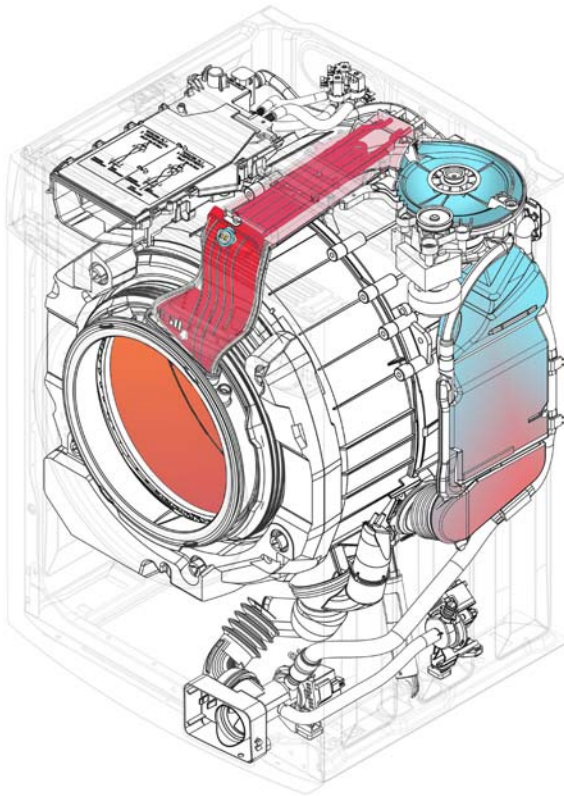
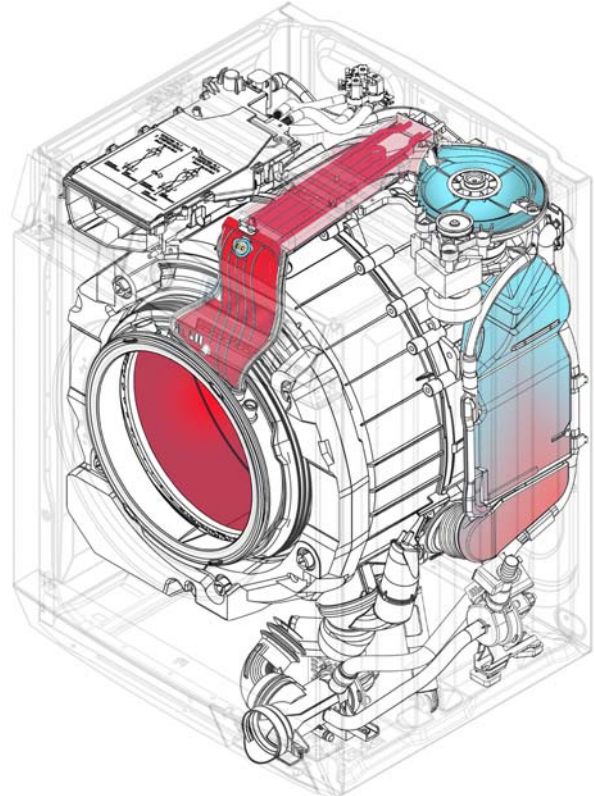


**HEC-RIM**



**HEC-ARCHED**



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**Washer-dryers**

**HEC-RIM  
HEC-ARCHED**

**Structural characteristics,  
electrical components,  
accessibility**



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# 1 PURPOSE OF THIS MANUAL

The purpose of this manual is to provide service engineers who already have the basic skills necessary to repair washing machines with specific information concerning the drying system featured in washer-dryers with the HEC cabinet.

For information regarding the structural characteristics and the washing systems, refer to Service Manual:

N° 599 37 47-13 for washer-dryers HEC-RIM  
N° 599 37 67-82 for washer-dryers HEC-ARCHED

For more detailed information regarding each model:

- Circuit diagrams
- Exploded views
- Spare parts lists
- Functional aspects and diagnostics

refer to the Service Manuals and Service Notes issued for each specific model/function.

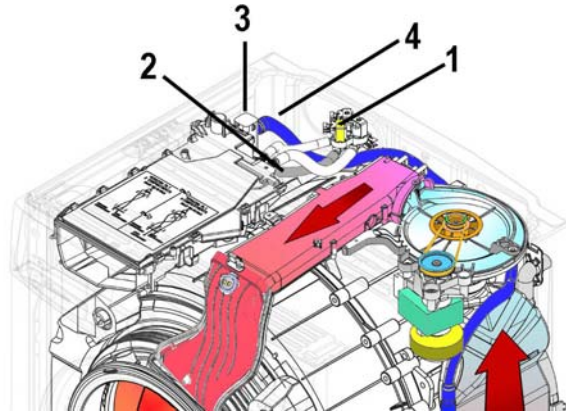


## 2 PRECAUTIONS

- Repairs to electrical appliances must be carried out by qualified persons only.
- Before accessing internal components, always remove the plug from the power socket.
- Where possible, measure the resistance (ohms) rather than directly measuring voltage or current.
- Certain metal components may have sharp edges. Care should be taken to avoid cuts or abrasions.
- Before laying the appliance on its rear or side, always drain the residual water using the special drainage device located alongside the drain filter.
- Never lay the appliance on its right side (where the electronic control system is located). This may cause water to leak from the detergent dispenser drawer and onto the electrical components, which might be short-circuited.
- After effecting repairs, always test the appliance.

### 3 DRYING SYSTEM: HYDRAULIC CIRCUIT

1. Solenoid valve
2. Tube between solenoid valve and coupling
3. Coupling (Air-Break)
4. Condensation intake hose and vapour outlet



The condensation is ducted by one of the sections of the cold water solenoid valve (1), which has a delivery of about 0.4 litres per minute.

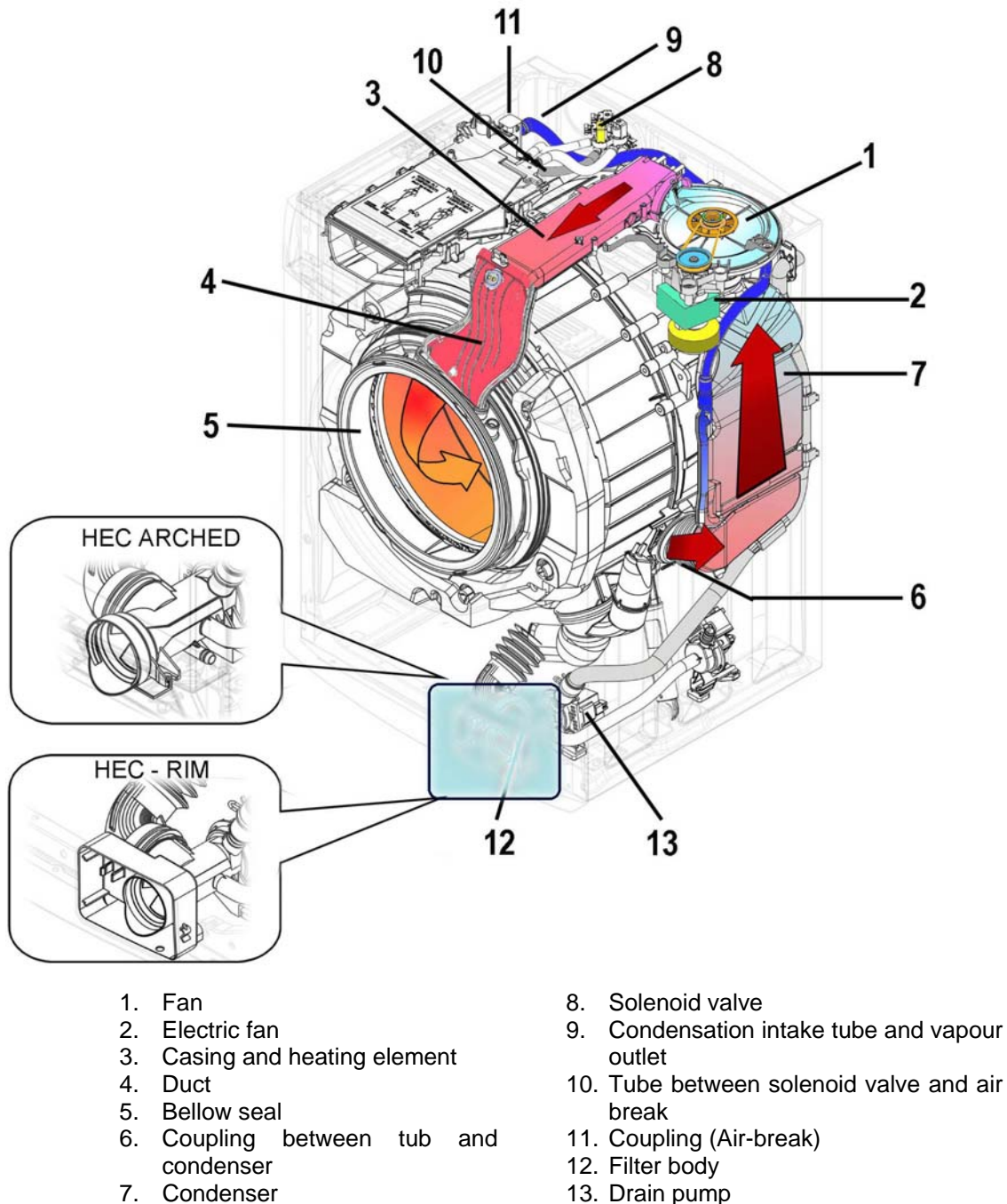
The solenoid valve is connected via a tube (2) to the coupling (3); the water arrives through a hose (4) to the upper section of the condenser. At the same time, a small quantity of water is ducted from the coupling to the detergent dispenser in order to ensure that there is always water in the siphon of the tube between the detergent drawer and the tub; this prevents steam from escaping from the tub and the detergent drawer during drying.

#### **Cleaning the condenser**

The condenser is cleaned at the beginning of the final rinse:

- ↳ while the solenoid valve loads water and the drum is in movement, the fan switches on and draws water (in movement) into the condenser. The force exerted by this water cleans the condenser.

## 4 DRYING CIRCUIT



The drying system is based on the principle of forced air with condensation by water jet. The drying capacity is equal to about half the maximum load of dry washing. Therefore, when a full load is washed, two drying cycles will be necessary. If a half load is washed, however, drying may be carried out automatically at the end of the washing cycle.

During the drying phase, the drum rotates in alternate directions at low speed.

The fan ducts the heated air from the heating elements into the tub, which removes the humidity from the washing.

The jet of cold water, coming into contact with the humid air, generates a heat exchange which condenses the humidity. Cold, dry air is ducted to the fan and then again heated by the heating elements and re-circulated inside the drum.

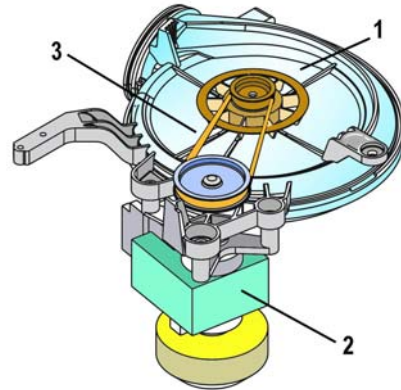
The cooling water and the condensation are expelled by the drain pump.

During the final minutes of the drying cycle, the heating elements switch off, but the fan continues to function in order to complete the drying phase.

## 5 COMPONENTS

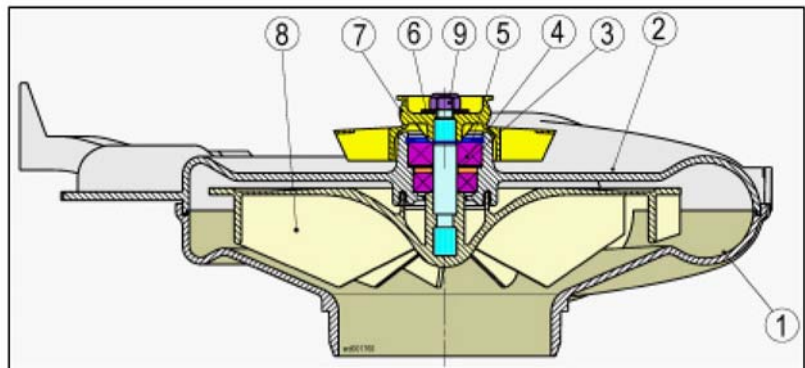
### 5.1 Fan

1. Fan unit
2. Fan motor
3. Drive belt



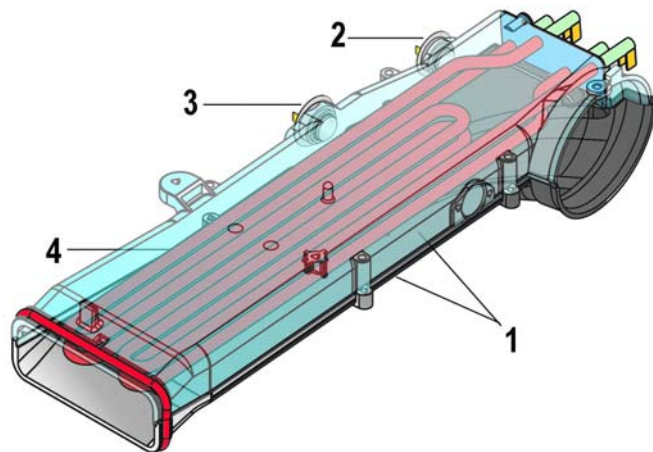
The fan ducts the air from the condenser to the casing containing the heating elements. The fan is powered by the fan motor via a drive belt.

1. Fan cover
2. Fan duct
3. Spacer
4. Bearings
5. Seeger ring
6. Spindle anchor
7. Drive belt
8. Fan blade
9. Locknut



### 5.2 Heating element casing

1. Casing
2. Manual-reset thermostat
3. Automatic-reset thermostat
4. Dryer heating element



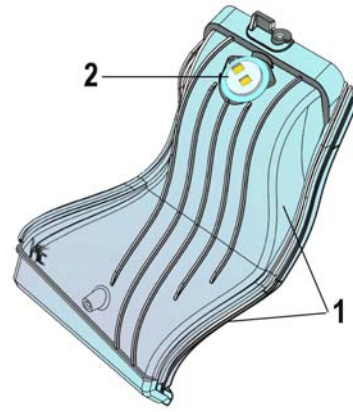
The heating element casing comprises two aluminium alloy half-shells which are connected together by screws and a silicone sealant.

The air is heated by two heating elements of equal power; during delicate drying, one of these elements is switched off.

The casing also contains a service thermostat and a safety thermostat.

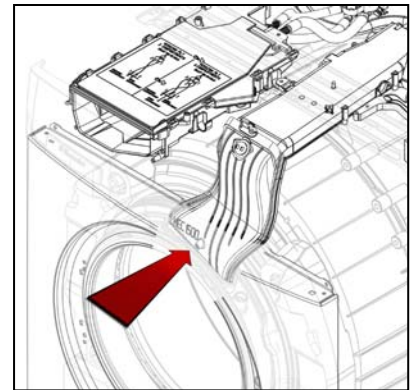
### 5.3 Duct

1. Duct
2. NTC temperature sensor (drying)



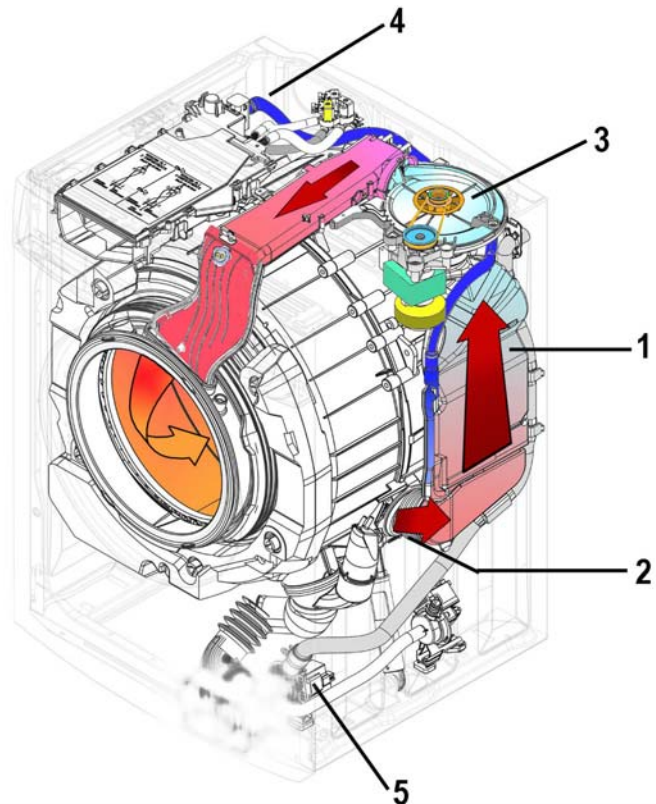
The air from the heating element(s) is ducted directly into the tub through the bellow seal.

An NTC sensor fitted to the tub measures the drying temperature. This sensor consists of two identical PVC elements welded together face to face and anchored by a screw to the front panel. A steel clamp ensures water-tightness with the bellow seal.



### 5.4 Drying condenser

1. Condenser
2. Sleeve
3. Fan
4. Condensation intake tube and vapour outlet.
5. Drain pump



The drying condenser consists of a plastic structure (1) connected to the lower section of the tub by a rubber sleeve (2), which contains a sensor for measurement of the humidity, and from the upper section to the fan (3).

The warm, humid air enters through the lower section of the condenser, and a jet of water enters from the upper section.

The shape of the condenser creates turbulence between the flow of warm, humid air and the jet of cold water, which condenses the humidity contained in the air. Cold, dry air is ducted to the fan for re-circulation and heated by the heating unit.

The condensation and the cooling water pass through the hose (2) to the bottom of the tub and are expelled by the drain pump (5).



## 6 ACCESSIBILITY

### 6.1 Work top

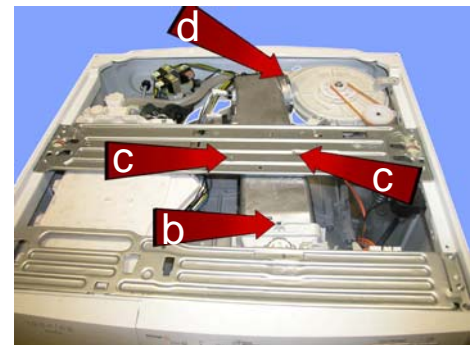
Remove the two screws which secure the top to the rear of the appliance, then push the top towards the rear and remove.

### 6.2 Electric fan

- ✚ Remove the screw which secures the plastic duct to the front panel. (a)



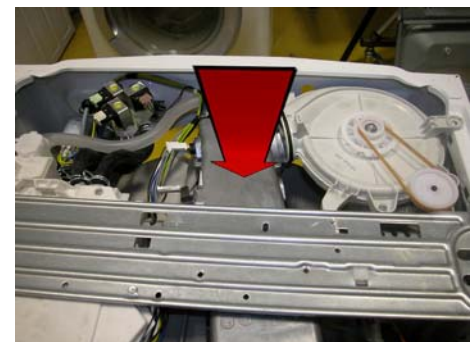
- ✚ Remove the screw which secures the plastic duct to the heating element casing. (b)
- ✚ Remove the two screws which secure the heating element casing to the cross-member. (c)
- ✚ Remove the screw which secures the electric fan to the heating element casing. (d)



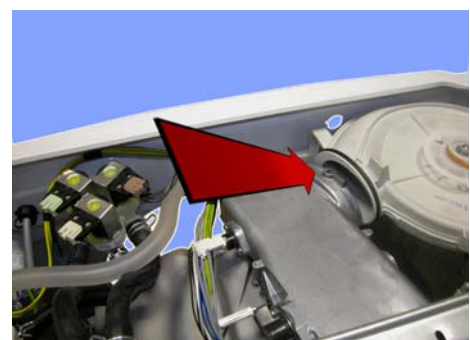
- ✚ Remove the screws which secure the fan to the cabinet (e) and to the cross-member. (f)



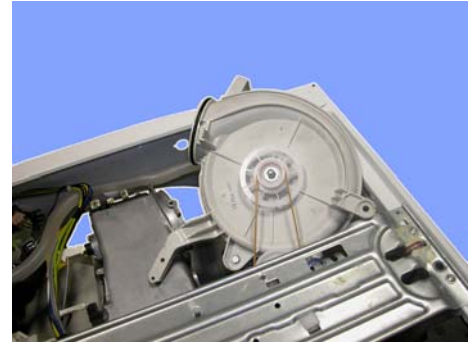
- ✚ Push the heating element casing downwards.



- ✚ Detach the heating element casing from the fan unit and the duct.
- ✚ Detach the steam venting tube from the coupling on the fan unit.



↺ Turn the fan unit clockwise as shown in the figure.



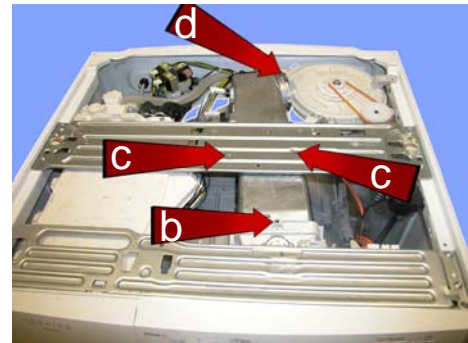
↺ Position the fan between the condenser and the heating element casing.



↺ Lift and remove the fan unit.

### 6.3 Drying heating element

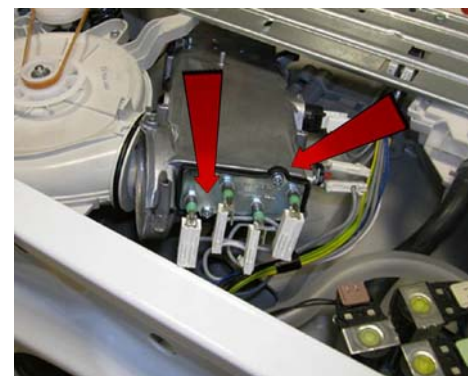
- ↺ Remove the screw which secures the plastic duct to the heating element casing. (b)
- ↺ Remove the two screws which secure the heating element casing to the cross-member. (c)
- ↺ Remove the screw which secures the fan to the heating element casing. (d)



- ↺ Remove the screws which secure the fan to the cabinet (e) and to the cross-member. (f)
- ↺ Detach the heating element casing from the fan unit as described in the previous paragraph.



- ↺ Detach the connectors (note their positions carefully).
- ↺ Remove the two screws which secure the heating element to the casing and remove the heating element.
- ↺ When re-assembling, ensure that the heating element and the gasket are positioned as follows:
  - the heating element must be positioned perfectly inside the casing
  - the gasket must be positioned so that no heat loss occurs.



## 6.4 Drying sensor (duct)

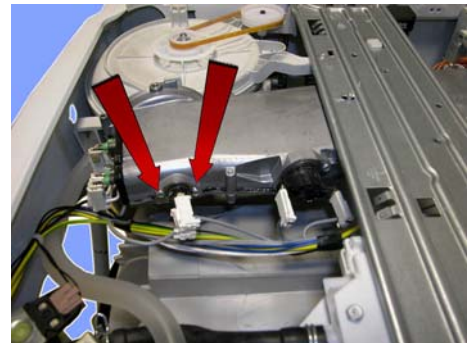
- ↖ Detach the connectors.
- ↖ Remove the two screws which secure the sensor to the duct and remove the sensor.
  
- ↖ When re-assembling, ensure that the gasket is correctly positioned.



## 6.5 Thermostats

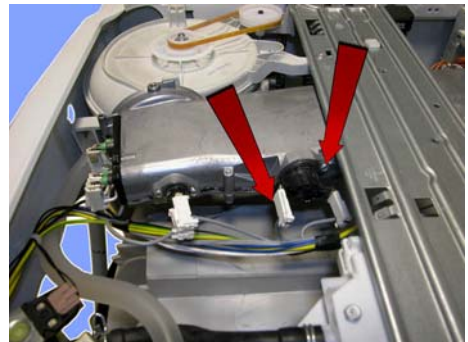
### 6.5.1 Manual-reset thermostat

- ↖ Detach the connectors.
- ↖ Remove the two screws which secure the thermostat to the duct and remove the thermostat.
  
- ↖ When re-assembling, ensure that the gasket is correctly positioned.



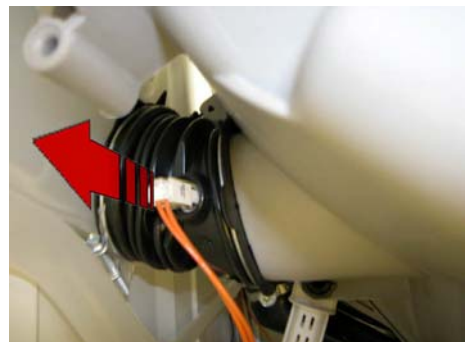
### 6.5.2 Automatic-reset thermostat

- ↖ Detach the connectors.
- ↖ Remove the two screws which secure the thermostat to the duct and remove the thermostat.
  
- ↖ When re-assembling, ensure that the gasket is correctly positioned.



## 6.6 Drying sensor (humidity)

- ↖ Remove the sensor from the sleeve between the condenser and the tub.



## 6.7 Condenser

- ↖ Remove the work-top.
- ↖ Remove the screws which secure the rear panel to the cabinet.
- ↖ Drain any residual water from the drain filter.

↖ Remove the fan unit (see paragraph 6.2 page 9).

↖ Remove the humidity sensor (see paragraph 6.6 page 11).

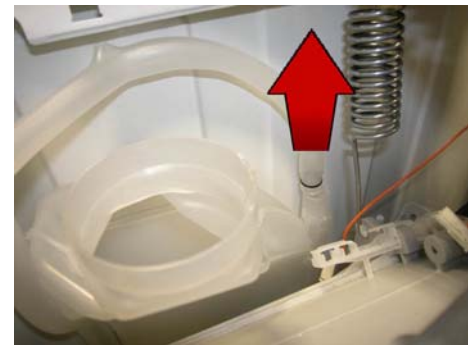
↖ Remove the screw from the clamp which secures the sleeve to the tub.



↖ Use pliers to loosen the clamp which secures the drain hose (inside the appliance) to the drain pump and remove the hose.



↖ Remove the vapour venting tube from the condenser.



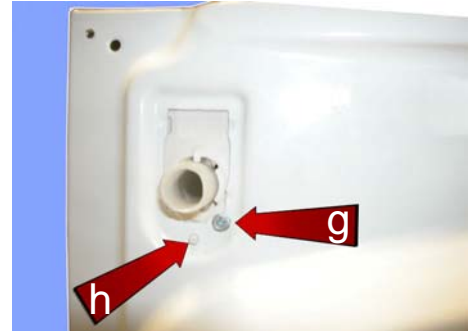
↖ Remove the condenser from the coupling (air-break) and detach by moving rightwards (viewing the appliance from the rear).



- ↪ To detach the external drain hose, remove the screw from the clamp which secures the external drain hose to the internal drain hose.



- ↪ Remove the screw (g).
- ↪ Press the catch (h).



- ↪ Move the condenser upwards and inwards in order to detach it from the cabinet (see opposite fig.).



- ↪ Remove the condenser.



## 6.8 Bellow seal

- ↪ Remove the screw which secures the duct to the front panel and the casing.
- ↪ Detach the circulation tube from the seal (Jetsystem appliances only).
- ↪ Remove the wire clamp which secures the seal to the duct.



## 6.9 WD Circuit board

- ↪ Remove the screw which secures the circuit board to the cross-member.
- ↪ If necessary, cut the cable ties.

On completion of repairs, replace the cable ties.

