

Mains voltage lower than configured voltage

**Tests to be performed:**

**Important!**
The appliance remains in alarm mode until the frequency returns to the correct value or the appliance is switched off (programme selector on "0"). Only the family of the alarm is displayed, and the diagnostic cycle cannot be started. The complete alarm can be read only when the alarm condition has ceased.

- Is there interference in the power line, or is the mains voltage outside the correct limits? 
  - NO: Replace the circuit board and restart the diagnostic cycle to check for further alarms.
  - YES: Let repair the domestic power supply circuit.
### EHE: Incongruence between the safety relay (main board) and safety “sensing” circuit

**Tests to be performed:**

Replace the main board and restart the diagnostic cycle to check for further alarms.

### EHF: Safety “sensing” circuit faulty

**Input voltage to microprocessor wrong**

**Tests to be performed:**

Replace the main board and restart the diagnostic cycle to check for further alarms.
EF1 | **EF1: Drain hose blocked/throttled/too high; drain filter dirty/blocke**
---|---
It is a warning that appears only at the end of the cycle. The machine has detected long draining phases during the cycle (Es. More then 20 seconds during draining after rinsing phase). Check/clean the drain filter.

EF2 | **EF2: Overdosing of detergent; drain hose blocked/throttled; drain filter dirty/blocke**
---|---
Overdosing of detergent. The system has detected an over foaming during draining phases. Advice Customer to use the right quantity of detergent and verify that drain filter and drain system are clean.

EF3 | **EF3: Intervention of Aqua Control device**
---|---
It warns about the presence of water at the bottom of the appliance. Check for any possible water leaks and the correct positioning of the float of the Aqua Control device.

EF4 | **EF4: Low water fill pressure and solenoid open**
---|---
Flowmeter faulty – Wiring faulty

EF5 | **EF5: Load too unbalanced, skipping of spin phases**
---|---
It is a warning of load too unbalanced. During the spin phases the load is excessively unbalanced. Tell the user to load more clothes in the drum and not single clothes.

EF6 | **EF6: Appliance reset**
---|---
No action to be carried out, if it does not disappear, replace the circuit board.
**Tests to be performed:**

Does the appliance fill in water when the main switch is off?

- **NO**
  - As soon as the appliance is switched on does the solenoid start to fill water?
    - **NO**
      - Replace the main circuit board and restart the diagnostic cycle to check for further alarms.
    - **YES**
      - Open the drawer and check which solenoid leaks and measure between the wiring connector of the relative solenoid and the appliance housing if there is any current leakage (fig.6 and tab. 1). Is there any leakage?
        - **YES**
          - Replace the wiring and restart the diagnostic cycle to check for further alarms.
        - **NO**
          - Replace the main circuit board and restart the diagnostic cycle to check for further alarms.

Open the drawer and check which solenoid leaks and replace it. Restart the diagnostic cycle to check for further alarms.

---

**Version WM**

- Across J8-1 and J8-3 bleach solenoid
- Across J9-1 and J9-3 wash solenoid
- Across J9-4 and J9-6 prewash solenoid

**Version WD**

- Across J8-1 and J8-3 condensation solenoid
- Across J9-1 and J9-3 wash solenoid
- Across J9-4 and J9-6 prewash solenoid

*If there are traces of burning on the circuit board, refer to pages 119-120*
**Tests to be performed:**

- Does the appliance always show a weight value of 0kg? **NO**
  - YES
    - Replace the weight sensor board and restart the diagnostic cycle to check for further alarms.
  - NO
    - Measure across the terminals of the wiring connector J2-1 and J2-3 (weight sensor board) a value between 66÷70Ω. Is the value correct? **YES**
      - Replace the wiring and restart the diagnostic cycle to check for further alarms.
      - NO
        - Detach the connector from the camper and measure between the terminals 1 and 3 a value between 66÷70Ω. Is the value correct? **YES**
          - Replace the wiring and restart the diagnostic cycle to check for further alarms.
          - NO
            - Replace the camper and restart the diagnostic cycle to check for further alarms.

- Probably a message of excessive load also with drum completely empty appears on the display of the appliance. Measure the continuity between the connector J13 (main board) and J1 (weight sensor board). Is the wiring ok? **NO**
  - YES
    - Replace the weight sensor board and restart the diagnostic cycle to check for further alarms.
  - NO
    - Replace the wiring and restart the diagnostic cycle to check for further alarms.

- Does the appliance always show a weight value of 0kg? **YES**
  - NO
    - Replace the wiring and restart the diagnostic cycle to check for further alarms.
  - YES
    - Replace the weight sensor board and restart the diagnostic cycle to check for further alarms.

**Fig. 4**

**Diagram**

- Main circuit board
- Weight sensor board
- J1, J2 connectors
Ed1: Communication problems between main circuit board and WD board

Tests to be performed:

Measure the continuity between connector J16 (main circuit board) and J1 (WD board). Is the wiring OK?

Replace the wiring and restart the diagnostic cycle to check for further alarms.

Replace the WD board and restart the diagnostic cycle to check for further alarms.

If the alarm appears again, replace the main circuit board and restart the diagnostic cycle to check for further alarms.

If there are traces of burning on the circuit board, refer to pages 119-120.

0Ω
Tests to be performed:

Check if the belt of the motor fan is correctly fitted (fig. 21). Is the belt OK?

- NO: Fit the belt and reset the manually reset thermostat. To reset the thermostat push the red button (see fig. 23). Restart the diagnostic cycle to check for further alarms.

- YES: Check for possible clogging of the condenser (see fig. 24). Is the condenser OK?

- NO: Demount and clean the condenser, reset the manually reset thermostat. To reset the thermostat push the red button (see fig. 23). Restart the diagnostic cycle to check for further alarms.

- YES: Replace the motor fan, reset the manually reset thermostat. To reset the thermostat push the red button (see fig. 23). Restart the diagnostic cycle to check for further alarms.

Perform phase 9 of the diagnostic cycle and check that the motor fan starts to run after 15 sec. Does the motor fan function correctly?

- NO: Measure the value of the motor fan winding (\(\Omega\)) across terminals J8-2 + J8-1 of the wiring connector (see fig. 22). Is the value correct as described in Tab. 3?

- YES: Replace the WD board, reset the manually reset thermostat. To reset the thermostat push the red button (see fig. 23). Restart the diagnostic cycle to check for further alarms.

- NO: Detach the connectors and measure the winding value (\(\Omega\)) directly across motor fan terminals. Is the value correct as described in Tab. 3?

- YES: Replace the wiring and reset the manually reset thermostat. To reset the thermostat push the red button (see fig. 23). Restart the diagnostic cycle to check for further alarms.

Continues at page 99

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If there are traces of burning on the circuit board, refer to page 119-120.
Reset the manually reset thermostat. To reset the thermostat push the red button (see fig. 23). Measure across terminals J5-1 ÷ J8-3 and across J5-1 ÷ J8-4 of the wiring connector. In this way we will check also the two branches of the drying heating element. Is the value correct as the one in Tab. 2?

Replace the WD board and restart the diagnostic cycle to check for further alarms.

Detach the connectors and measure the value of 0Ω directly across the terminals of the manually reset thermostat. Is the value correct?

Replace the automatically reset thermostat and restart the diagnostic cycle to check for further alarms.

Replace the wiring and restart the diagnostic cycle to check further alarms.

Measure if the automatically reset thermostat is off (0Ω) across terminals J5-2 ÷ J5-3 of the wiring connector. Is the value correct?

Replace the wiring and restart the diagnostic cycle to check further alarms.

If there are traces of burning on the circuit board, refer to page 119-120.
Push the red button to reset the thermostat.

Belt well tense and inserted correctly inside the pulleys.

If there are traces of burning on the circuit board, refer to pages 119-120

Overheat protection thermostat

Thermostat

Fan Motor

Condenser
Ed3: Drying heating element 2 faulty

Tests to be performed:

Check across terminals J5-1 ÷ J8-3 and J5-1 ÷ J8-4 of the connector wiring (see fig. 25).

Is the value the one described in Tab. 2?

Detach the connectors and measure the value of the two branches of the drying heating element. Does it correspond to value described in Tab. 2? Are the values correct?

Replace the WD board and restart the diagnostic cycle to check for further alarms.

Replace the wiring and restart the diagnostic cycle to check for further alarms.

Replace the drying heating element and restart the diagnostic cycle to check for further alarms.

Drying heating element

Branch A
Across J5-1 and J8-3 the value must be between:
51.5Ω and 69Ω.

Branch B
Across J5-1 and J8-4 the value must be between:
51.5Ω and 69Ω.

NOTE: The measurements must be carried out with a room temperature of 25°C.

Tab. 2

If there are traces of burning on the circuit board, refer to page 119-120.
**Ed4: Drying relays faulty**

**Tests to be performed:**

1. **Measure across terminals J8-3, J8-4 of the connector and the structure of the appliance.**
   - **YES** Replace the WD board and restart the diagnostic cycle to check for further alarms.
   - **NO**

2. **Detach the connectors A2 and B2, measure directly on the terminals of the heater and the earth contact.**
   - **YES** Replace the wiring and restart the diagnostic cycle to check for further alarms.
   - **NO**

3. **Detach the connectors A1 and B1, measure directly on the terminals of the heater and the earth contact.**
   - **YES** Replace the drying heater and restart the diagnostic cycle to check for further alarms.
   - **NO**

4. **Detach the connector of the thermostat with manual reset, measure directly on the terminals of the thermostat and the earth contact.**
   - **YES** Replace the thermostat with manual reset and restart the diagnostic cycle to check for further alarms.
   - **NO**

5. **Measure between the wiring terminals A1 and B1 (drying heater) and the structure of the appliance.**
   - **YES** Replace the wiring and restart the diagnostic cycle to check for further alarms.
   - **NO**

6. **Detach the connector J5 (WD board) and measure between J5-1 the structure of the appliance.**
   - **YES** Replace the wiring and restart the diagnostic cycle to check for further alarms.
   - **NO**

7. **Measure between the terminals J8-, J8-2 of the wiring connector and the structure of the appliance.**
   - **YES** Replace the WD board and restart the diagnostic cycle to check for further alarms.
   - **NO**

8. **Detach the connector of the fan motor and measure directly between the terminals and structure of the appliance.**
   - **YES** Replace the wiring and restart the diagnostic cycle to check for further alarms.
   - **NO**

Replace the fan motor and restart the diagnostic cycle to check for further alarms.
If there are traces of burning on the circuit board, refer to pages 119-120.
Tests to be performed:

Measure the continuity between connector J16 (main circuit board) and J1 (Satellite board) [fig. 34].

Is the wiring OK?

- NO: Fit / replace the wiring and restart the diagnostic cycle to check for further alarms.

- YES: Replace the electronic board (main + satellite) and restart the diagnostic cycle to check for further alarms.

---

If there are traces of burning on the circuit board, refer to pages 119-120.
8 BASIC CIRCUIT DIAGRAM EWM35xx WITH AQUA CONTROL
### 8.1 Key to circuit diagram EWM35xx with Aqua Control

<table>
<thead>
<tr>
<th>Electrical components on appliance</th>
<th>Components on main board</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Circuit board for LCD (TC1)</td>
<td>DOOR_TY Door interlock Triac</td>
</tr>
<tr>
<td>2. LCD Module</td>
<td>DRAIN_TY Drain pump Triac</td>
</tr>
<tr>
<td>3. Damper with weight sensor</td>
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</tr>
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<td>4. Circuit board for weight sensor</td>
<td>K1 Heating element relay</td>
</tr>
<tr>
<td>5. Drum positioning sensor (DSP)</td>
<td>ON/OFF Main switch (programme selector)</td>
</tr>
<tr>
<td>6. Flowmeter</td>
<td>PWELW_TY Pre-wash solenoid Triac</td>
</tr>
<tr>
<td>7. Microswitch on door lock for drum light</td>
<td>WELV_TY Wash solenoid Triac</td>
</tr>
<tr>
<td>8. Analogic pressure switch</td>
<td>BEL_TY Bleach solenoid Triac</td>
</tr>
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<td>9. Washing NTC temperature sensor</td>
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<td>10. Solenoid valve for prewash</td>
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<td>11. Solenoid valve for wash</td>
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<tr>
<td>12. Solenoid valve for bleach</td>
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<td>13. Drum light</td>
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<tr>
<td>14. Thermal cut-out (circulation pump)</td>
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<td>15. Pump circulation</td>
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<tr>
<td>16. Motor control board (FCV)</td>
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<tr>
<td>17. Interference filter</td>
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<td>19. Heating element (with thermal fuses)</td>
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<td>25. Stator (motor)</td>
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<tr>
<td>26. Main circuit board</td>
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</tbody>
</table>
9 BASIC CIRCUIT DIAGRAM EWM35xx WITHOUT AQUA CONTROL
## 9.1 Key to circuit diagram EWM35xx without Aqua Control

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<tr>
<th>Electrical components on appliance</th>
<th>Components on main board</th>
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</thead>
<tbody>
<tr>
<td>1. Circuit board for LCD (TC1)</td>
<td>DOOR_TY Door interlock Triac</td>
</tr>
<tr>
<td>2. LCD Module</td>
<td>DRAIN_TY Drain pump Triac</td>
</tr>
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<td>20. Traditional door interlock</td>
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<tr>
<td>21. Washing heating element (with thermal fuses)</td>
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<tr>
<td>22. Main circuit board</td>
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</table>
10 BASIC CIRCUIT DIAGRAM EWM25xx WITH AQUA CONTROL
## 10.1 Key to circuit diagram EWM25xx with Aqua Control

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<td>6. Microswitch on door lock for drum light</td>
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11 BASIC CIRCUIT DIAGRAM EWM25xx WITHOUT AQUA CONTROL
## 11.1 Key to circuit diagram EWM25xx without Aqua Control

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<thead>
<tr>
<th>Electrical components on appliance</th>
<th>Components on main board</th>
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<tr>
<td>1. LCD Module</td>
<td>DOOR TY Door interlock Triac</td>
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<td>REC TY Triac circulation pump</td>
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<td>4. Analogic pressure switch</td>
<td>K1 Heating element relay</td>
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<td>5. Washing NTC temperature sensor</td>
<td>ON/OFF Main switch (programme selector)</td>
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<td>6. Solenoid valve for prewash</td>
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12 BASIC CIRCUIT DIAGRAM EWM25xx WD WITH AQUA CONTROL
### 12.1 Key to circuit diagram EWM25xx WD with Aqua Control

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<tr>
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<td>1. LCD Module</td>
<td>DOOR_TY Door interlock Triac</td>
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<td>2. Flowmeter</td>
<td>DRAIN_TY Drain pump Triac</td>
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<tr>
<td>3. Analogue pressure switch</td>
<td>REC_TY Circulation pump Triac</td>
</tr>
<tr>
<td>4. NTC temperature sensor</td>
<td>K1 WD board supply relay</td>
</tr>
<tr>
<td>3. Solenoid valve for prewash</td>
<td>ON/OFF Main switch (programme selector)</td>
</tr>
<tr>
<td>4. Solenoid valve for wash</td>
<td>PWELW_TY Pre-wash solenoid Triac</td>
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<tr>
<td>5. Condensation solenoid valve</td>
<td>WELV_TY Wash solenoid Triac</td>
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<td>6. Thermal cut-out (circulation pump)</td>
<td>BEL_TY Condensation solenoid Triac</td>
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<td>19. Humidity temperature sensor</td>
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<td>20. Drying temperature sensor</td>
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<tr>
<td>21. Fan motor</td>
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</tr>
<tr>
<td>22. Drying heaters</td>
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</tr>
<tr>
<td>23. Thermostat with manual reset</td>
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<tr>
<td>24. Thermostat with automatic reset</td>
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<tr>
<td>25. Main circuit board</td>
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<tr>
<td>26. WD circuit board</td>
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</tbody>
</table>
13 BASIC CIRCUIT DIAGRAM EWM25xx WD WITHOUT AQUA CONTROL
### 13.1 Key to circuit diagram EWM25xx WD without aqua control

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<td>1. LCD Module</td>
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<tr>
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<td>DRAIN_TY Drain pump Triac</td>
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<td>3. Analogue pressure switch</td>
<td>REC_TY Circulation pump Triac</td>
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<tr>
<td>4. NTC temperature sensor</td>
<td>K1 WD board supply relay</td>
</tr>
<tr>
<td>5. Solenoid valve for prewash</td>
<td>ON/OFF Main switch (programme selector)</td>
</tr>
<tr>
<td>6. Solenoid valve for wash</td>
<td>PWELW_TY Pre-wash solenoid Triac</td>
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<td>23. Drying heaters</td>
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<td>24. Thermostat with manual reset</td>
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<tr>
<td>25. Thermostat with automatic reset</td>
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<td>26. Main circuit board</td>
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<tr>
<td>27. WD circuit board</td>
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</table>
### 14 CONNECTORS ON CIRCUIT BOARD WM/WD

<table>
<thead>
<tr>
<th>J15/J15B</th>
<th>J16</th>
<th>J12</th>
<th>J9</th>
<th>J18</th>
<th>J2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serial interface:</td>
<td>Communication with WD external board:</td>
<td>Drum positioning system DSP:</td>
<td>J9-1 Washing solenoid (triac)</td>
<td>Communication with FCV board:</td>
<td>Heating element:</td>
</tr>
<tr>
<td>15-1 ASY_IN</td>
<td>J16-1 Vee +12V</td>
<td>J12-1 signal</td>
<td>J9-3 Solenoids (line)</td>
<td>J18-1 VEE +12</td>
<td>J2-1 Relay</td>
</tr>
<tr>
<td>J15-3 +5V</td>
<td>J16-3 Rx/Tx</td>
<td>J12-3 +5V</td>
<td>J9-6 Pre-wash solenoid (triac)</td>
<td>J18-3 Signal</td>
<td></td>
</tr>
<tr>
<td>J15-4 GND</td>
<td>J16-4 GND</td>
<td>J11-3 Flowmeter (GND)</td>
<td>J9-8 NTC temperature sensor</td>
<td>J18-4 GND</td>
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</tr>
<tr>
<td></td>
<td>J16-5 N.C.</td>
<td>J11-4 Flowmeter (signal)</td>
<td>J9-9 NTC temperature sensor</td>
<td>J18-5 N.C.</td>
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</table>

<table>
<thead>
<tr>
<th>J14</th>
<th>J13</th>
<th>J10</th>
<th>J8</th>
<th>J4</th>
<th>J1</th>
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</thead>
<tbody>
<tr>
<td>LCD Module:</td>
<td>Weight sensor:</td>
<td>Analogic pressure switch:</td>
<td>Beach/condensation solenoid:</td>
<td>Door lock device:</td>
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</tr>
<tr>
<td>J14-1 RES_SAT</td>
<td>J13-1 (GND)</td>
<td>J10-1 +5V</td>
<td>J4-1 N.C.</td>
<td>J5-1 +5V'</td>
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<tr>
<td>J14-2 CS_SAT</td>
<td>J13-2 (WS-1)</td>
<td>J10-2 GND</td>
<td>J4-2 Drain pump (triac)</td>
<td>J5-2 GND</td>
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<tr>
<td>J14-3 Vee (12V)</td>
<td>J13-3 (WS-2)</td>
<td>J10-3 signal</td>
<td>J4-3 Drain pump (line)</td>
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<tr>
<td>J14-4 GND</td>
<td>J13-4 (+5V)</td>
<td></td>
<td>J4-4 Circulation pump (triac)</td>
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<tr>
<td>J14-5 +5V</td>
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<tr>
<td>J14-6 SY_OUT</td>
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<td>J1-1 Line (ON/OFF)</td>
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<td>J14-7 SY_IN</td>
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<td>J1-2 Line (door)</td>
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<td>J14-8 SY_CLOCK</td>
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<td>J1-3 Line (sensing)</td>
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<table>
<thead>
<tr>
<th>J5</th>
<th>U3</th>
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<tr>
<td>Drum light:</td>
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<tr>
<td>U3-1 line</td>
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<tr>
<td>U3-2 line (neutral)</td>
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</table>
15 BURNING ON THE CIRCUIT BOARDS EWM25xx/35xx WM/WD

In case of burning on the main circuit board, check that the problem is not caused by another electrical component (short-circuits, poor insulation, water leakage). Refer to the figures below in order to identify the component that might have caused the burning according to the position of the burned area. The circuit board shown below is the version with the greatest number of components: other boards may not feature all these components.
16 BURNING ON THE CIRCUIT BOARD WD

In case of burning on the main circuit board, check that the problem is not caused by another electrical component (short-circuits, poor insulation, water leakage). Refer to the figures below in order to identify the component that might have caused the burning according to the position of the burned area.

The circuit board shown below is the version with the greatest number of components: other boards may not feature all these components.

1. Power supply 220V~ (Line Door)
2. Washing heating element
3. Thermostat with manual reset
4. Thermostat with automatic reset
5. Drying heating element 1
6. Drying heating element 2
7. Fan motor
8. Humidity NTC sensor
9. Drying NTC temperature sensor
10. Communication with main board
## 17 APPENDIX

<table>
<thead>
<tr>
<th>REVISION</th>
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