

## CONVERSION OF THE OVERFLOW SAFETY DEVICE WITH PRESSURE SWITCH BRIEF DESCRIPTION FOR ALL "EVOLUTION" 60cm DISHWASHERS

The conversion of the overflow safety device of the "EVOLUTION" dishwasher from a **mechanical/hydraulic** system to an **electrical** system is essential in order to simplify the functional mode of the circuit and to avoid an occurrence of problems which result in the rinsing cycle being interrupted.

This modification serves to prevent a fault which occurs in some cases and results in the current ATB system (overflow safety device) actuating **sporadically** for reasons which do not necessarily have to do with a rise in the level of water, but are due to various factors which may also be of an external nature.

**NOTE:** The modification is only to be carried out at the request of the customer on the occurrence of the problem specified above, and only once it has been determined that there are no malfunctions or electrical defects in the water inlet components (solenoid valve, pressure monitor, IWMS and tubes), and that the connection between the IWMS and the base pan is not blocked. The fill level in the rinsing cavity is also to be checked and it must be ensured that the level chamber of the IWMS is emptied properly on pumping out.



The new ATB system comprises:

- removing the ATB overflow safety device IWMS.
- removing the water inlet solenoid valve with the tube valve.
- fitting the dual-coil solenoid valve for the inflow of water.
- fitting the ATB pressure monitor.
- removing the connecting tube between the IWMS and the base pan.
- fitting the new tube with an ATB pressure chamber between the IWMS and the base pan.



The new ATB system (overflow safety device) has additional functions provided by two new components: an **ATB pressure monitor** and a **dual-coil solenoid valve**.

- The pneumatic connection is carried out by means of a hose which is connected to the pressure chamber of the new connecting hose between the IWMS and the base pan.
- The pressure monitor has been set in such a manner that the "release/reset" capacity is only activated when the level rises, in order to prevent the water from flowing out.

### FUNCTIONAL MODE

- Capacity: release 116 mm > reset 90 mm.
- Contacts: 1 > 2 (normally closed).
- Electrical connection: in series with the water-inlet solenoid valve.



The **dual-coil solenoid valve** comprises two solenoid valves mounted onto a common support with hydraulic series connections in order to guarantee that in the case of blocking (water outlet) one of the two solenoid valves will ensure impermeability, even if the appliance is switched off.

- The two coils are connected in parallel.
- In the event of a power cut or an inferior supply of energy to (even only) one of the solenoid valves, the supply of water will be stopped.
- The power supply will be interrupted on releasing the ATB pressure monitor.

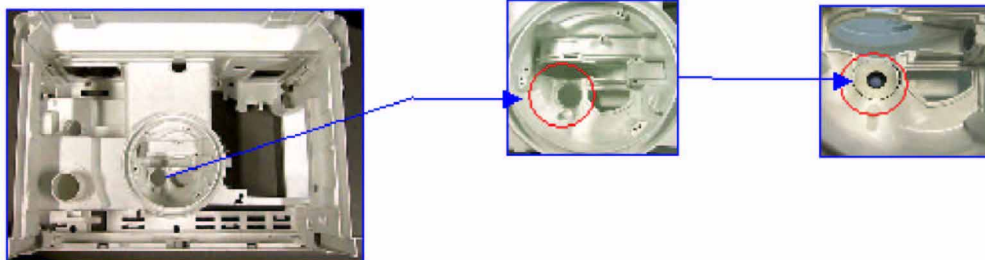
The new ATB system guarantees maximum safety at all times, i.e. whether the machine is switched on (in operation) or switched off.

**RESPECTIVE MODELS**

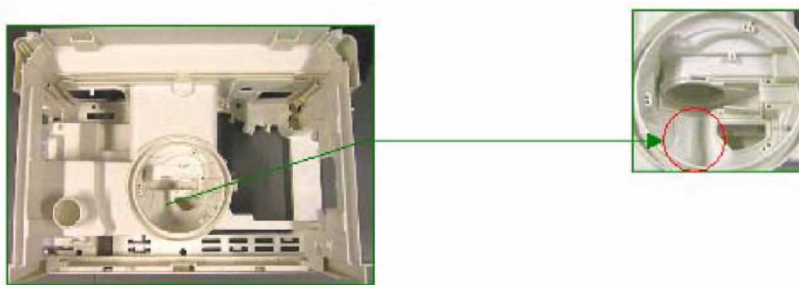
The appliance types can be identified by means of various constructional characteristics of the cabinet. There are two types of cabinet with two structures: **N.S. (new structure)** and **EVO (evolution)**. They can be identified immediately. When the wash filter is removed from the base pan it is possible to see whether the block valve is present in the tub:

- If the block valve **is present** then the dishwasher is of the **new structure** type.
- If the block valve **is not present**, then the dishwasher is of the **evolution** type.

**N.S. - new structure**



**EVO - evolution**



DISHWASHER CABINET	TYPE	KIT SPARE PART NO.
Including a fitting for the block valve on the tub base	“N.S.” NEW STRUCTURE	435 326 (A)
No fitting for the block valve on the tub base	“EVO” EVOLUTION	434 888 (B)

Kit (A) for “N.S.”



Kit (B) for “EVO”



**INSTRUCTIONS FOR CUSTOMER SERVICE**

Absolutely essential component for “EDW1000” & “E1\_5” (except for electromechanical and itronic dishwashers)



- Water inlet heating element** between the pressure monitor contacts 1 > 2
- is equivalent to a precise identification signal of the electronics controls
  - absorbs any possible electrical interferences, also external interferences.

Should the heating element not be installed in the dishwashers indicated, electronics control errors may occur during the inflow of water, resulting in the setting off of the A4 alarm.

- The same conditions if it is erroneously installed in itronic dishwashers.
- No consequences if erroneously installed in electromechanical dishwashers.

The various types of dishwashers are identified by means of the PNC and strictly speaking, by means of the 6th digit (in the case of electro-mechanical dishwashers the 6th digit may vary between 1 and 4).			
Electromechanical	Itronic	Edw1000	E1_5
9118 x <b>1 &gt; 4</b> xxx	9118 x <b>7</b> xxx	9118 x <b>8</b> xxx	9118 x <b>6</b> xxx

Possible abnormalities and causes of the sporadic release of the current overflow protection device which have been eliminated by means of applying the new system:

- Pressure fluctuations in the hydraulic system (in this case the mechanical device is released by the pressure).
- Low water pressure (water inlet with an irregular level and several re-settings).
- Partial blocking of the internal IWMS inlet duct (residue containing iron in the water and calcareous deposits).
- Water outlet (small leakages) in the overflow chamber through the inner IWMS ducts (small, hardly-recognisable tears in the welded joints of the inner walls).
- Water flowing into the overflow chamber on emptying the IWMS gauging chamber (the outflowing water which does not flow into the base pan results in a rise in the level and in overflowing).
- Water flowing into the overflow chamber through the IWMS - base pan connection (varying levels, particularly in the case of E 1\_5 dishwashers, in the alternating rinsing intervals).

A specific conversion set, suitable for all “EVOLUTION” dishwashers, has been compiled, and is now being supplied with corresponding instructions for assembly.

<b>Composition of Pressure Switch conversion kit</b>		
Description of components	KIT B (EVO) Spare-part number 434888	KIT B (EVO) Spare-part number 435326
Dual-coil solenoid	434891	434891
Solenoid - IWMS tube	434892	434892
Cap for ATS tube	425656	425656
IWMS tube + pressure chamber assy	<b>434893</b>	<b>435327</b>
ATB pressure switch	434894	434894
Pressure switch resistance	434895	434895
Support + pressure switch tube	434896	434896
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Support spring clips (2)	DIN and standard parts	DIN and standard parts
Solenoid mounting screws (2)		
Solenoid wire		
Faston caps for solenoid wire (2)		
Spring clips (2)		
Pressure switch wire		
Faston (female)		
Instruction sheet		

**Please note:** Closely following the instructions included for the conversion of the ATB system will ensure that the overflow protection device is only activated in the case of a malfunction and that there is no possibility of an accidental release, such as may have occurred in the past.

## INSTRUCTIONS FOR CONVERSION OF "ATB PRESSURE SWITCH" EVOLUTION 60CM

**CAUTION!** Prior to conversion and to delivering the appliance to the consumer the tub must be completely emptied of any residual water so that the pressure control tube is not blocked. The dishwasher may only be laid down on the IWMS side (left side).

Procedure (after removing the top, front plinth and left side panel)

### SOLENOID VALVE AND ASSOCIATED COMPONENTS (rear and left panels)

- a) Remove the fill hose, the rear panel and the solenoid mounting screws.
  - b) Remove the fill solenoid and replace with the solenoid included in the kit.
- Remove the two electrical wires.
  - Remove the solenoid tube from the IWMS and set aside the two retaining clips.



**Please note:** Due to a lack of space, removal of the tube may be difficult. The alternative (which is easier) is to remove the IWMS (remove the left side panel, unscrew the ring from inside the tub and remove the external mounting screws).

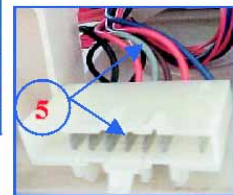
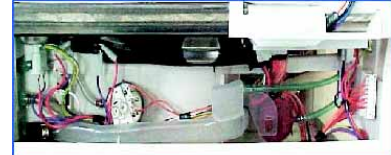
- Remove the ATB tube to the IWMS from the solenoid.
- c) Fit the new dual-coil solenoid.
- Fit the new tube (supplied) first to the IWMS and then to the solenoid.
  - Fit the two faston caps (supplied) to the fastons on the two wires.
  - Fit the two electrical jumpers (supplied) to the solenoid and fit the two wires disconnected previously to the jumpers (see enclosed diagram).
- d) Cut the extremity (approx. 1 cm) of the ATB tube and fit the cap (supplied).
- Replace the solenoid using the two screws (supplied).
  - Position the tube with care, avoiding kinks or obstructions.

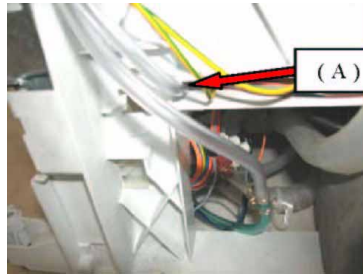
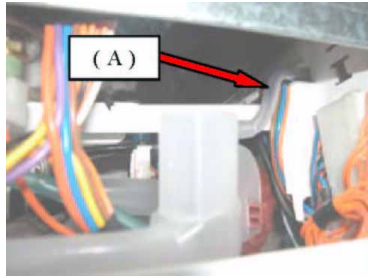


### PRESSURE SWITCH AND ASSOCIATED COMPONENTS

(front panel and right side panel)

- e) Remove the tube which connects the IWMS to the sump and replace with the tube included in the kit (set aside the two retaining clips).
- Fit the new tube between the IWMS and the sump (using the two retaining clips set aside earlier).
- f) Attach the pressure control switch supplied in the kit to the connection tube, at the same time adjusting it to the pressure chamber on the right.
  - g) Fit the resistance (supplied) to terminals **1** and **2** of the pressure switch (not applicable to Electromechanical and Itronic dishwashers).
  - h) Remove the wiring connector from the modular terminal block fitted on the right side of the base.
- i) Detach the modular terminal block from the base.
    - Remove the grey wire from terminal **5** by bending the anchor tab on the faston.
    - Cut the faston (male) from the wire, fit the new female faston (supplied) and connect to terminal **1** of the pressure switch.
    - Connect the wire (supplied) between terminal **5** on the terminal block and terminal **2** of the pressure switch (see enclosed diagram).
    - Re-connect the modular terminal block to the base and replace the wiring connector.
  - j) Attach the tube through the retaining clip to the pressure chamber.
  - k) As described in the following illustrations, the tube connected to the pressure chamber must be pulled through the base in order to achieve a rise.





- l) Fit one extremity of the tube to the pressure chamber and the other extremity to the pressure switch.
- Fit the pressure switch into its housing on the support.
- m) Secure the tube support to the right-hand upright using the two spring clips (supplied).
- Position the tube with care, avoiding kinks or obstructions.

**ATTENTION!** Observe all of the instructions in order to avoid condensation of water in the tube, resulting in a blockage. This will also enable the safety systems and the pressure control switch to operate smoothly without a risk of flooding.

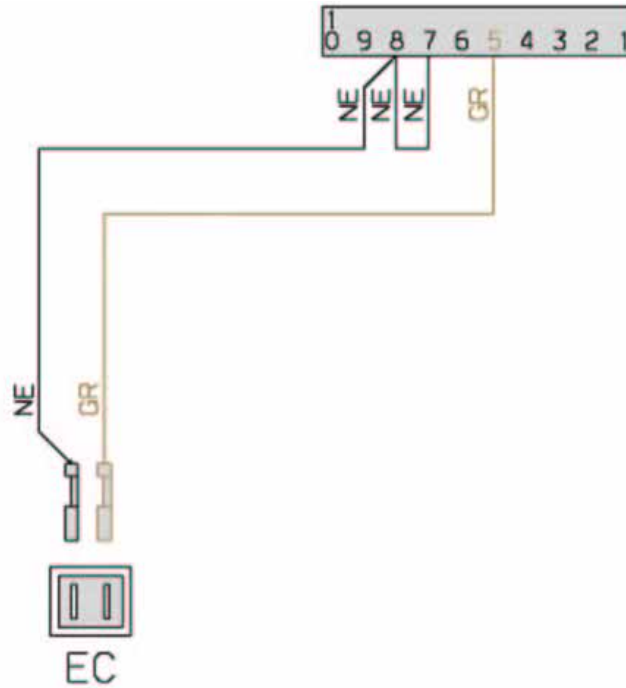
#### FINAL TESTING

On completion of the above procedures, and before re-closing the appliance, perform a test cycle.

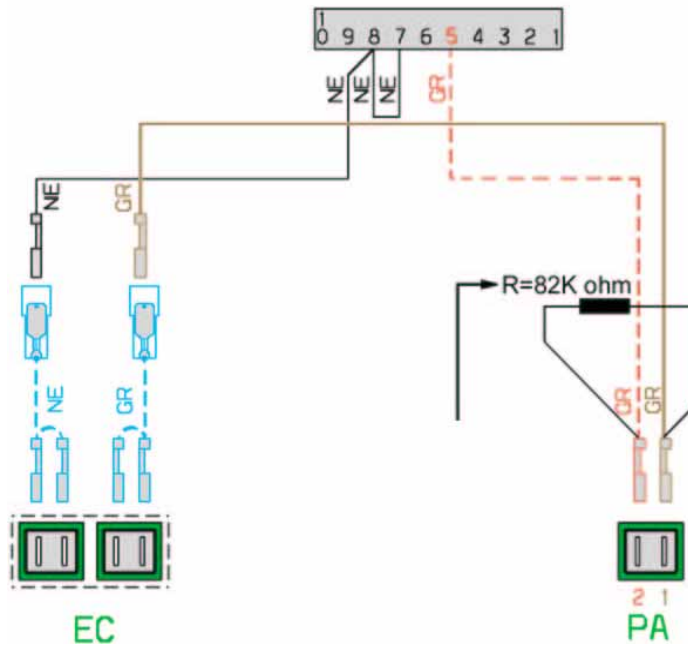
- Replace the remaining components.

### Circuit diagrams

#### Pre-modification



#### Post-modification



LEGEND: EC = dual-coil solenoid - PA = overflow pressure switch    The arrows indicate positions of modifications  
 Continuous coloured line = Modified connections  
 Dotted coloured line = new connections

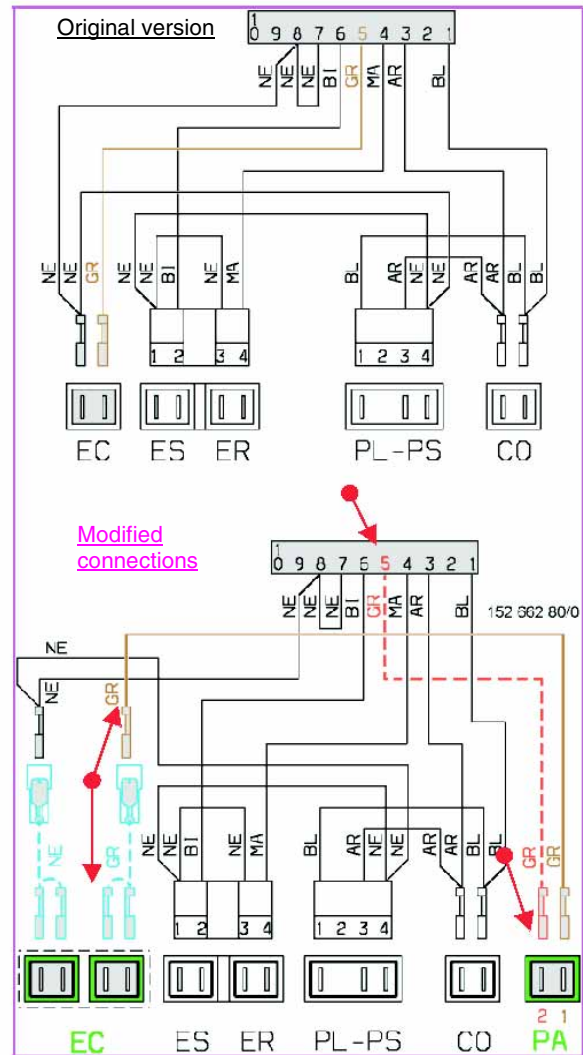
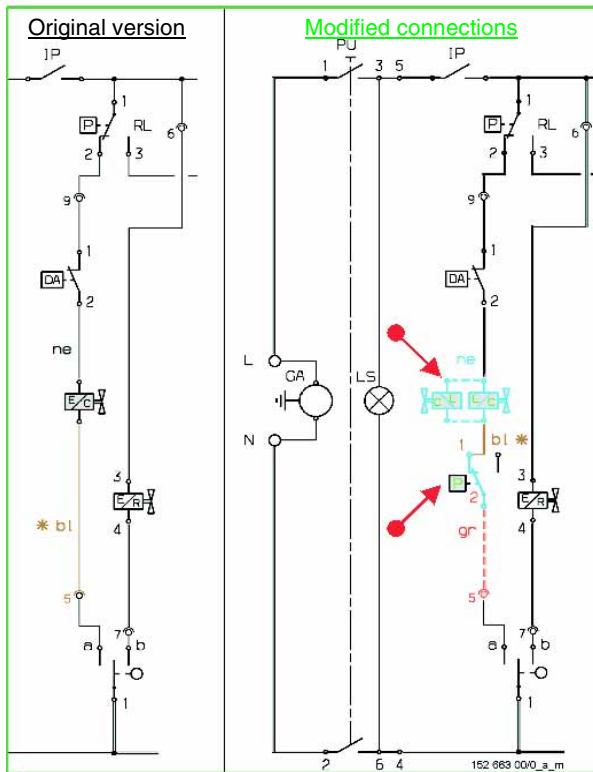
Reading PNCThe 6th digit identifies the DW functionality (example: on Electromechanical DW, the 6th digit may vary from 1 to 4, for other versions it is unaltered, Itronic = 7, Edw1000 = 8, E1\_5 = 6)

**ATTENTION!**  
 Only the modified connections and components are indicated in these circuit diagrams.

**PRE- AND POST-MODIFICATION CIRCUIT DIAGRAMS with ATB pressure switch**

**EVO - EL\_MECHANISCH**  
 [Pnc 9118 . ( 1 > 4 ) . . . ]

**EVO - ITRONIC**  
 [Pnc 9118 . 7 . . . ]



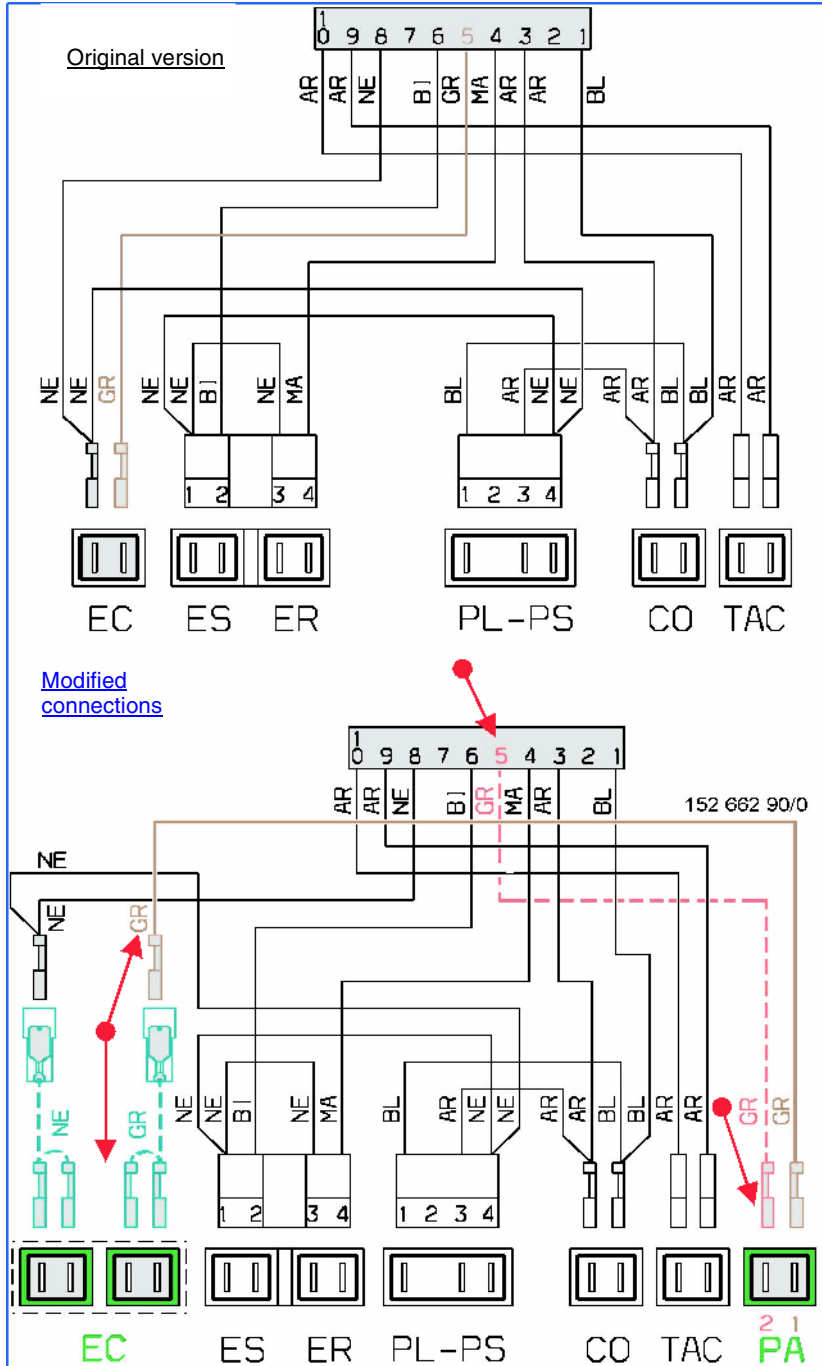
NOTE: The original wire marked (\*) may be blue (bl) or grey (gr).

**LEGEND:** EC = dual-coil solenoid - PA = overflow pressure switch The arrows indicate positions of modifications Continuous coloured line = Modified connections Dotted coloured line = new connections

Reading PNC The 6th digit identifies the DW functionality (example: on Electromechanical DW, the 6th digit may vary from 1 to 4, for other versions it is unaltered, Itronic = 7 )

PRE- AND POST- MODIFICATION with ATB pressure switch

EVO - Edw1000 [Pnc 9118. 8...]  
 EVO - E1\_5 [Pnc 9118. 6...]



LEGEND: EC = dual-coil solenoid - PA = verflow pressure switch the arrows indicate positions of modifications  
 Continuous coloured line = Modified connections  
 Dotted coloured line = new connections

Reading PNCThe 6th digit identifies the DW functionality (Edw1000 = 8 , E1\_5 = 6)