kleenmaid

The best you can own

DISHWASHER SERVICE MANUAL

DW6010 DW6011

Compass Capital Services t/a Kleenamid
204 Botany Road
Alexandria NSW 2015
02 9310 1207
www.kleenmaid-appliances.com.au

Technical component data

WASH PUMP	
Centrifugal pump driven by a single phase induction motor with a permanent capacitor.	
Power supply voltage and frequency	220-240 V +/- 10% - 50 Hz
Operation	Intermittent
Insulation	Class F
Power	150 Watts
Speed (empty)	2950 rpm
Capacitor (VI 450)	6 µF
Primary coil resistance (20℃)	44 Ohms +/- 7%

DRAIN PUMP	
Centrifugal pump driven by a single phase induction motor with shading coil	
Power supply voltage and frequency	220-240 V ± 10% - 50 Hz
Power	34/30 Watts
Coil resistance (20℃)	155/170 Ohms ± 10%
Max head	1 m
Max capacity	20 litres/min

WATER LOADING SOLENOID VALVE	
Power supply voltage and frequency	220-240 V ± 10% - 50/60 Hz
Min/Max operating pressure	0.5 – 10 bar
Rated	3.5 +/- 7% litres/min
Thread dimension	¾ gas

ALTERNATING WASH VALVE	
Power supply voltage and frequency	230V - 50Hz 115V - 60Hz (U.S.A.)

DETERGENT DISPENSER	
Power supply voltage and frequency	220-240 V ± 10% - 50/60 Hz
Detergent dispenser capacity	48 cc

RINSE AID DISPENSER	
Adjustable dose	1 – 6 / 1 – 4 cm 3
Rinse aid dispenser capacity	140 cm3

HEATING ELEMENT	
Supply voltage	230 V (240 V UK)
Power	2040 Watts
Internal resistance (20℃)	29 Ohms ± 10 %
Thermal protector (cut-off)	NC 98 +/- 5°C
Thermal fuse	206 +/- 10°C

LEVEL PRESSURE SWITCH	
Max contact capacity	250 V 14 (4) A

DOOR MICROSWITCH	
Max contact capacity	250 V 14 (4) A

TEMPERATURE PROBE (with electronic timer)	
Resistance	25°47000 +/-3950Ohm 30°37500 +/-3060Ohm 40°24900 +/-1830Ohm 50°17000 +/-1190Ohm 60°11700 +/-840Ohm

INDICATOR LIGHT	
Supply voltage	230 V
Power	0.5 Watts

SAFETY UNIT MICROSWITCH	
Max contact capacity	250 V 3 (4) A

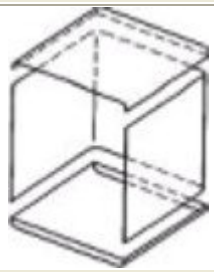
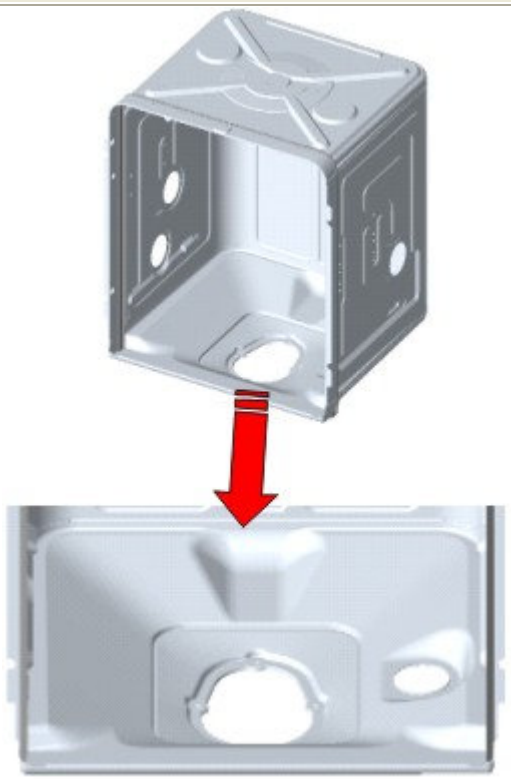
BUTTONS	
Max contact capacity	250 V 16 (4) A

INTERFERENCE SUPPRESSOR FILTER	
Capacitor	1 x 0.1 uF (X1) + 2 x 2700 pF (Y)
Resistance	2.2 MOhms

New wash tank

The differences from the previous tub are the new tub bottom and a modified back.

The tub is constructed in 3 PARTS joined by ***beads:***

- ROOF (aisi 430 stainless steel) SIDE/REAR/SIDE (aisi 430 stainless steel) - BOTTOM (aisi 304 stainless steel)	
	
DETAIL OF TUB BOTTOM	**REAR DETAIL**

Tank bottom and stainless steel filter

THE TUB BOTTOM

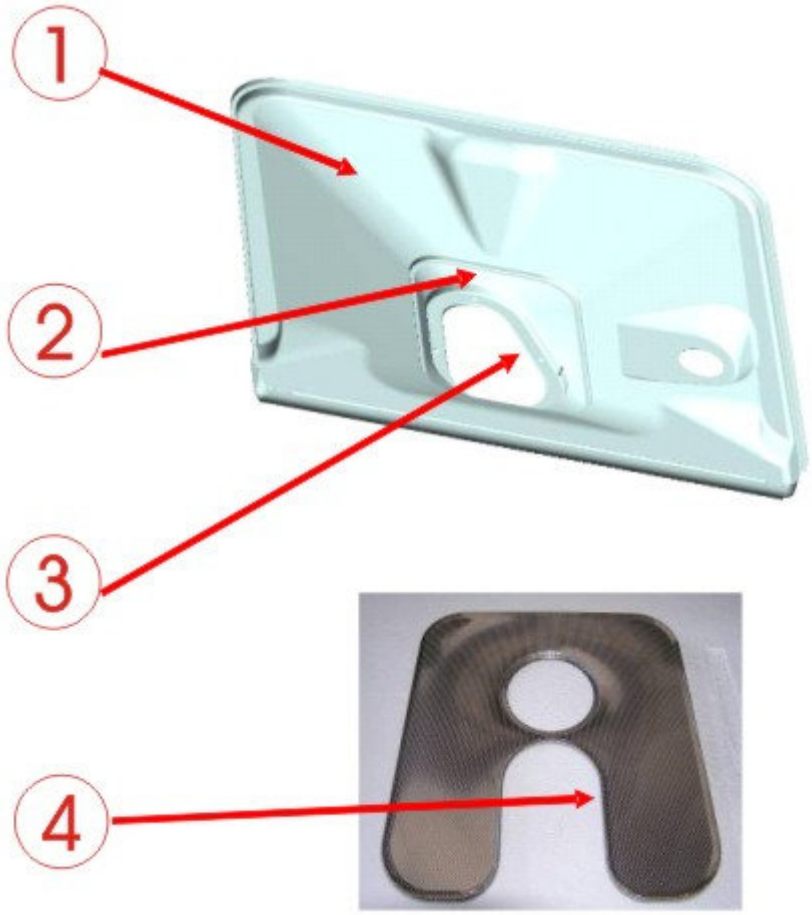
1= slopes steeply towards the filter to accelerate the flow of water towards the sump/pump.

2= has a deep stainless steel filter zone hopper to improve the seal.

3= has an inner border to stiffen the sump fixing zone.

THE FILTER

4= has a "minimum radius" border to minimise the collection of residues between the filer and the bottom.



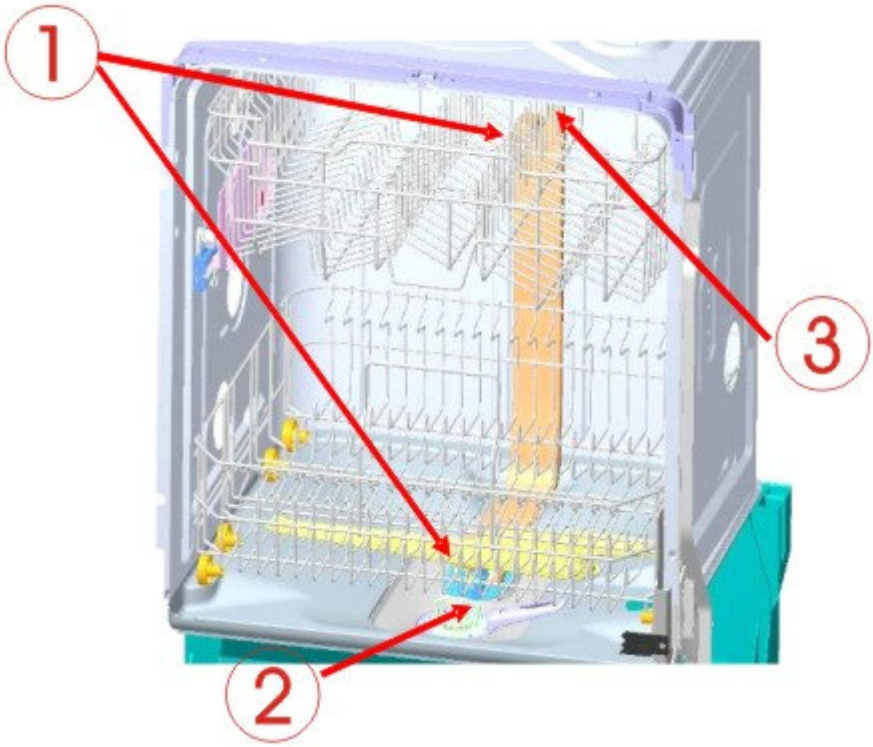
Tank inner parts

1= the feed pipe to the spray arms is attached to the filter sector and to the upper spray arm feed nozzle.

The roof spray arm feed pipe is connected to a metal bracket attached to the tub roof.

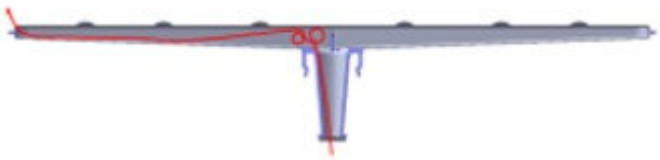
2= single filter sector between orbital and standard spray arms (both in plastic).

3= Upper spray arm feed nozzle attached to metal bracket fixed to the casing.

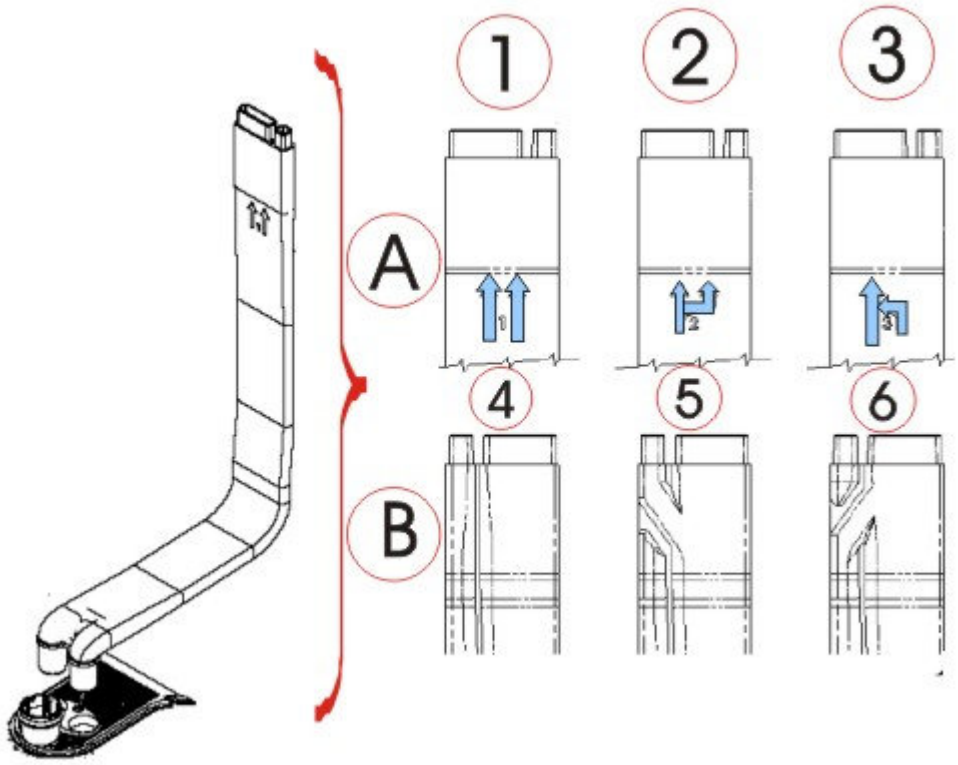


Spray arms and relative feed pipes

NEW STANDARD SPRAY ARM IN PLASTIC



CURRENT STANDARD SPRAY ARM



1= ALTERNATE + ROOF: UPPER SPRAY ARM + LOWER SPRAY ARM - NO ROOF

2= UPPER SPRAY ARM + LOWER SPRAY ARM + ROOF

3= ALTERNATE - NO ROOF

4=ROOF-UPPER SPRAY ARM

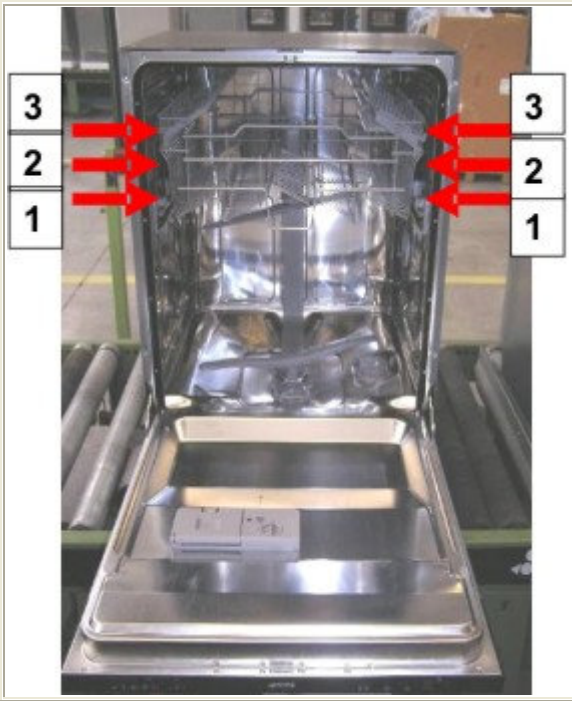
5= ROOF-UPPER SPRAY ARM

6= UPPER SPRAY ARM

A= FRONT VIEW.

B REAR VIEW

Baskets

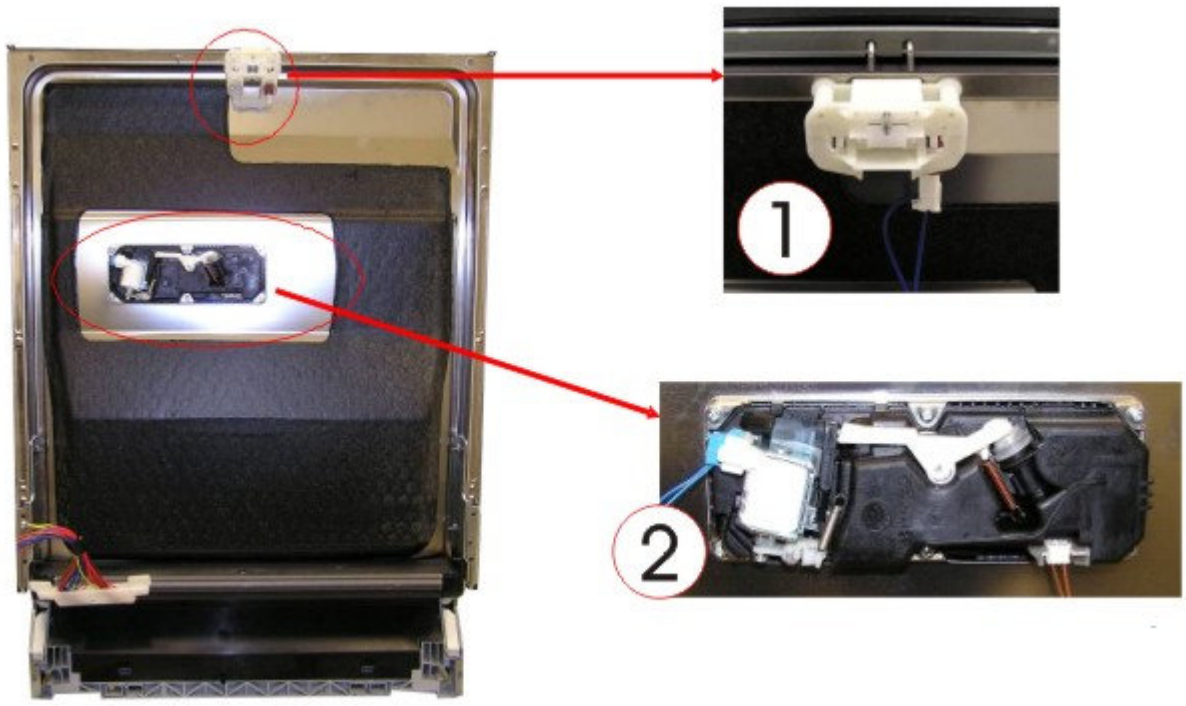


baskets upper and lower :
grey stainless steel

upper basket:

- fixed basket
-fully adjustable basket with 3 levels (according to models - interchangeability)

Inner door liner - detergent distributor - door lock



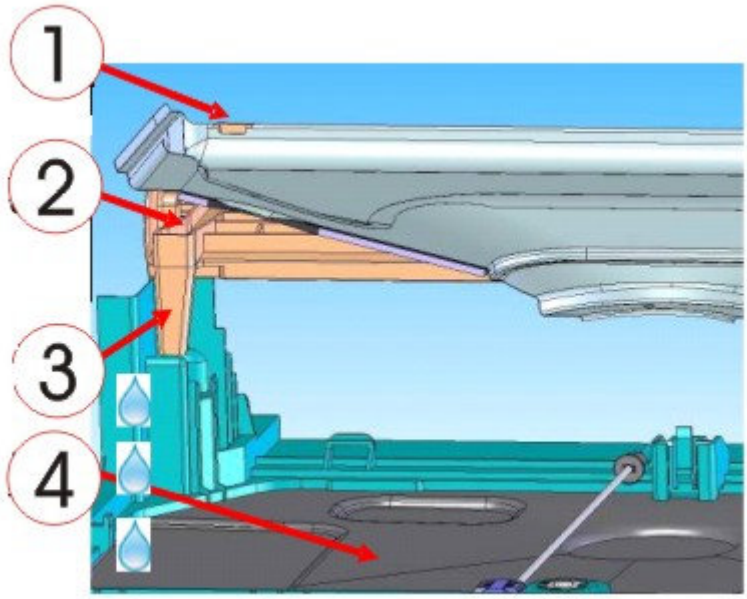
INNER DOOR LINER IN AISI 304 STAINLESS STEEL

1= LOCK WITH 1 MICROSWITCH
2= DISTRIBUTOR WITH RAST CONNECTOR

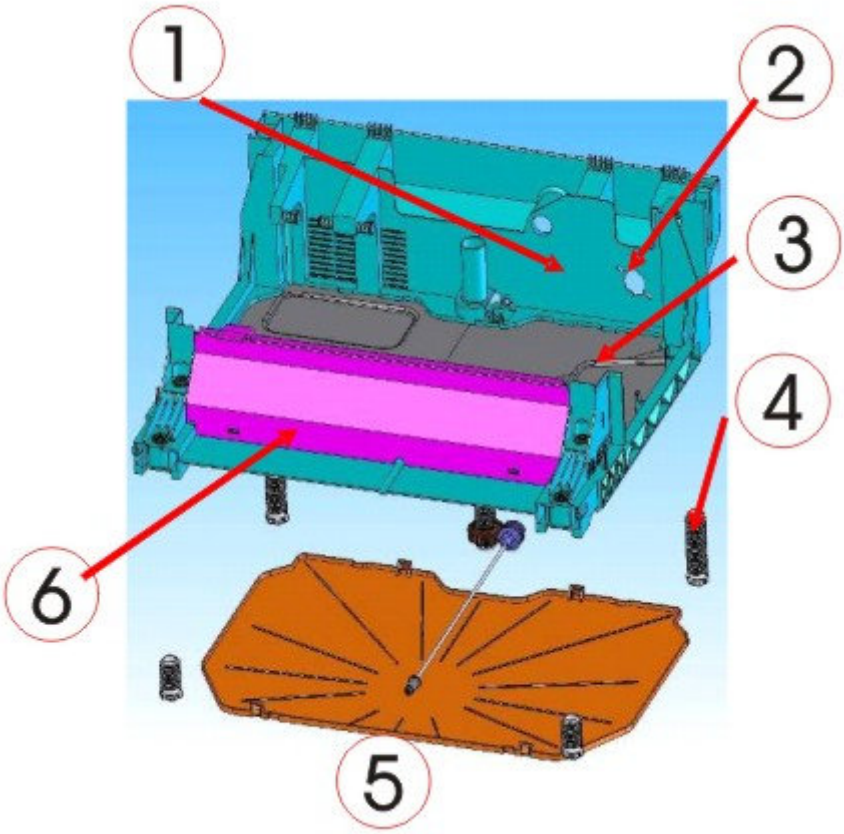
New safety system

Overflow system as used on the Lvs 45cm:

- water channel to collection tray
- safety device in the sump (with float and microswitch) to stop leaks / presence of water in the tray (*elimination of pneumatic membrane*)

	1= TUB OVERFLOW (BOTH RIGHT AND LEFT) 2= CHANNEL FORMED IN IE PROTECTION (IN PLASTIC AS ON THE LS45) 3= TERMINAL DUCT 4= COLLECTION TRAY
	COLLECTION DUCT FOR OVERFLOW WATER FROM TUB (BOTH RIGHT AND LEFT)

Base



1= DIRECT FIXING OF WIRING AND INTERFERENCE FILTER

2= DIRECT FIXING OF SOLENOID VALVE OR AQUASTOP FILL PIPE

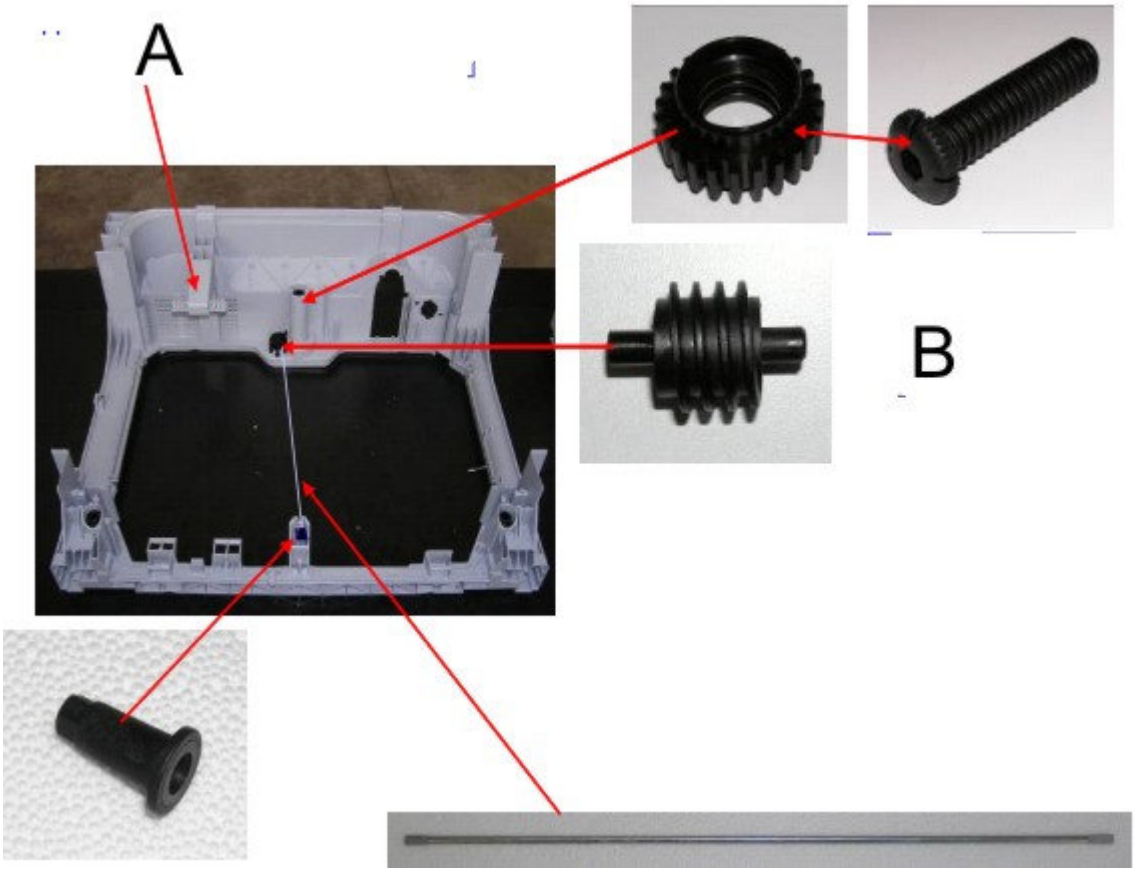
3=ALLOWS ATTACHMENT OF COLLECTION TRAY

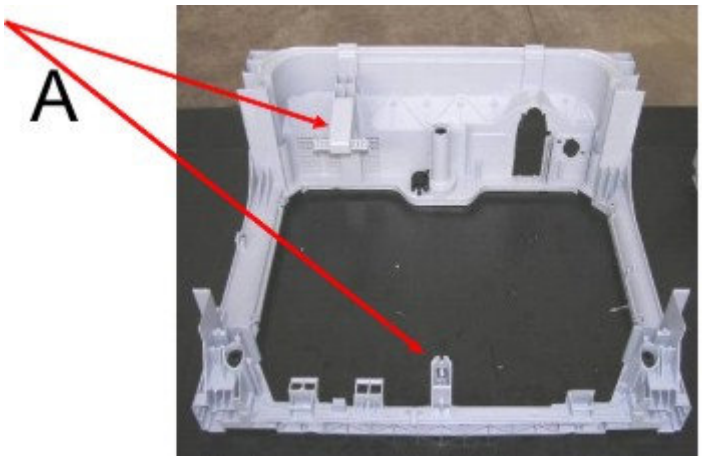
4=ALL FEET ARE ENTIRELY IN PLASTIC, H90MM (+70MM) FOR BUILT-IN. NO INSERTS IN THE PRESSED BASE

5= HOOK-ON COLLECTION TRAY + OPTION FOR SCREW FIXING

6=AUXILIARY FRONT CLOSURE

A-INTEGRATED MOTOR MOUNTING WITHOUT BOLTS
B- INTEGRATED REAR FOOT, ADJUSTABLE FROM THE FRONT





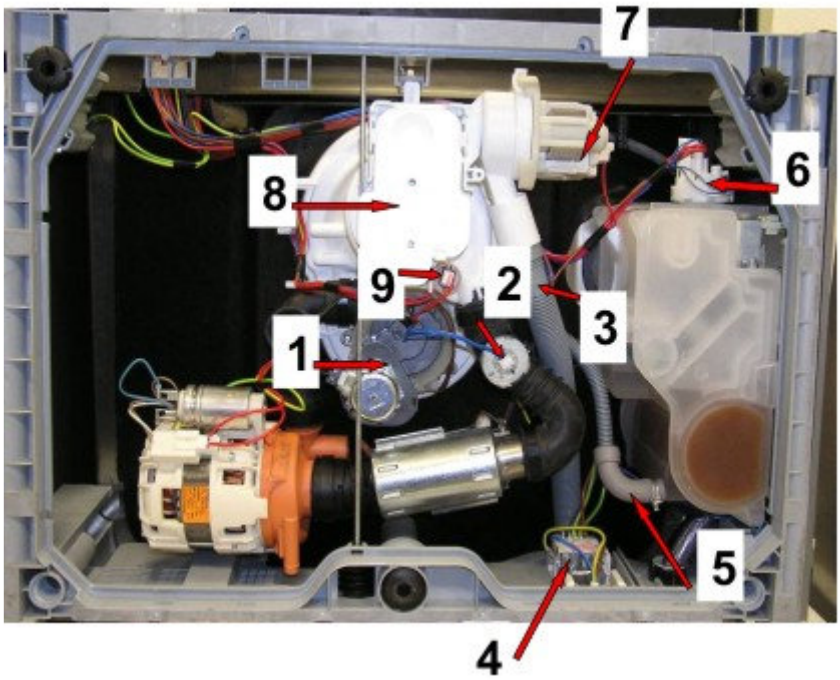
A = WATER SYSTEM ANCHOR POINTS

Detail of motor mountings.

Detail of sump mounting.

Water system

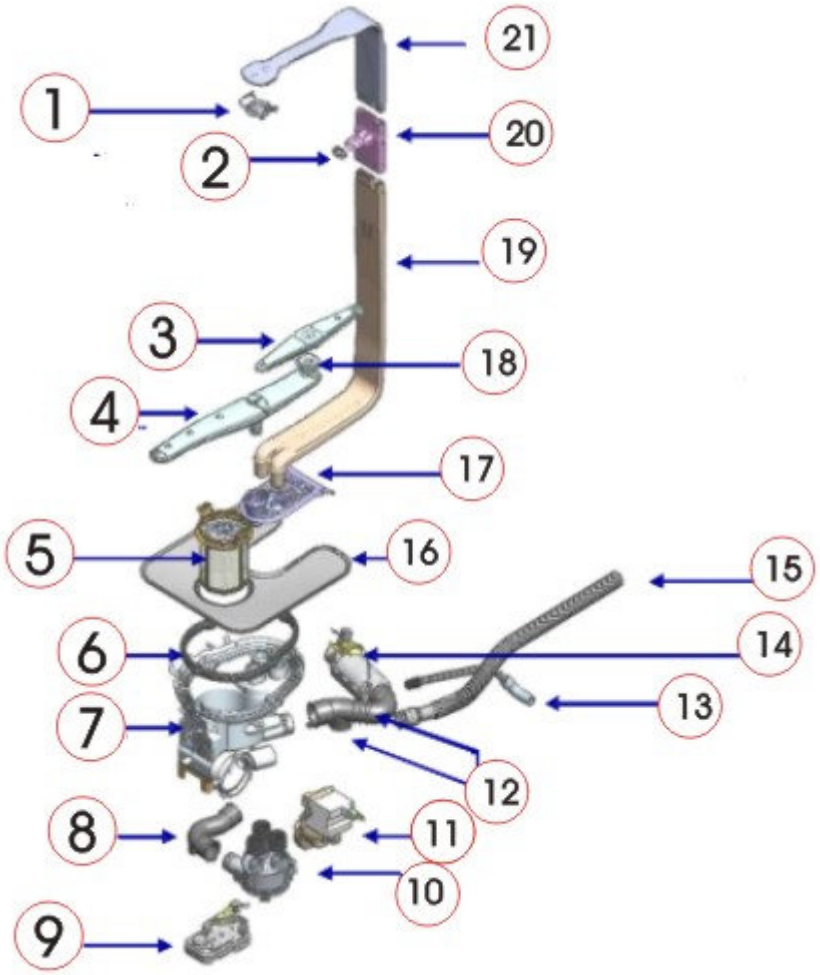
BASE COMPONENTS



1- Hook-on ALTERNATING VALVE + option for screw fixing
2- TURBIDITY SENSOR
3- quick coupling DRAIN PIPE
4- TERMINAL BOARD WITH ANTI-DISTURBANCE FILTER
5- quick coupling WATER INLET PIPE/REGENERATION IN TUB

6- PRESSURE SWITCH
7- bayonet fitting DRAIN PUMP
8- AQUA STOP SAFETY FLOAT MICRO
9- bayonet coupling NTC

WATER CIRCUIT	1=ROOF NOZZLE 2=UPPER SPRAY ARM PRESSED GASKET 3=SMALL ORBITAL SPRAY ARM 4=MAX ORBITAL SPRAY ARM 5=FILTER GROUP 6=SUMP GASKET 7=ALTERNATING SUMP UNIT 8=WASH PUMP DELIVERY PIPE 9=SAFETY DEVICE



10=ALTERNATING WASH UNIT

11=DRAIN PUMP

12=TURBIDITY SENSOR-SUMP PIPE-RESISTANCE

13-SUMP PIPE-DECALCIFIER

14=RESISTANCE

15=DRAIN PIPE

16-STAINLESS STEEL FILTER

17=LOWER SPRAY ARM SUPPORT

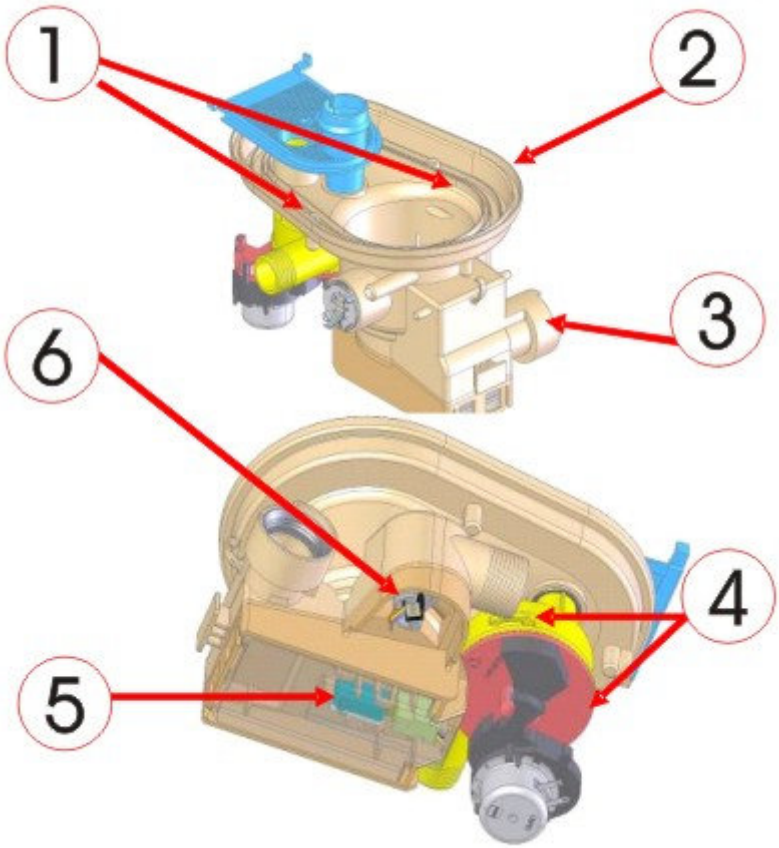
18=SMALL ORBITAL SPRAY ARM BUSH

19=INTERNAL FILL PIPE

20=INTERNAL PIPE INSERT

21=ROOF DUCT

Sump

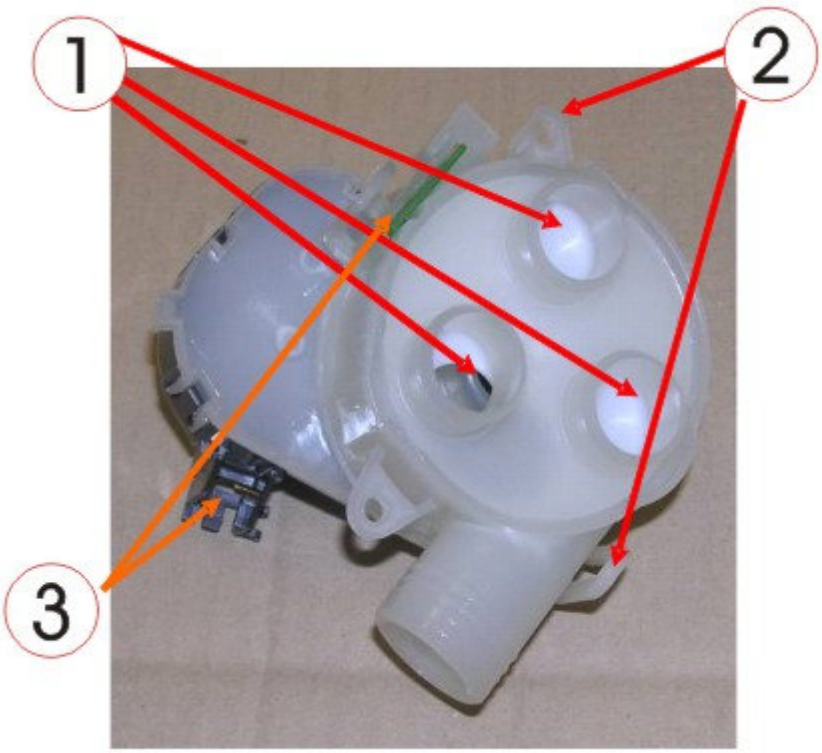


1= TUB BOTTOM FIXING WITH 4 SCREWS WITHOUT FLANGE
2= PERIMETER BORDER FOR CHANNELLING ANY LEAKS
3= DIRECT DRAIN PUMP CONNECTION
4= ALTERNATING VALVE WITH SNAP FIT
5= INTEGRATED SAFETY MICROSWITCH AND FLOAT
6= INTEGRATED TEMPERATURE PROBE

Alternating Valve

Allows the simultaneous opening of the outlets for the upper and lower spray arms for fast cycle dishwashers.

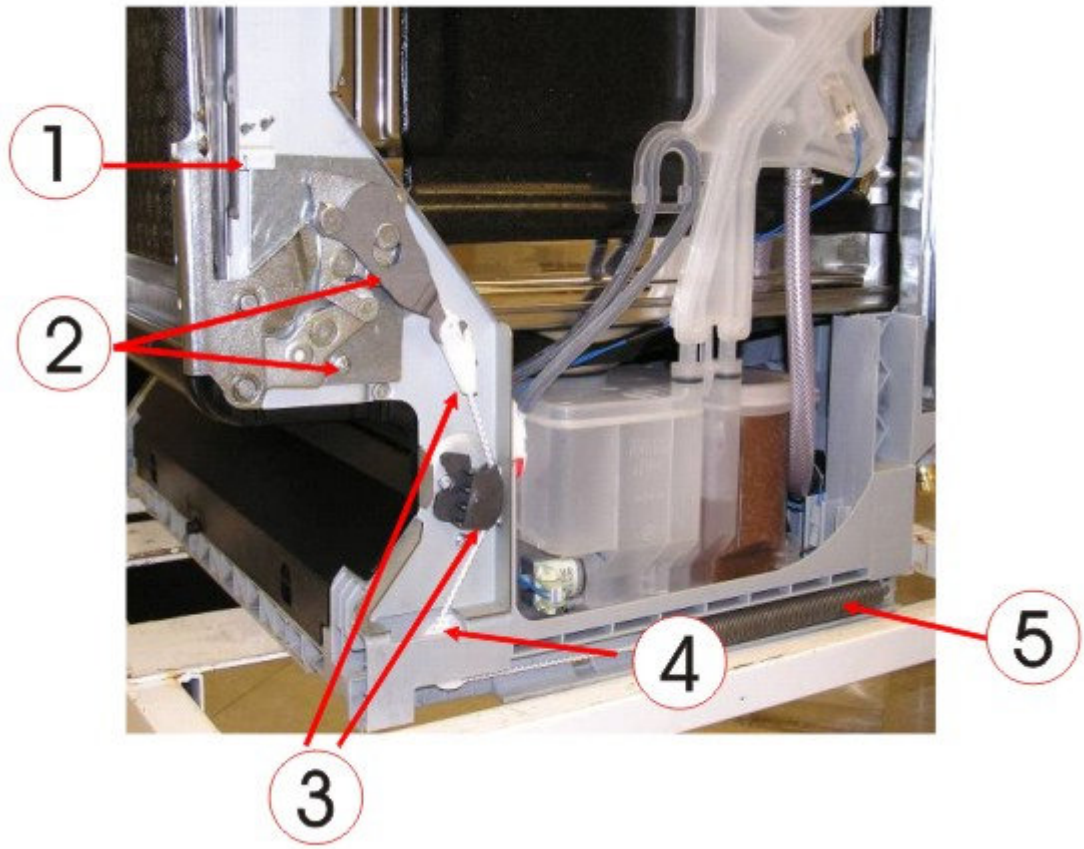
Does not need additional protection for live parts in that it is self-protected against contact with water.



1= WITH 3 SEPARATE OUTLETS FOR FEEDING:: LOWER, UPPER, ROOF SPRAY ARMS
2= WITH SNAP FIT FOR SUMP FIXING
3=ELECTRICAL CONNECTION HAS 2 CONNECTORS

New hinges: variable fulcrum and related adjustment - fix fulcrum

DETAIL OF HINGE COMPONENTS



1=MOUNTING

2= FIXING POINTS

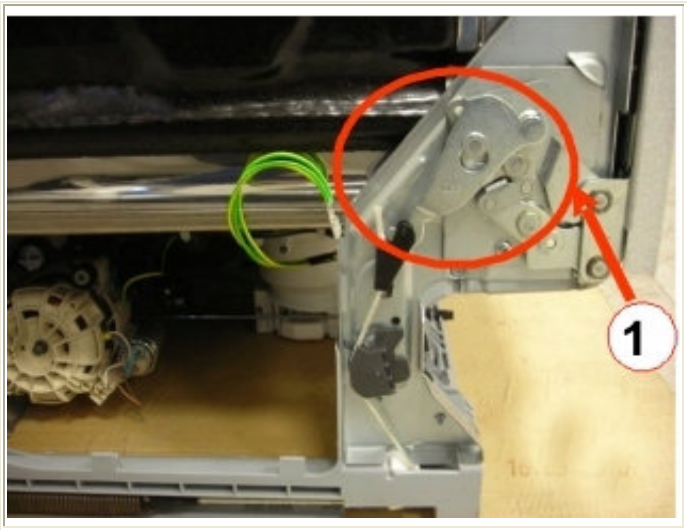
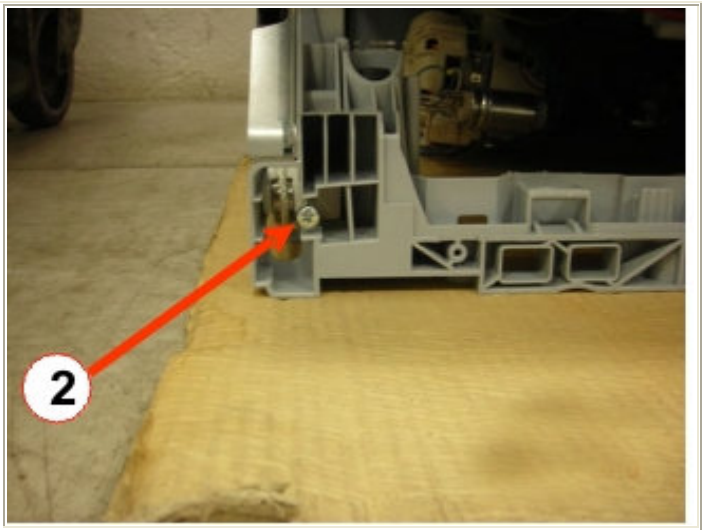
3=CORD - FRICTION

N.B: do not lubricate the cord passage otherwise it will loose friction

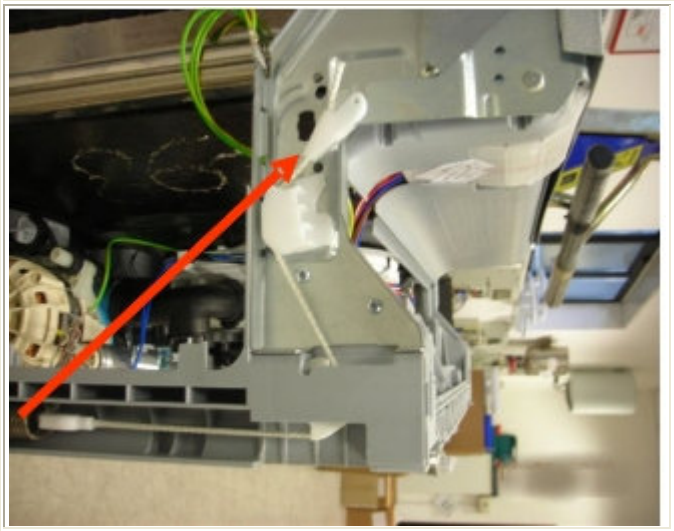
4=TENSIONER

5= SPRING

VARIABLE FULCRUM HINGES

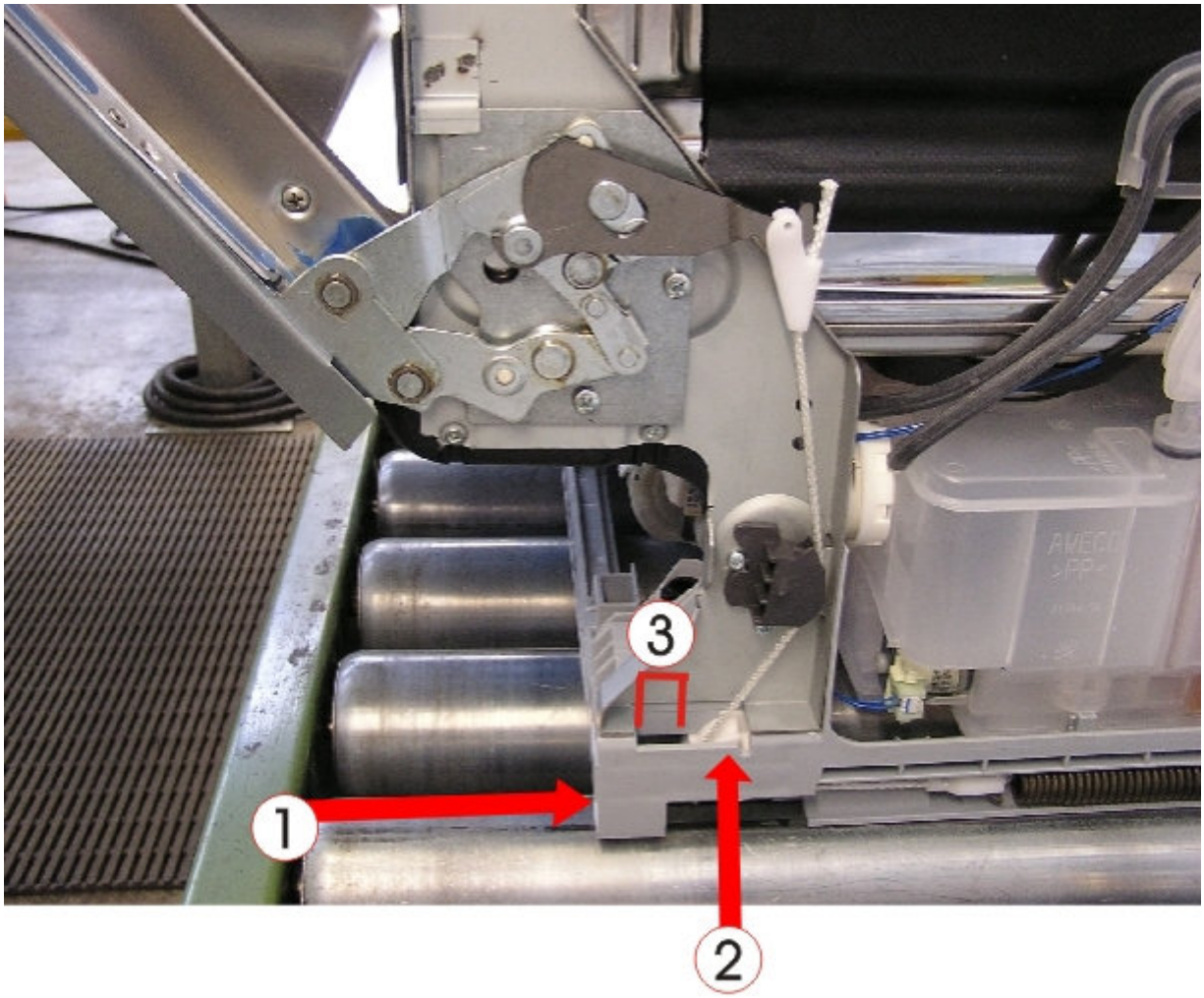
	
1= BALANCE DEVICE	***2= HINGE ADJKUSTMENT***

FIX FULCRUM HINGES

	
1= NO BALANCE DEVICE	***2= THE SPRING ADJUSTMENT ISN'T POSSIBLE***

HINGE ADJUSTMENT: the hinge can only be adjusted **on models with adjustable hinge fulcrums.**

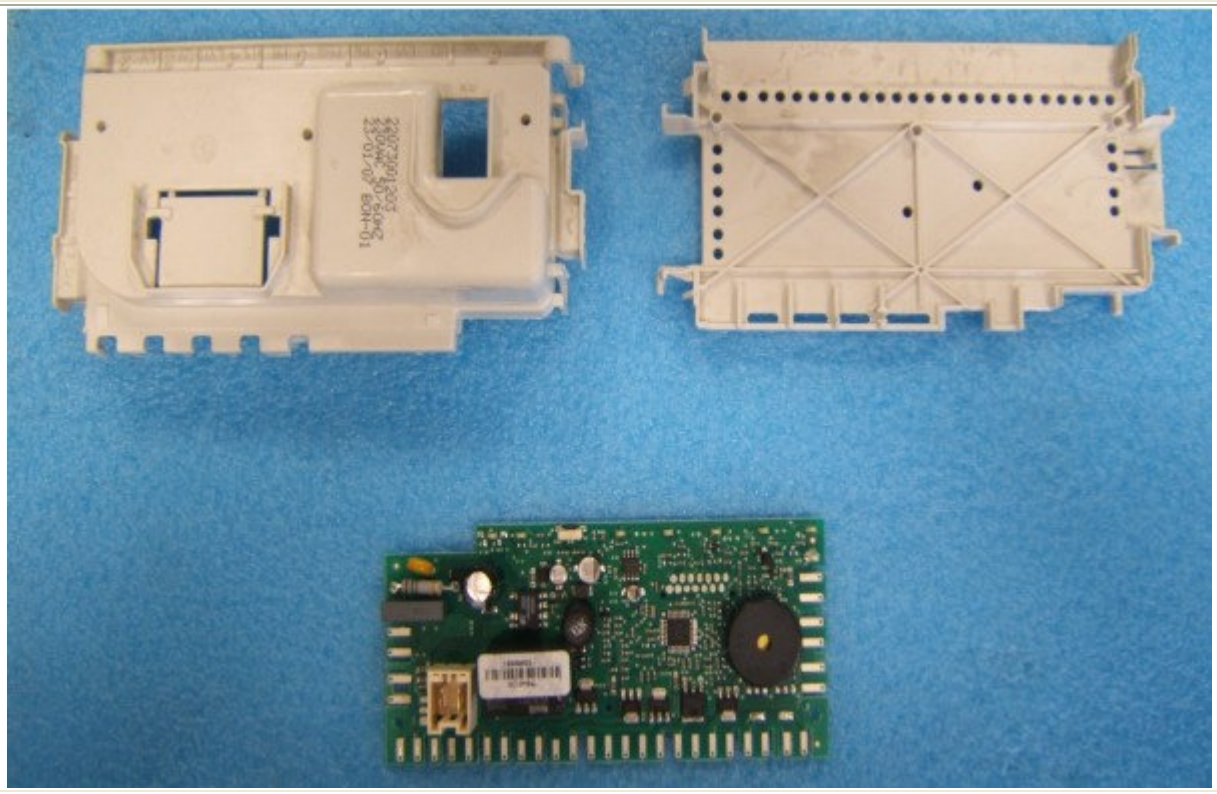
Proceed by removing ***kitchen plinth*** (if the appliance is already installed) and turn the adjusting screw indicated below



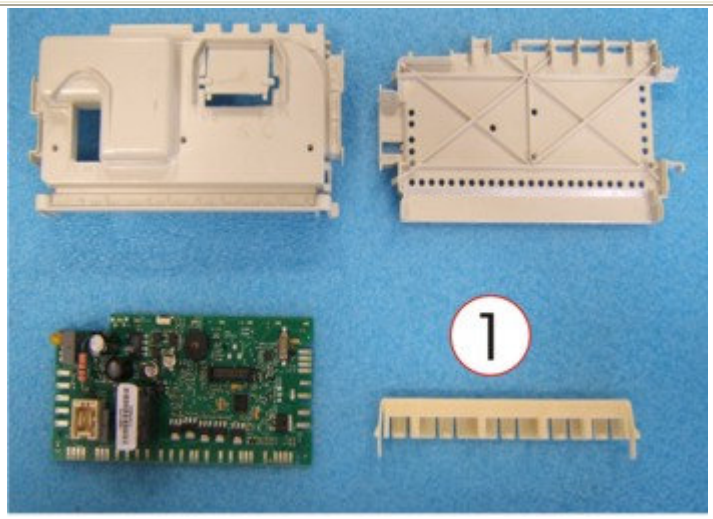
1= ADJUSTING SCREW
2= TENSIONER
3=TENSIONER TRAVEL

IV generation circuit board

CIRCUIT BOARD CONNECTIONS		
New **RAST 2.5mm**connectors inserted on the circuit board	The RAST 2.5 mm connectors on the circuit board are inserted in a special plastic casing that acts both as a polarizer and as a restraint for the connectors themselves.	The polarizer is mounted directly on the shell of the circuit board
Where technically possible, the RAST 2.5mm connection has been used on most of the electrical components		



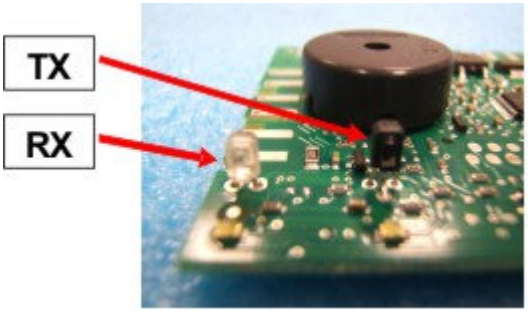
CURRENT 3RD GENERATION HARDWARE CIRCUIT DIAGRAM (infra-red interfaceable)

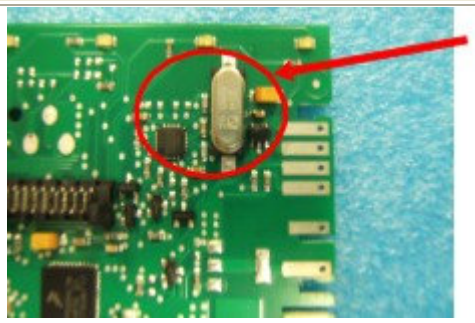


NEW 4TH GENERATION HARDWARE CIRCUIT DIAGRAM (radio interfaceable)

Current 3rd generation hardware circuit diagram (infra-red interfaceable)

New 4th generation hardware circuit diagram (radio interfaceable)



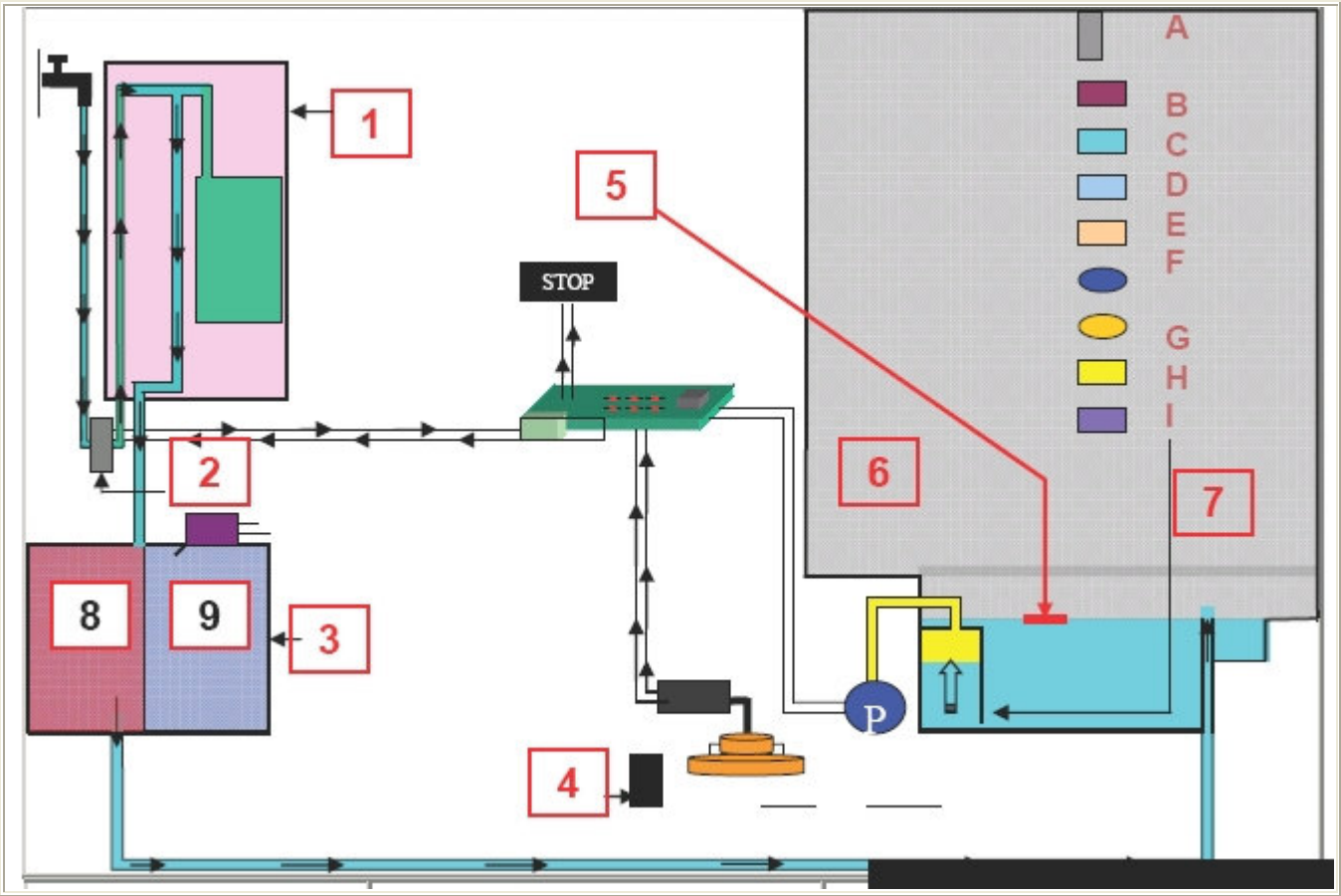


RADIO TRANSMISSION

Fill system operation

PRESSURE SWITCH CONTROLLED FILL SYSTEM

1- AIRBREAK **2- WASH WATER LEVEL** **3- TUB** **4- AIR TRAPS**
5- WATER SOFTENER **6- RESINS** **7- SALT** **8- TRAY**



1	AIRBREAK	**A**	FILL SOLENOID VALVE
2	FILL SOLENOID VALVE	**B**	REGENERATION SOLENOID VALVE
3	WATER SOFTENER	**C**	SOFTENED WATER
4	TRAY	**D**	WATER
5	WASH LEVEL	**E**	RESINS
6	TUB	**F**	SERVICE PRESSURE SWITCH
7	AIR TRAP	**G**	SAFETY GROUP
8	RESINS	**H**	AIR
9	SALT	**I**	SALT
		← →	ELECTRICAL IMPULSE:

Operation:
When the cycle starts, the fill SV opens, the water enters the AIRBREAK and, after going "up through the air gap", it enters the resin compartment of the WATER SOFTENER. The softened water then enters directly in the TUB through a side opening in the SUMP. As the level of water in the tub increases, so does the pressure in the AIRBREAK which is connected directly to the LEVEL

PRESSURE SWITCH. When the pressure reaches the calibrated value of the pressure switch, the switch closes the fill solenoid valve and signals the end of the filling to the timer. At this point, the dishwasher is ready to start the wash cycle.

Water level in tank for each load:

- From 3- 3.3 litres (version with alternating) to 4 – 4.5 litres

Safety level:

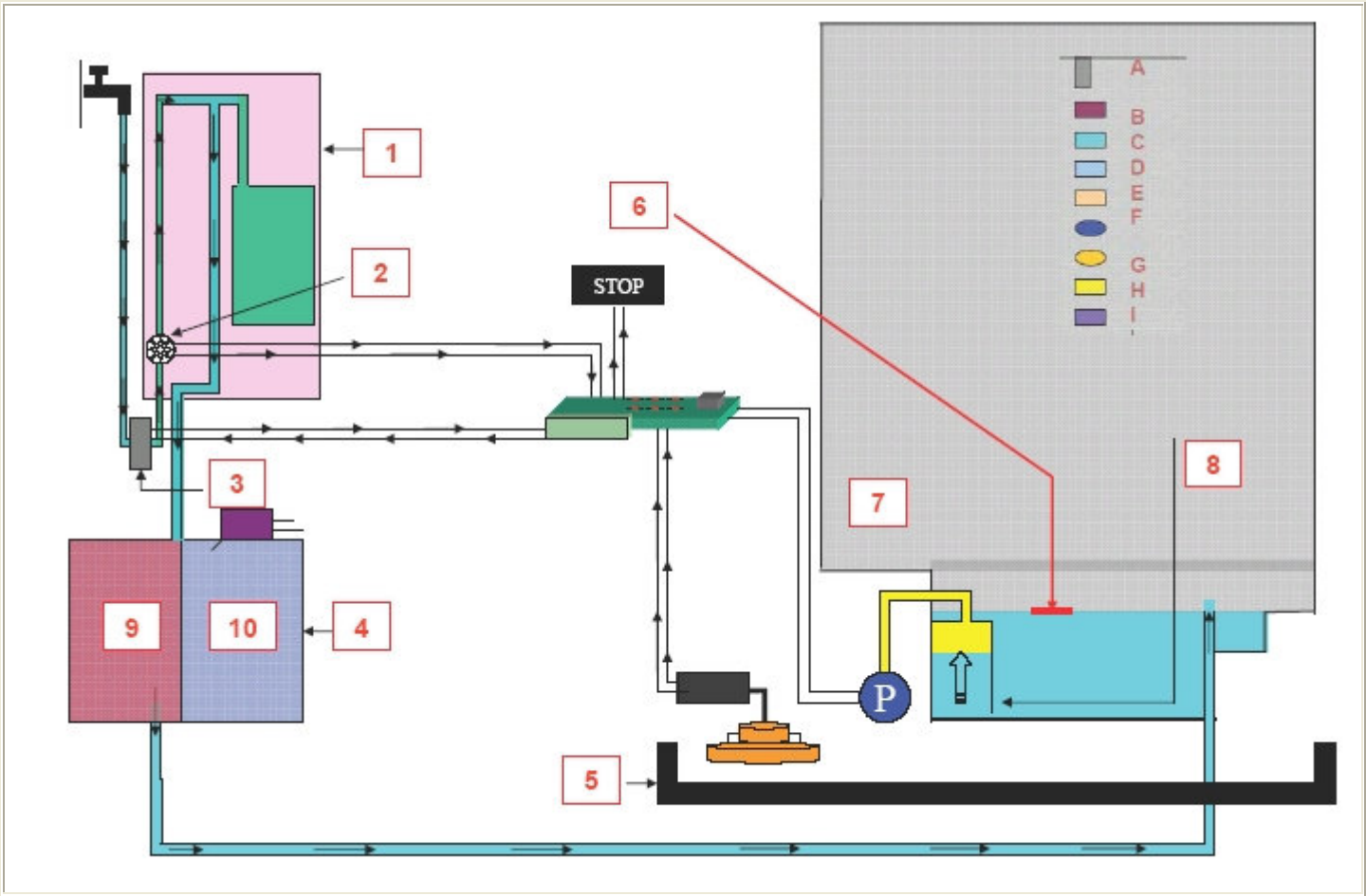
9 to 10 litres (if a turbine is fitted: 7.8 litres)

NOTE: If the TURBINE malfunctions, the electronic timer display shows the error E7. This error is temporary and can be reset by the customer who is thus aware (instruction manual) that the appliance is operating with an incorrect amount of water. The appliance will thus signal error E7 at the end of each wash, leaving the decision whether or not to call the technical assistance service to the customer.

MORE DETAILED INFORMATION ON THE DIAGNOSTIC CODES OF THE ELECTRONIC TIMERS IS AVAILABLE IN THE SERVICE MANUALS OF THE RELATIVE TIMERS.

TURBINE CONTROL:

1- TURBINE FLOW METER	**4- TUB**	**7- RESINS**
2- AIRBREAK	**5- AIR TRAPS**	**8- SALT**
3- WASH WATER LEVEL	**6- WATER SOFTENER**	**9- TRAY**



1	AIRBREAK	**A**	FILL SOLENOID VALVE
2	TURBINE FLOW METER		

3	FILL SOLENOID VALVE	**B**	REGENERATION SOLENOID VALVE
4	WATER SOFTENER	**C**	SOFTENED WATER
5	TRAY	**D**	WATER
6	WASH LEVEL	**E**	RESINS
7	TUB	**F**	SERVICE PRESSURE SWITCH
8	AIR TRAP	**G**	SAFETY GROUP
9	RESINS	**H**	AIR
10	SALT	**I**	SALT
			ELECTRICAL IMPULSE:

Operation:

When the cycle starts, the fill solenoid valve opens, the water enters in the AIRBREAK and, after going "up through the air gap", it enters the WATER SOFTENER resin compartment. At each revolution, the turbine sends a pulse to the ELECTRONIC TIMER. As the flow rate of the turbine is known, by counting the pulses the electronic timer can determine the total quantity of water loaded. When a quantity of approximately 2.6/2.7 litres of water has entered the tub, the CONTROL PRESSURE SWITCH trips as "full", confirming the presence of water. The timer then finishes the filling operation when the correct amount of water has passed through the turbine.

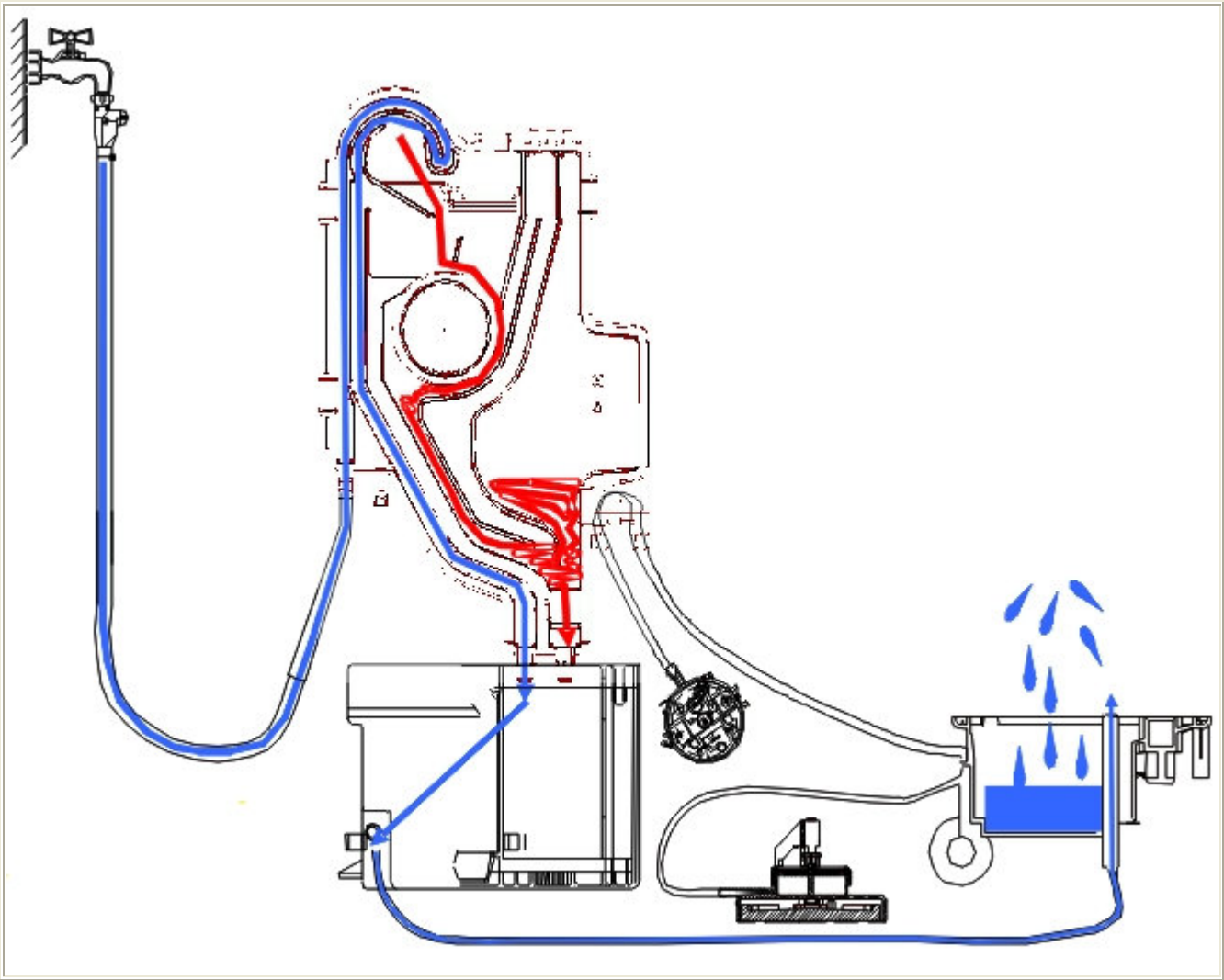
The pressure switch has priority over the turbine; this means that, even if the turbine develops a fault, the pressure switch will still control the filling operation. For this reason, if, after the turbine has completed its count, the level pressure switch does not trip, the timer continues the filling until the pressure switch does trip.

NOTE: If the TURBINE malfunctions, the electronic timer display shows the error E7. This error is temporary and can be reset by the customer who is thus aware (instruction manual) that the appliance is operating with an incorrect amount of water. The appliance will thus signal error E7 at the end of each wash, leaving the decision whether or not to call the technical assistance service to the customer.

MORE DETAILED INFORMATION ON THE DIAGNOSTIC CODES OF THE ELECTRONIC TIMERS IS AVAILABLE IN THE SERVICE MANUALS OF THE RELATIVE TIMERS.

Water softening and regeneration system operation

WATER SOFTENER: filling the regeneration chambers



REGENERATION: Salt adjustment and consumption

INTAKE H2O HARDNESS ?(°F)	SOFTENING REGULATION	TREATABLE WATER QUANTITY (LITRES)	SALT CONSUMPTION PER CYCLE (GRAMS)	AUTONOMY WITH 1 KG OF SALT (N°OF CYCLES)	REGENERATION	RESINS WASH
<15	1	23	10	100	With the tub full, at the end of the cycle (excluding soak). The chambers empty in line with the setting.	5 x 7 second pulses of fill water for a total of 2.3 litres WASHING PERFORMED AT THE START OF EACH PROGRAMME (including soak)
16-29	2	16	62			
30-44	3	35	28			
45-59	4	72	14			
60-80	5	84	12			

When the coloured rod on the air break is rotated to number 1, only chamber A is emptied during the regeneration, at position 2 chambers A+B, at position 3 A+B+C, at position 4 A+B+C+D, at position 5 all the chambers are emptied.

Electronic salt adjustment:

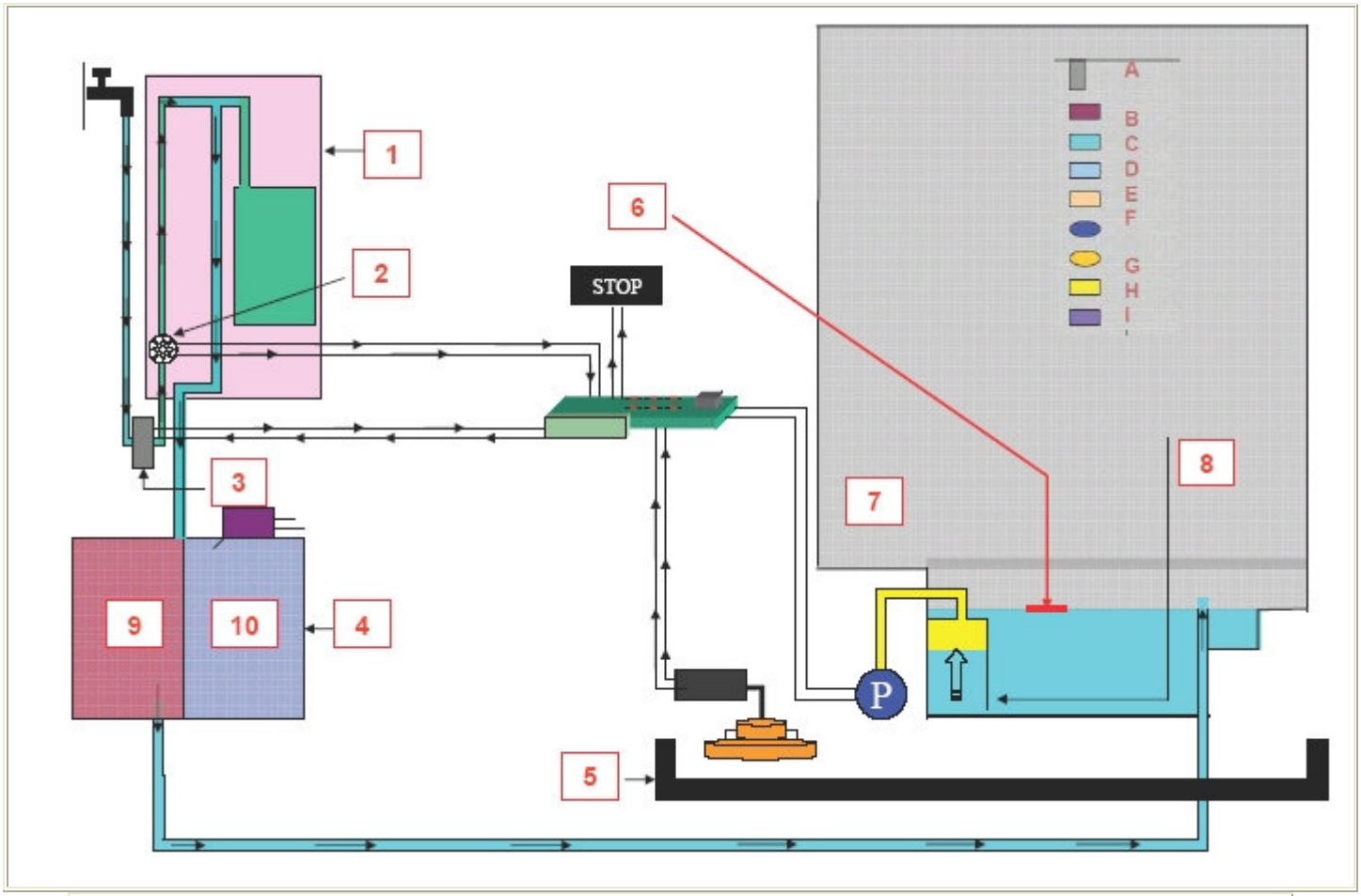
The electronic control system lets you customize dishwasher operation according to the water hardness level. In particular, the value entered for this parameter determines whether or not regeneration will be performed after the wash cycle according to the table below: (N.B.: see also the Timer Manuals).

Note that there is no coloured regulating rod in the air break, in other words all the chambers are emptied at each regeneration.

Level and overflow protection system operation

Tub level control system WITH TURBINE

1- TURBINE FLOW METER
2- AIRBREAK
3- WASH WATER LEVEL
4- TUB
5- AIR TRAPS
6- WATER SOFTENER
7- RESINS
8- SALT
9- TRAY



1	AIRBREAK	**A**	FILL SOLENOID VALVE
2	TURBINE FLOW METER		
3	FILL SOLENOID VALVE	**B**	REGENERATION SOLENOID VALVE
4	WATER SOFTENER	**C**	SOFTENED WATER
5	TRAY	**D**	WATER
6	WASH LEVEL	**E**	RESINS
7	TUB	**F**	SERVICE PRESSURE SWITCH
8	AIR TRAP	**G**	SAFETY GROUP
9	RESINS	**H**	AIR
10	SALT	**I**	SALT
		◄——	ELECTRICAL IMPULSE:

If, during filling, the operating pressure switch (P) is not functional, there will be an increase in tub

water level. As a consequence, the turbine flow meter will continue to count the litres of water loaded until the set "number of safety pulses" corresponding to 7.8 litres is reached. At this point, the timer closes the fill SV and activates the drain pump. When the tub is empty, the electronic timer blocks the appliance and indicates E9.

Component dismantling

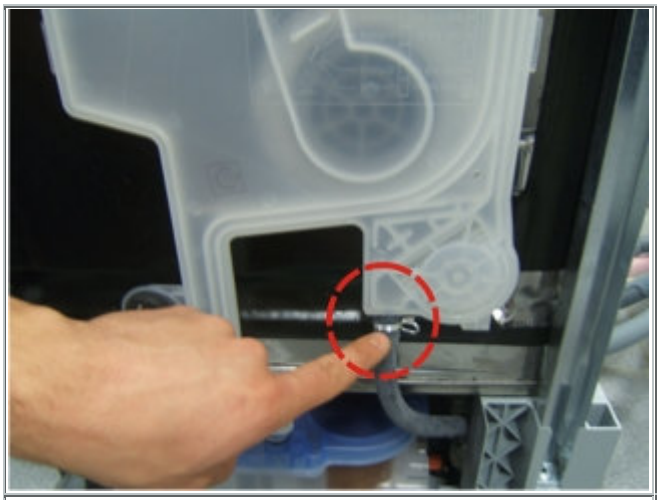
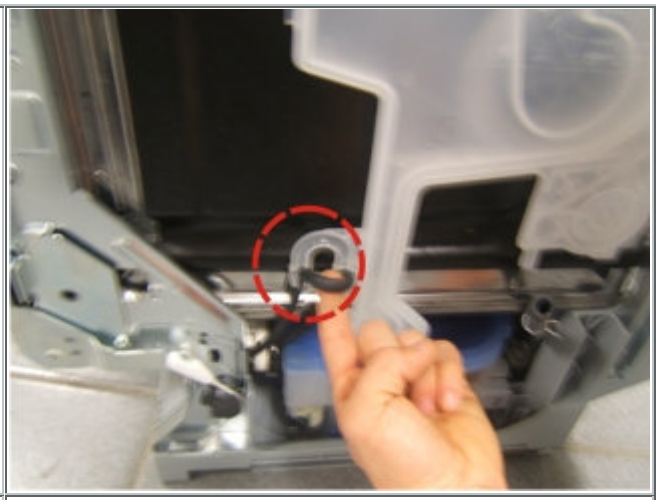
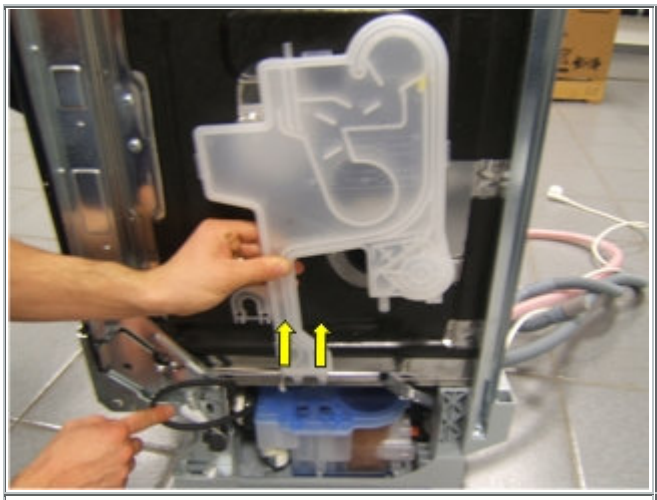
a) As a safety precaution, always disconnect hydraulic and electrical connections before servicing. Failure to observe these safety rules may result in damage to people and/or property.

b) To avoid the danger of electrical surges you must disconnect the appliances from the mains by pulling out the plug or depressing the corresponding magnetothermic switch on the electrical service panel.

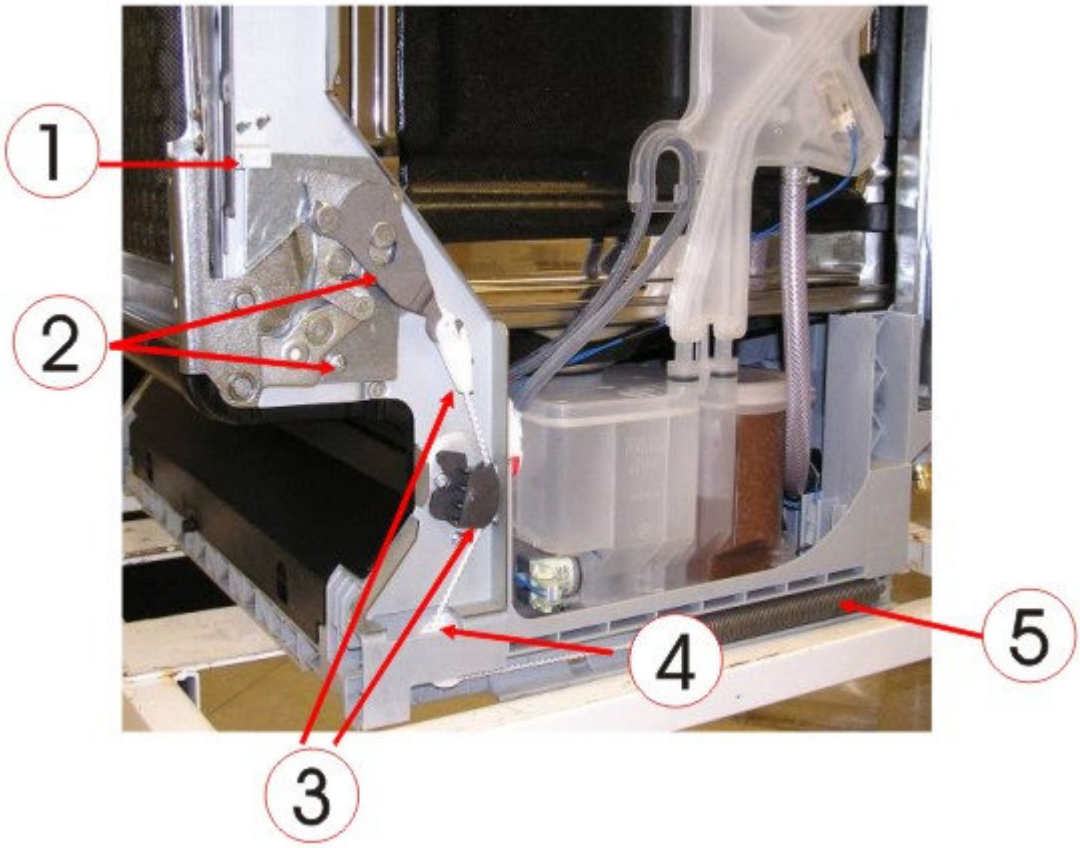
c) The notes below show you how to disassemble the main components, follow the procedure in reverse order to reassemble.

d) The paragraphs below were written according to the following “philosophy": the operations required for accessing the components located inside / in the lower part of the appliance are described first; various paragraphs then describe the operations required for replacing the individual components.

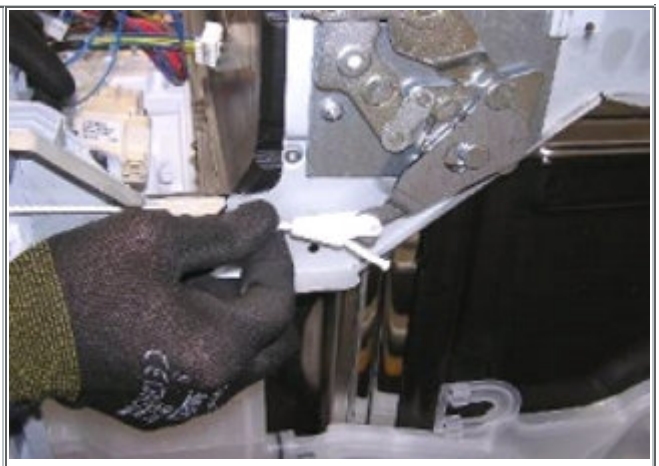
Dismantling the air break

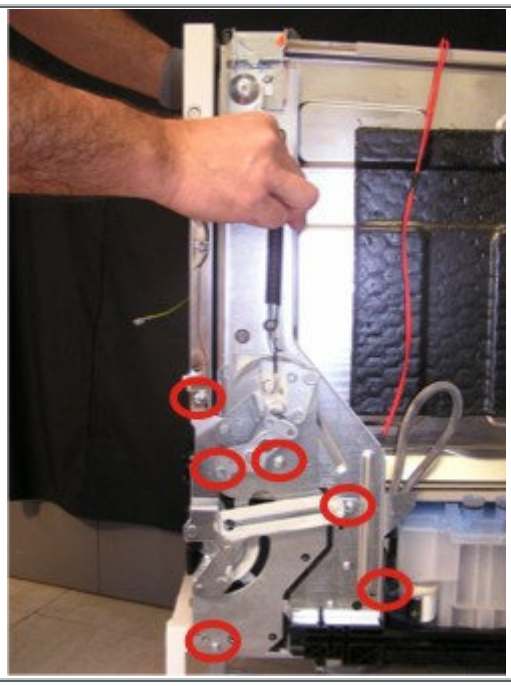
1. Remove the "toothed" airbreak locking ring located inside the dishwasher, on the right hand side as seen from the front.	2. with the help of tool n° 6, rotate the locking ring anticlockwise for one revolution
	
3- Disconnect the connection to the sump, fixed by a spring clip.	4- Remove the gasket and
	
5- remove the airbreak from the water softener unit	6- It is now possible to remove the ring nut washer.

Dismantling the hinges



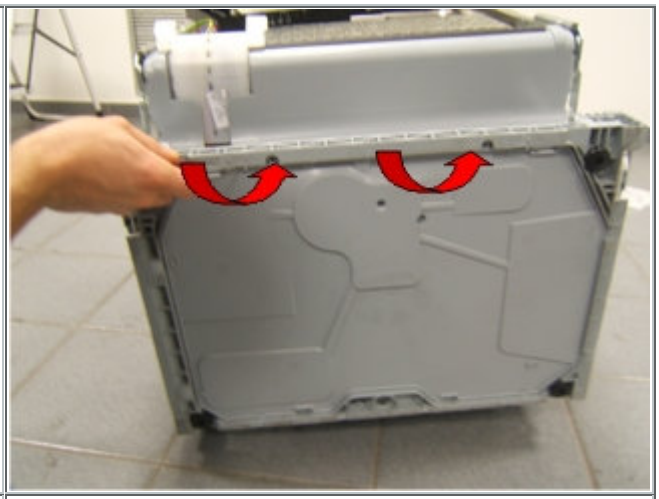
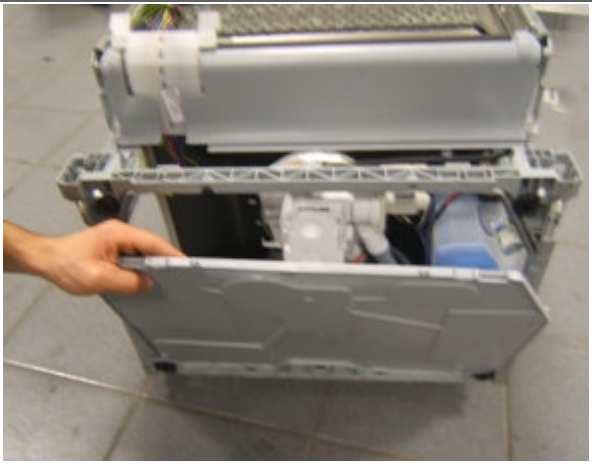
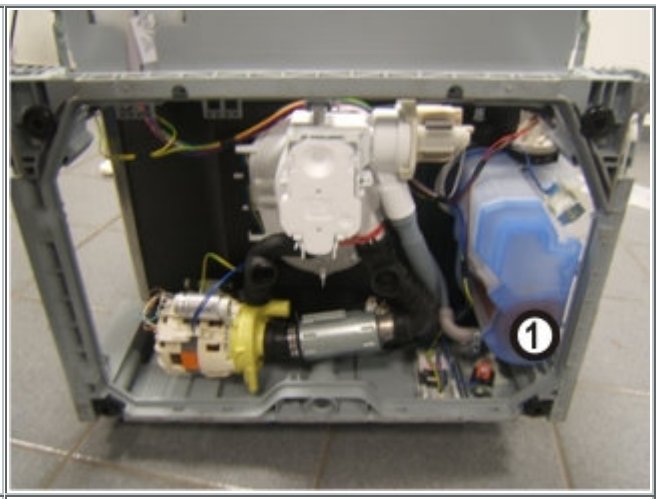
1=MOUNTING
2= FIXING POINTS
3=CORD - FRICTION DEVICE
4=TENSIONER
5= SPRING

	
1. Move the cord away from the friction device	2. Release the spring tensioning cord from the compensator.

3. Pass the spring tensioning cord through the friction device.	4- Release the spring from the other end of the cord.
5. Remove the hinge from the compensator	6. Remove the hinge/cord friction device from the frame.
	
7. Remove the spring adjusting unit.	8. Remove the hinge retaining screws and remove the component from its housing.

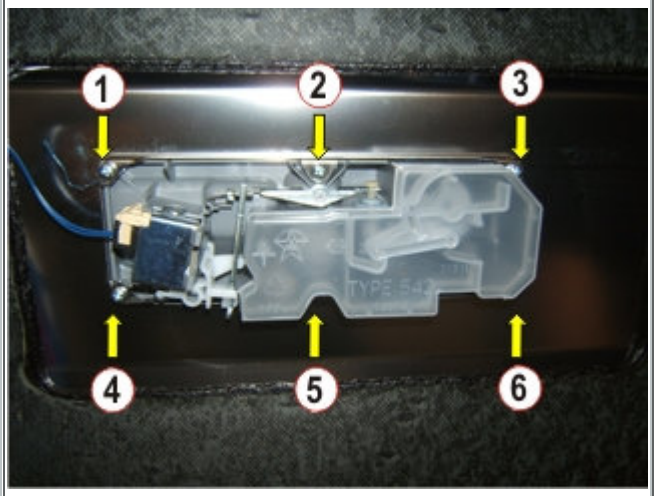
Disassembling the water softener

To access the water softener, remove: the side panel (front view), the softener.

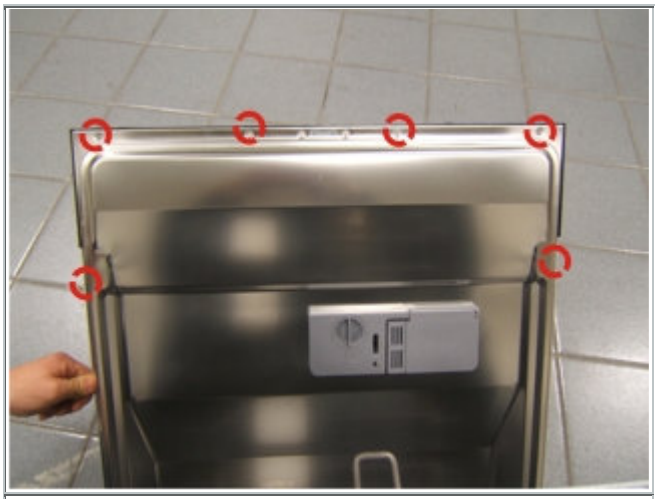
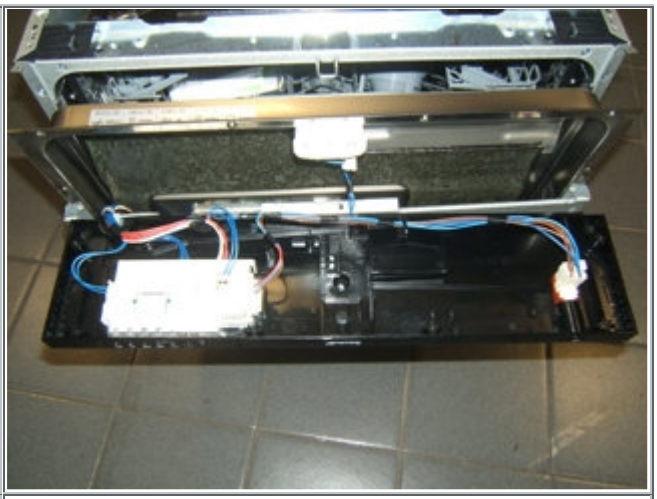
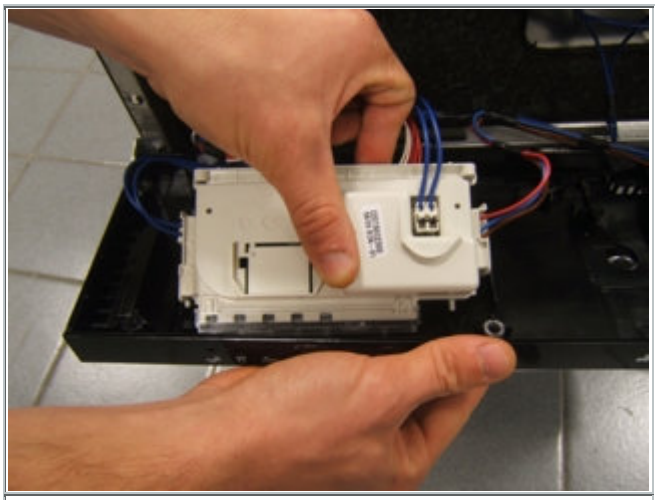
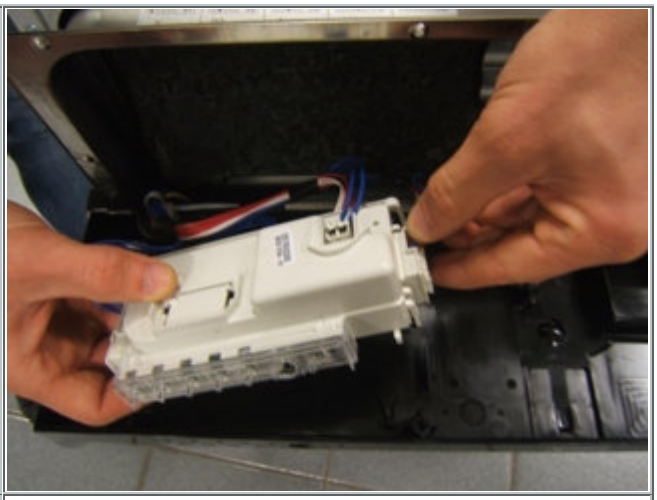
1. Remove the salt cap.	2. Remove the "toothed" locking ring nut located inside the dishwasher immediately under the cap by rotating it anticlockwise.
	
3- Ring nut removed.	4- Remove the tray by levering with a flat screwdriver under the retaining clips
	
5. to access the component.	6- Detail of water softener (1).

7- Once all the electric wires and connecting pipe to the sum have been disconnected.	8-...remove the water softener.

Dismantling the detergent dispenser

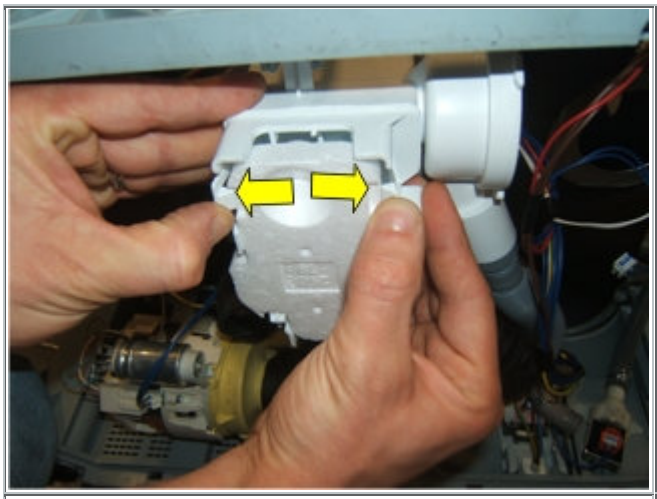
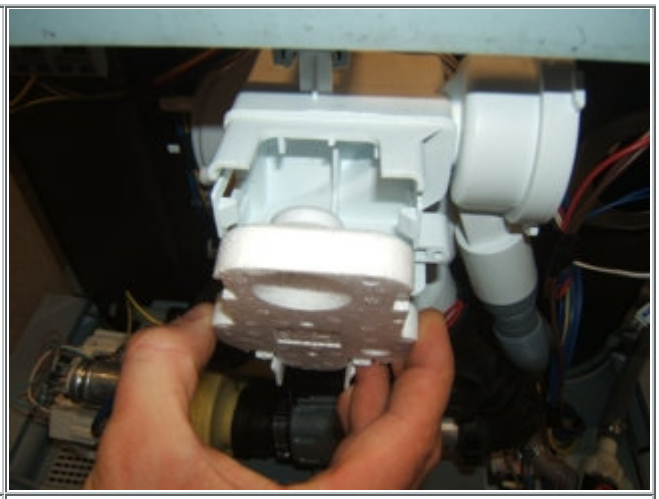
	
1. Remove the inner door liner fixing screws (tool n°5) to access the detergent dispenser.	2. Remove the 6 detergent dispenser fixing screws (tool n°1) and disconnect the electrical rast connector.

Dismantling the front panel and timer

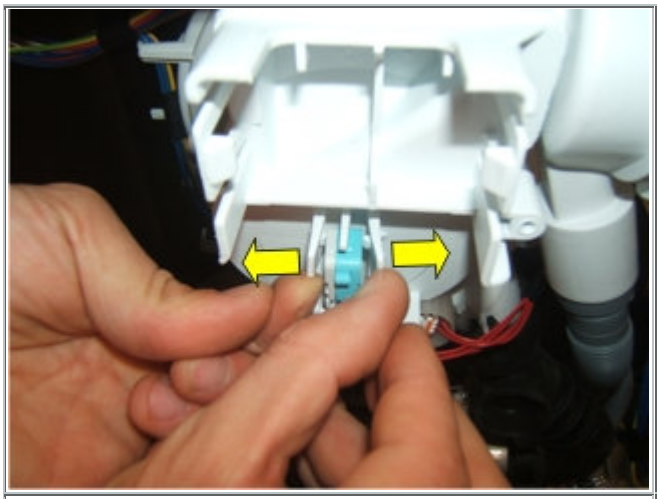
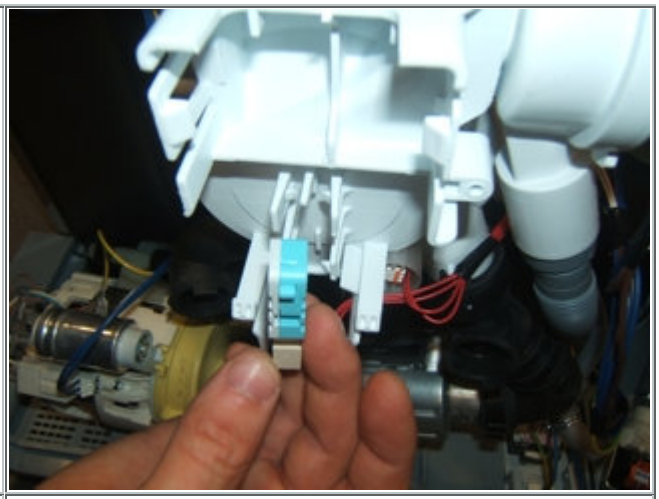
	
1. Open the door and remove the 6 front panel torx fixing screws. (tool n°5)	2. Now remove the front panel from its housing to access the internal components.
	
3. The timer is a snap fit in the internal part of the front panel.	4. To completely remove the component from its housing, disconnect the relative electrical connecting wires

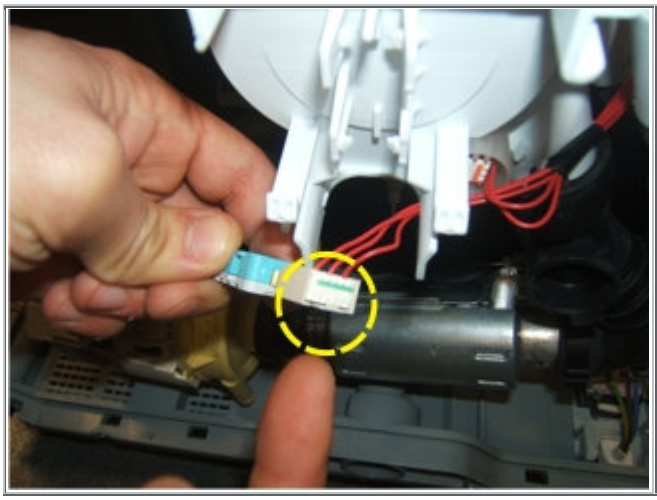
Dismantling aquastop float and microswitch

FLOAT

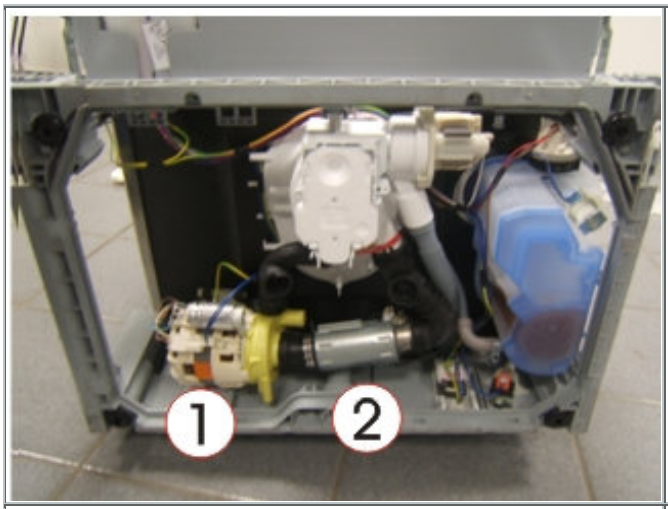
	
1. Press the float retaining clips outwards in order to	2. completely remove the component from its support.

MICRO SWITCH

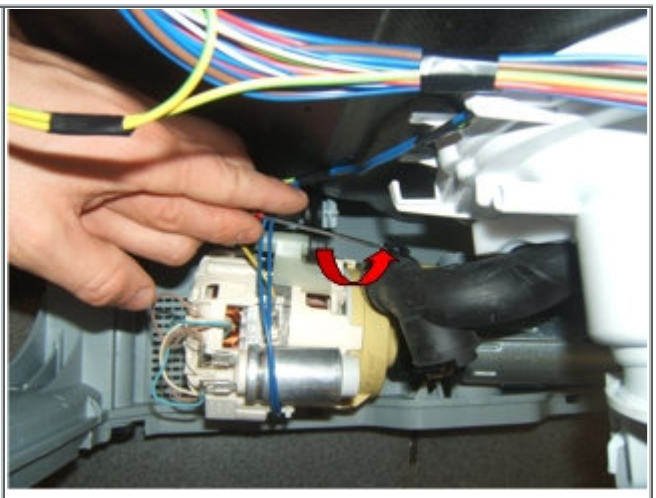
	
1. Slightly bend the microswitch retaining clips outwards and	2. completely remove the component from its support.

	3- Disconnect the electrical connector.

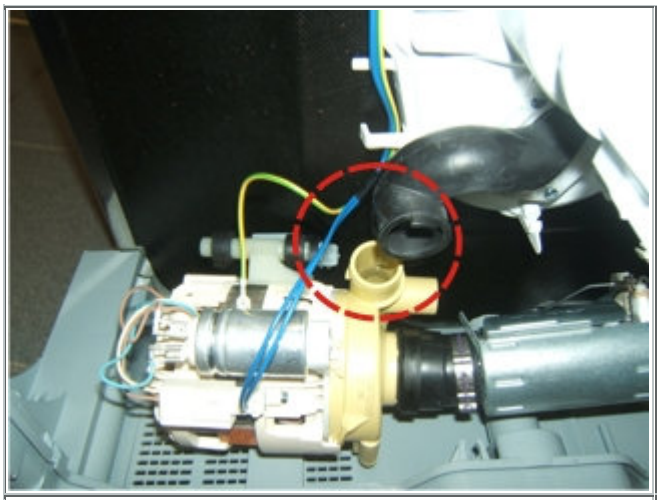
Dismantling the wash motor and heater element



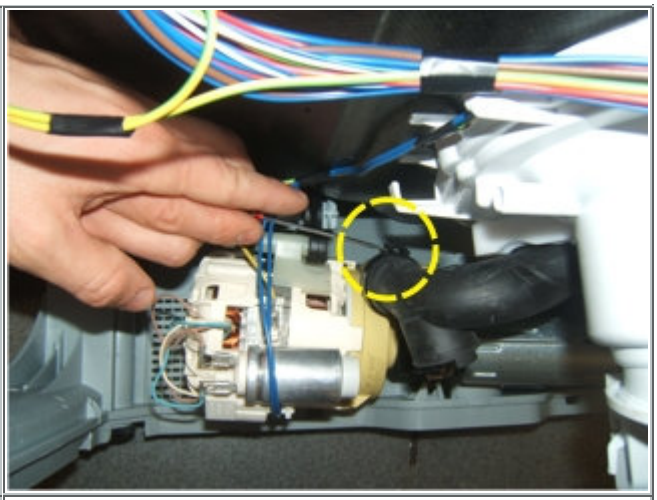
1. Detail of the wash motor (1) and heater element (2) positions.



2.Remove the clips by levering the retaining lug fixing the wash motor

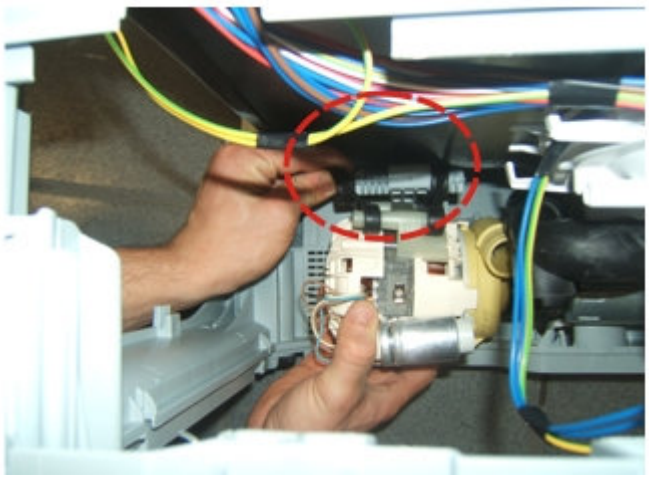


3. to the pipes

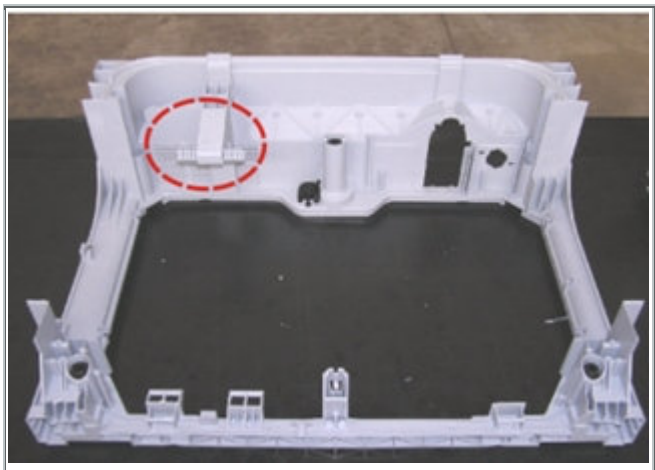
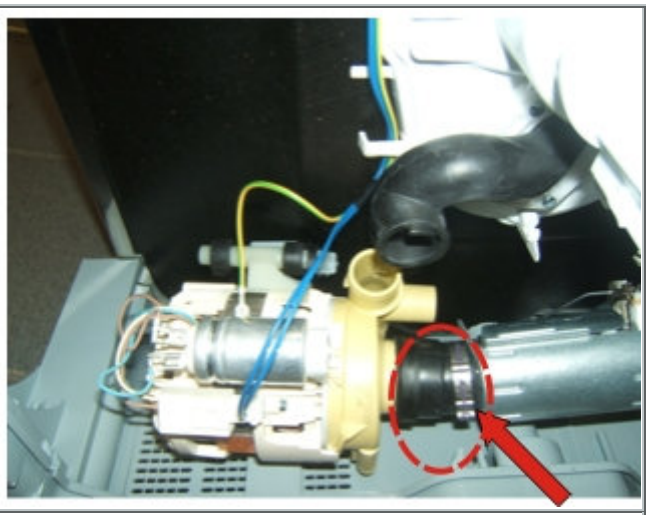


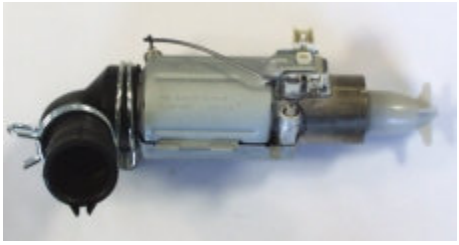
4. of the water system.

5. Disconnect the electrical connections.

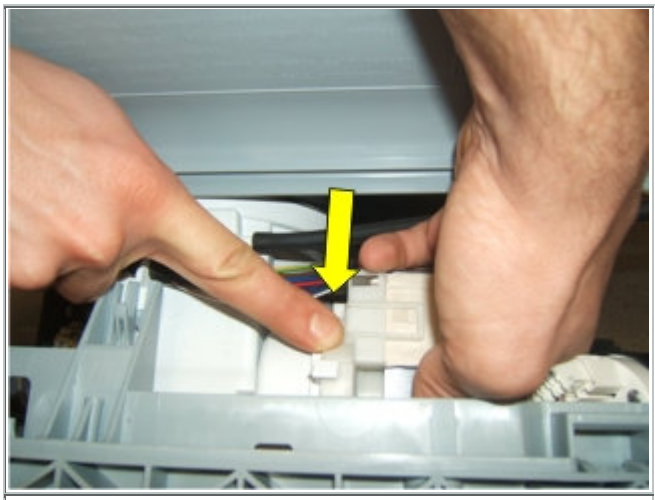
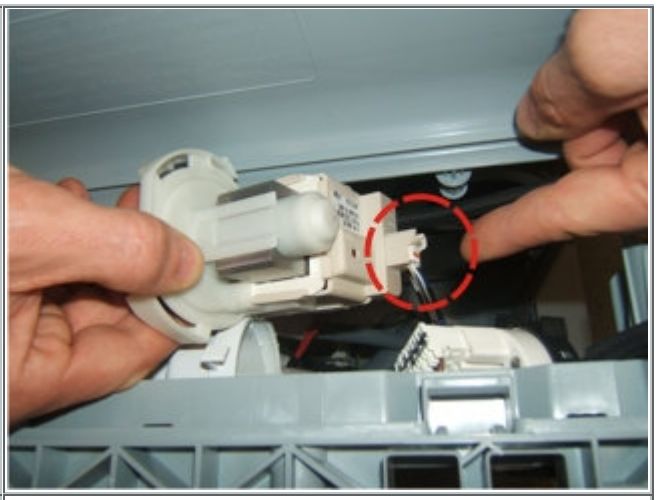


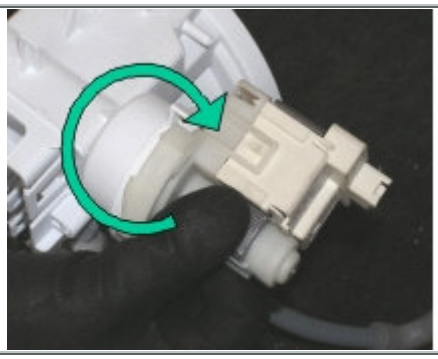
6. Remove the rubber motor mounting to completely free the motor from its position.

	
7. Detail of motor base and anchor point.	8. Remove the clips securing the heater element to the motor to free both components.

	
Detail of heater element.	Detail of motor.

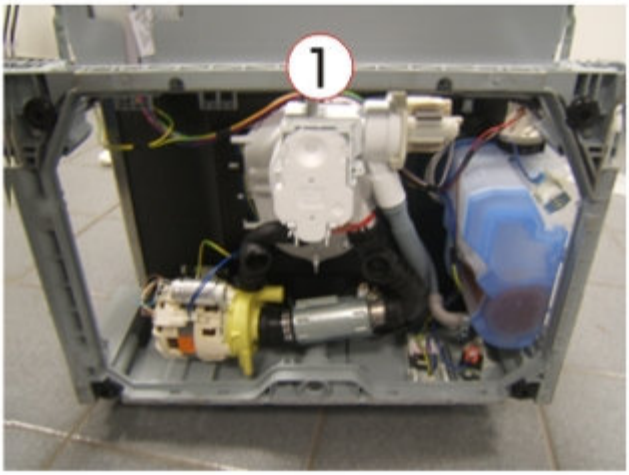
Drainage Pump Disassembly

	
1. Press the retaining clip anchoring the drain pump to the sump and	2. disconnect the electrical connector.

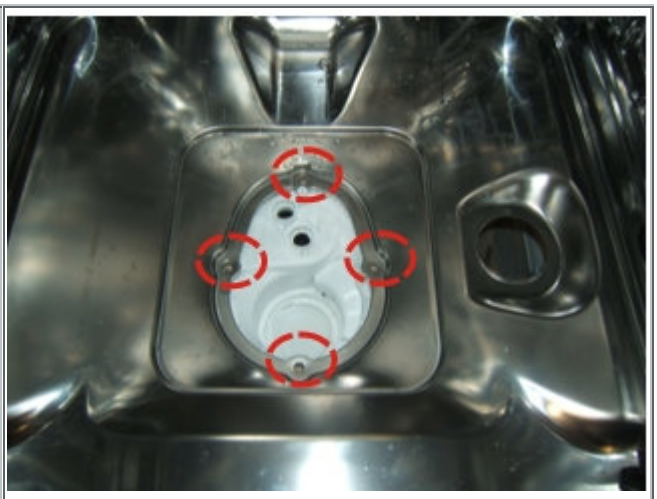
	3- The drain pump is the "bayonet" fixing type. Consequently, rotate the component anticlockwise to remove it completely from the sump.

Dismantling the sump and alternating valve

SUMP

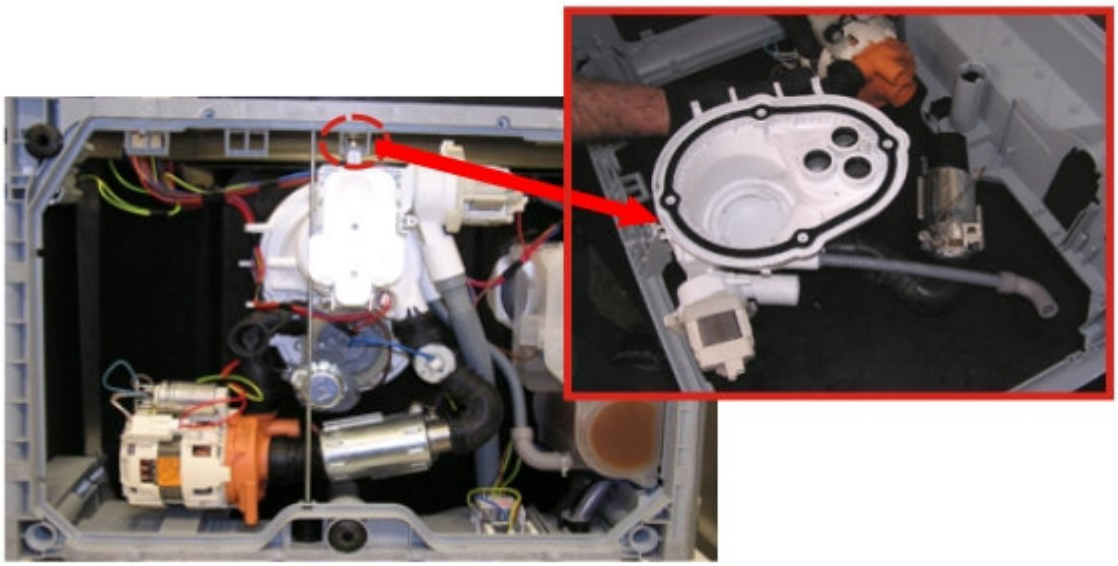


1. Detail of the sump position.



2. Remove the 4 screws that secure the sump to the tub. (tool no. 1)

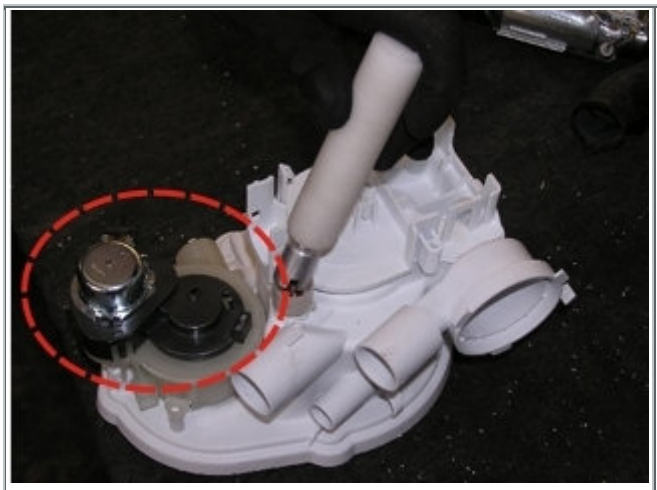
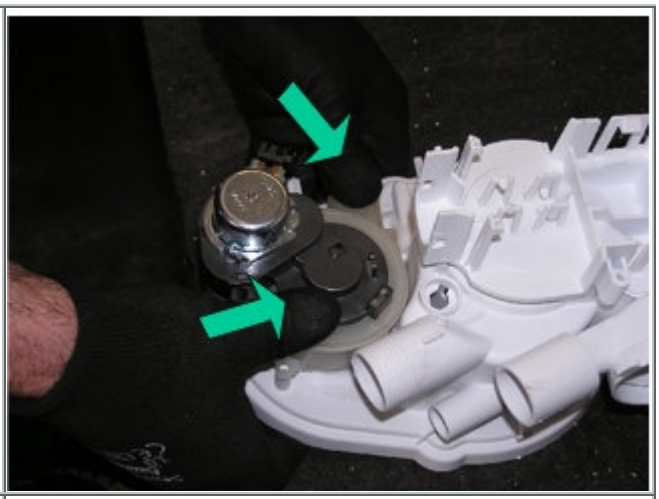
3. Disconnect the water pipe and electrical connectors



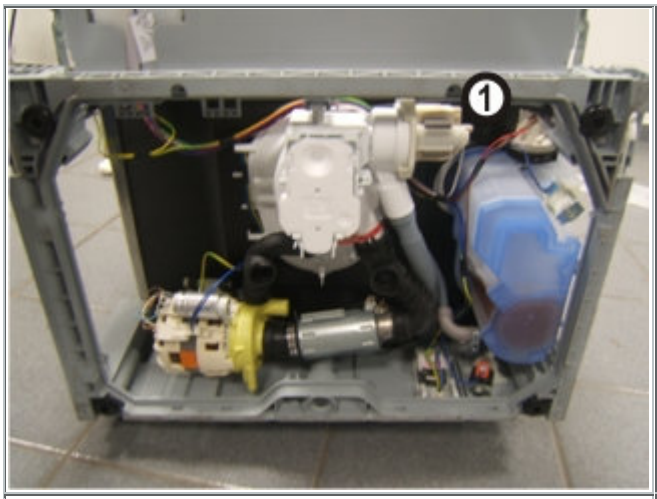
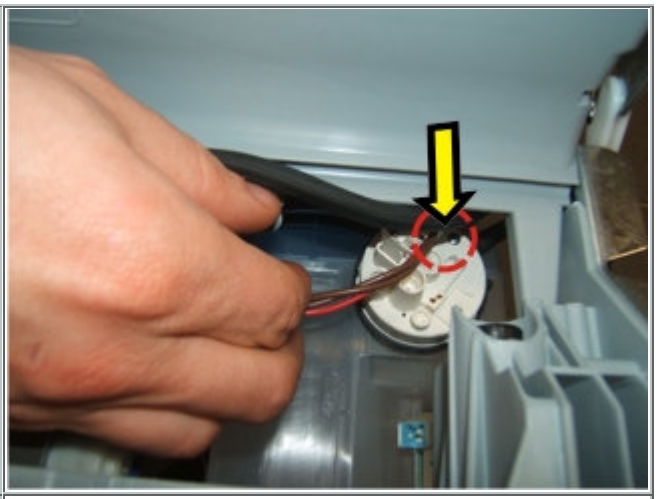
4. ...and remove the sump from its base mounting indicated in the photo.

	Detail of the sump position.

ALTERNATING VALVE (where fitted)

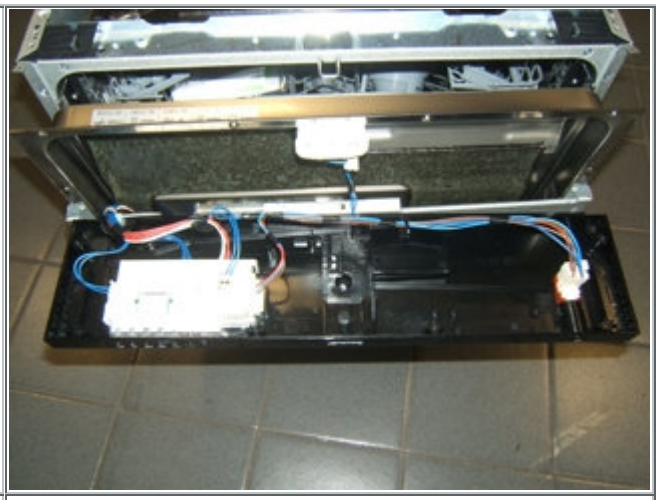
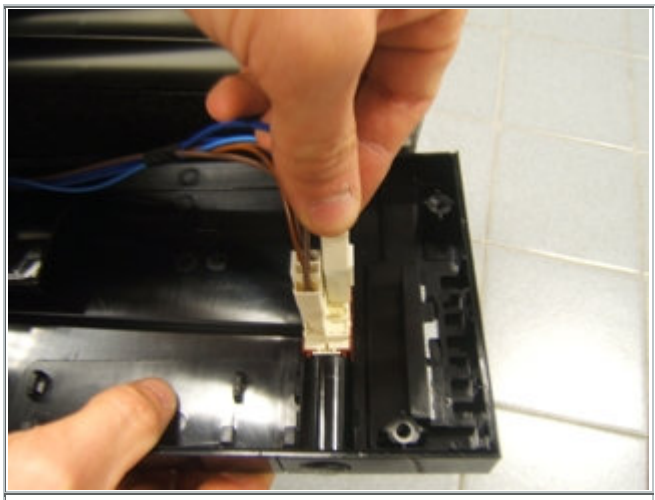
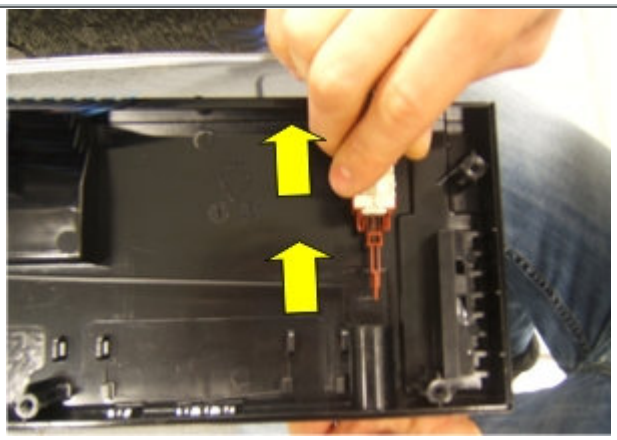
	
1. Detail of the alternating valve.	2. The alternating valve is a snap fit to the sump, consequently rotate the component
3. to remove it.	4. Detail of the alternating valve gasket. n.b: when refitting the alternating valve, make sure that the gasket is positioned correctly.

Pressure switch

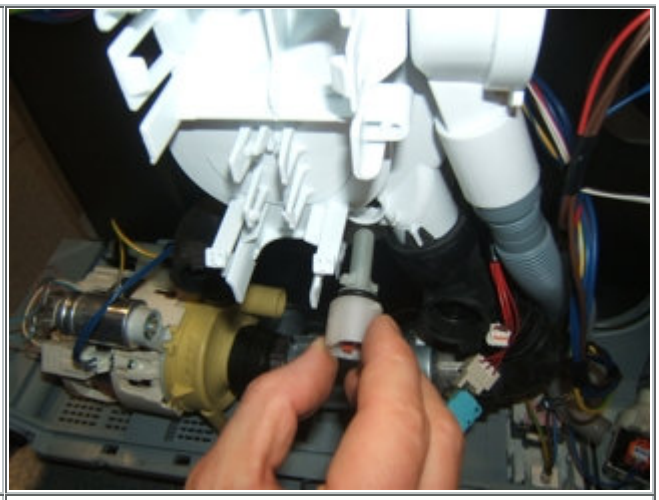
	
1-Detail of the pressure switch position..	2- Remove the fixing screw and

	3- disconnect the electrical connector.

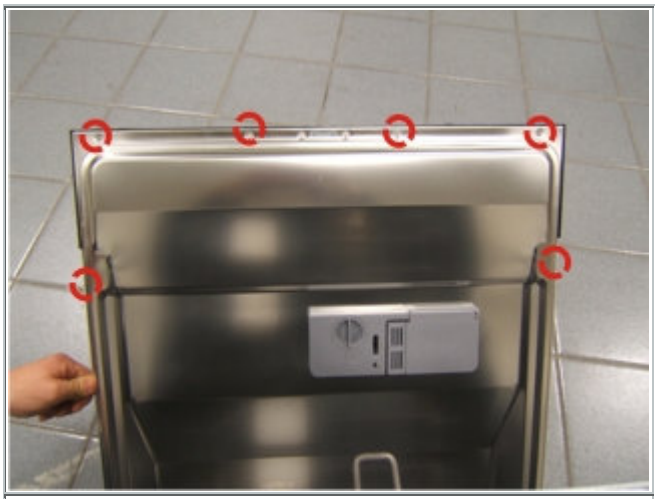
Dismantling the on/off button

	
1. Open the door and remove the 6 front panel torx fixing screws. (tool n°5)	2. Now remove the front panel from its housing to access the internal components.
	
3-Disconnect the electric wires.	4- Remove the on/off button which is a snap fit in the internal part of the front panel.

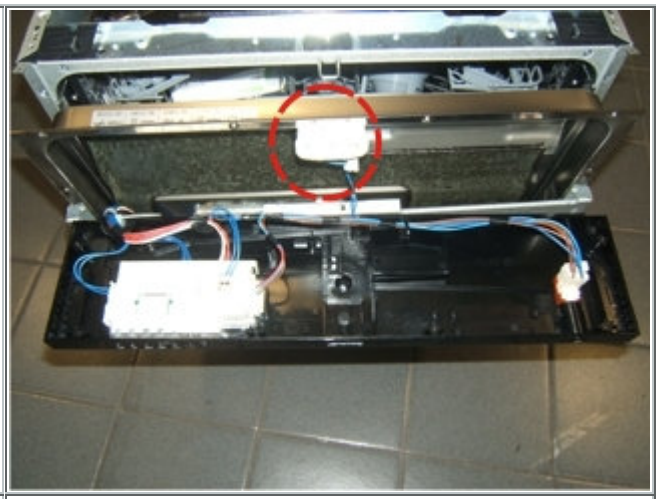
Dismantling the NTC probe

	
1. Disconnect the electrical connector.	2. ... and extract the NTC probe from its housing.

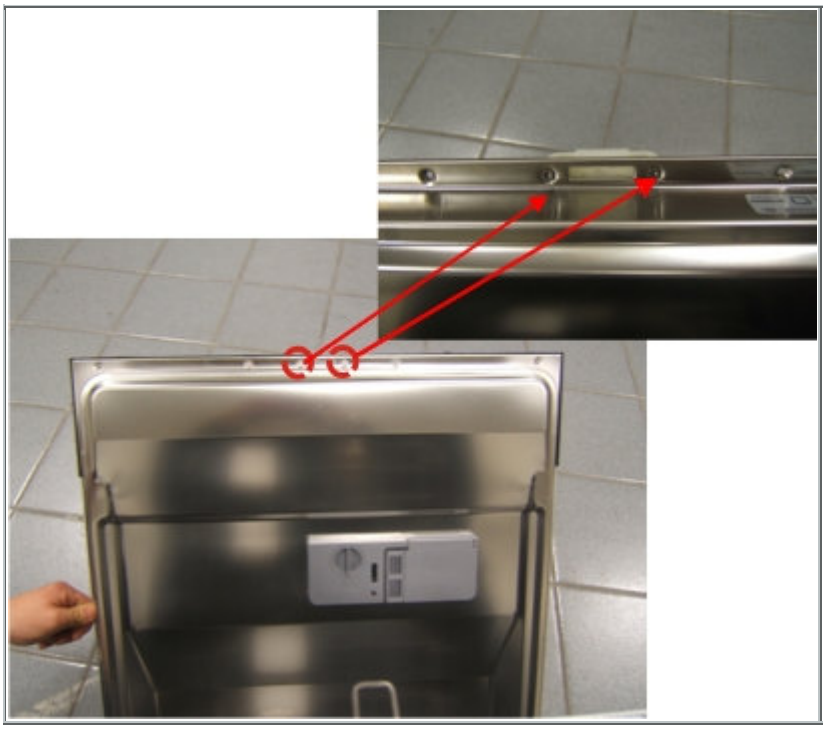
Dismantling the door lock



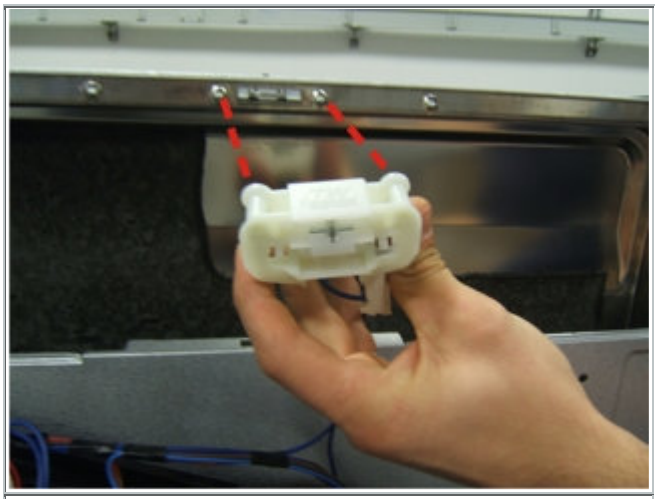
1. Open the door and remove the 6 front panel torx fixing screws. (tool n°5)



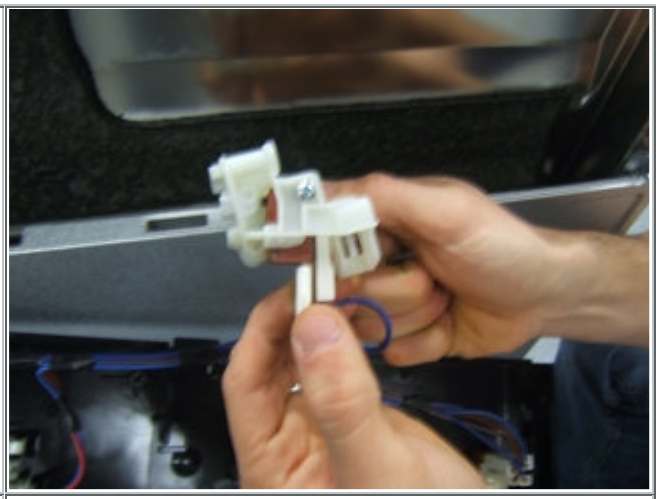
2. Now remove the front panel from its housing to access the internal components.



3. Remove the 2 torx screws (tool n°5) securing the lock to the internal door lining.

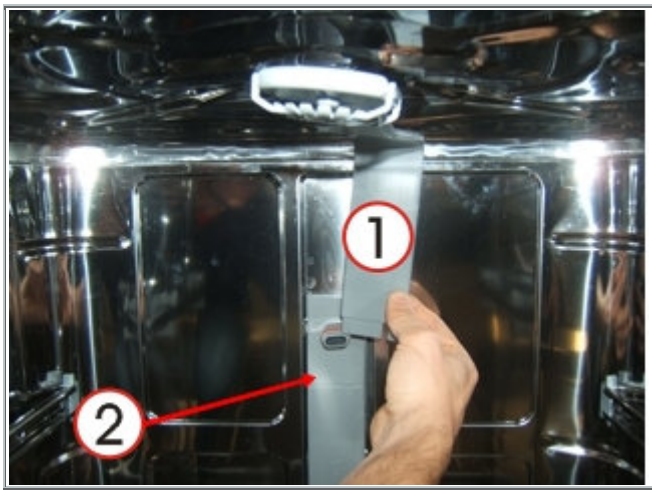


3- Next, extract the component from its housing and

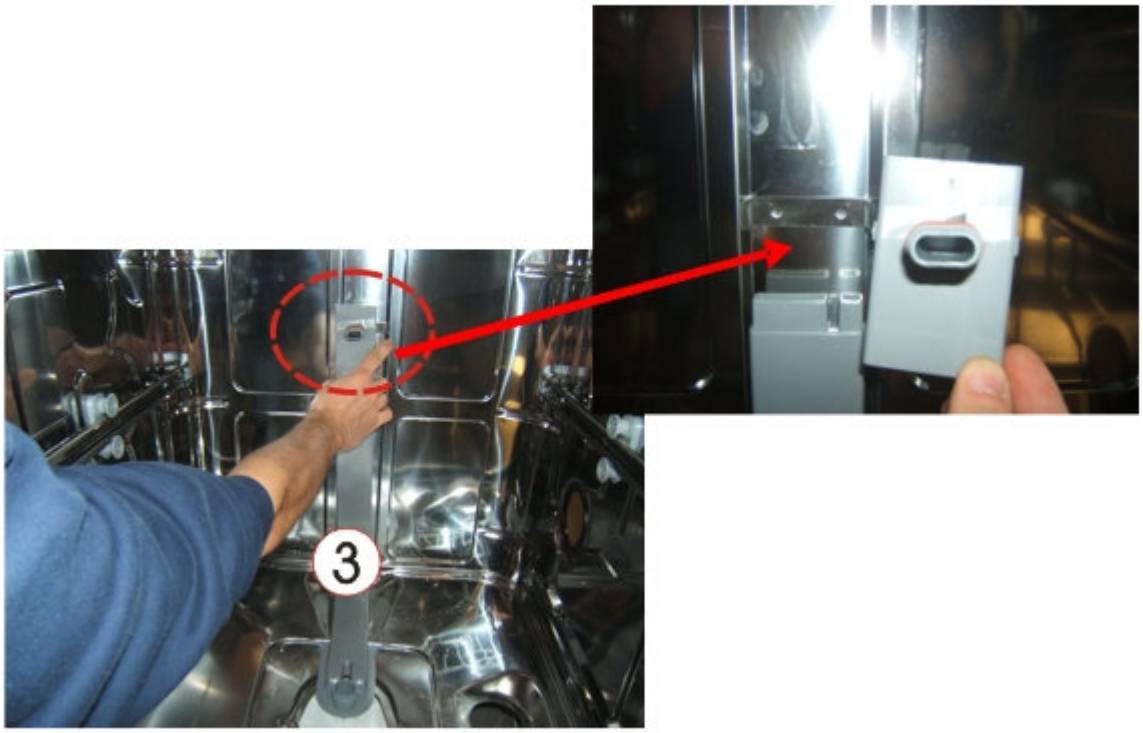


4- disconnect the electric wires.

Dismantling the upper spray arm feed pipe



1. Remove upper spray arm feed pipe (1) which is a push fit in the pipe insert (2)..



2. Remove the pipe insert (2) which is a push fit in the lower pipe (3) .

3. Remove the screw securing the lower pipe to the filter (tool no. 1)	4. Now it is possible to completely remove the lower pipe (3).