

**Washing machines,
Toploader**

**New range 40 cm
Electronic Appliances
EWM1000**

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A) SAFETY PRECAUTIONS

Before intervention on any internal components, always remove the power plug from the socket.

When possible, the ohmic resistance of the components should be measured rather than making direct measurements of voltage and current.

Some parts of the mechanical structure of the appliance could be dangerous; it is necessary to take care in order to avoid injuries.

B) PURPOSE OF THIS MANUAL

This manual is to provide technicians, who have already a basic knowledge of repairing washing machines, with general information concerning this new range of products.

For more detailed information refer to:

- electrical diagram
- programming
- spart parts list

C) PRESENTATION OF APPLIANCES

This new range of washing machines consists of:

- A CARBORANâ base including the filter body on which different components are fixed (drain pump, circulation pump, inlet valve, module and suspension).
- A tub of CARBORANâ and a drum of stainless steel with a capacity of 42 liters.

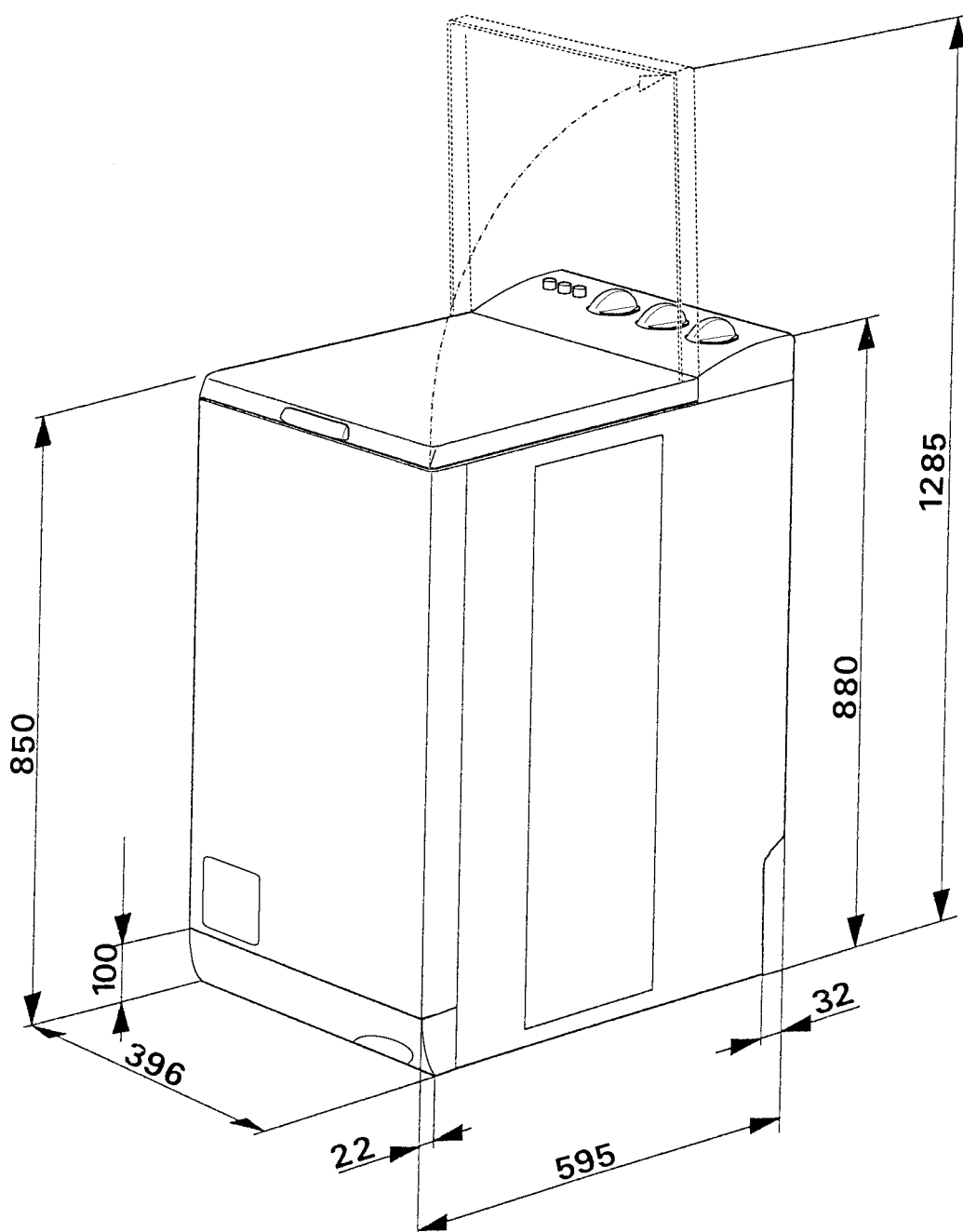
On the tub there are compensating weights, one left and one right, and electrical components such as heating element, thermostat, motor and cables.

- A cabinet including four side panels:
 - right, left and front panels electrogalvanized and thermolacquered;
 - rear panel electrogalvanized

On this construction the tub is hanging up by four springs.

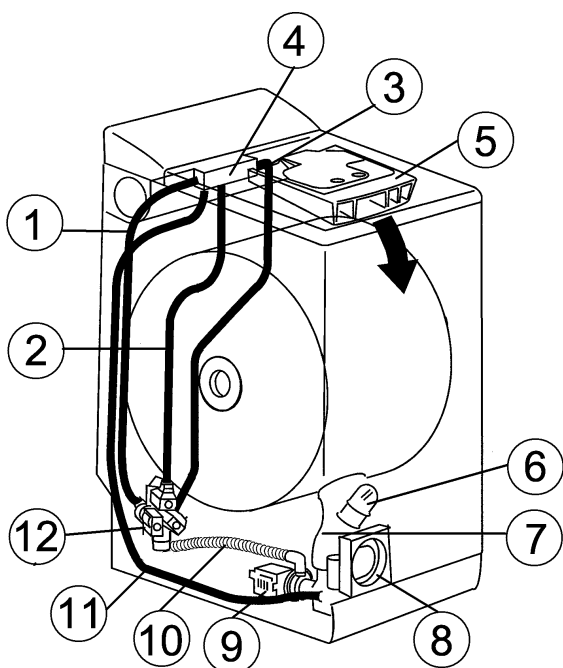
- A top of "polypropylene", a housing lid on which the water inlet tray is fixed, a functional support including the control panel with the electrical components and the water distributor.

D) DIMENSIONS



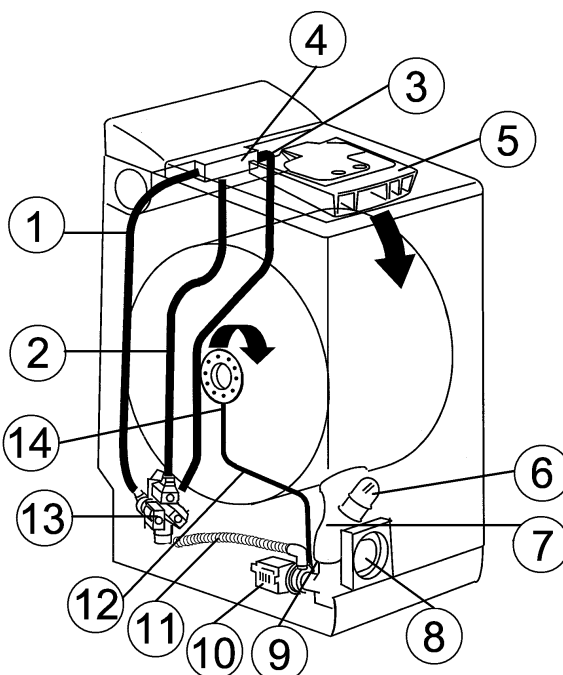
E) HYDRAULIC CIRCUIT

1) "STANDARD" washing system



- 1 - cold water
- 2 - cold water
- 3 - cold water
- 4 - distributor
- 5 - product box
- 6 - compression chamber
- 7 - rubber-bellow
- 8 - filter body
- 9 - drain pump
- 10 - drain hose
- 11 - ventilation of fluff filter housing
- 12 - inlet valve

2) "DIRECT SPRAY" washing system



- 1 - cold water
- 2 - cold water
- 3 - cold water
- 4 - distributor
- 5 - product box
- 6 - compression chamber
- 7 - rubber-bellow
- 8 - filter body
- 9 - circulation pump
- 10 - drain pump
- 11 - drain hose
- 12 - direct spray hose
- 13 - inlet valve
- 14 - control opening for direct spray

a) Advantages of the “Direct Spray” function

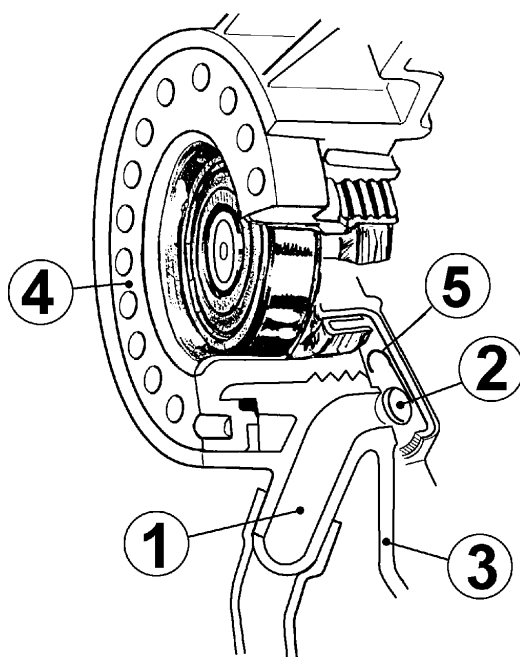
The “direct spray” function with a spraying system in the middle of the drum offers a high performance of washing and rinsing to the user with a low consumption of water and energy.

“Direct Spray” principle:

- During the filling the circulation pump function permits to moisten quickly the washing and thus to optimize the amount of water following the quantity and kind of washing.
- During the washing cycle the circulation of washing water permits a continuous spraying. This operation combined with the mechanical effect of the drum rotation permits to obtain a very high performance of wash.
- The circulation with foam control will also be used during the rinsing cycles to optimize the water consumption.

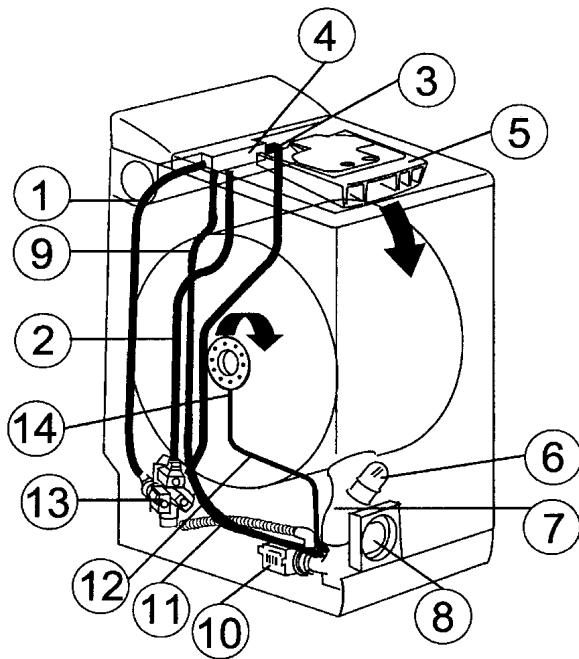
b) Principle

The circulation pump brings the wash water from the drum to the left bearing, then this water is injected through the holes in the drum (2).



- 1 - “direct spray” inlet connecting piece
- 2 - injection hole in the drum
- 3 - tub
- 4 - bearing
- 5 - deflecteur

3) "ECO"-washing system



- | | | |
|----|---|--|
| 1 | - | cold water |
| 2 | - | cold water |
| 3 | - | cold water |
| 4 | - | distributor |
| 5 | - | product box |
| 6 | - | compression chamber |
| 7 | - | durit-hose with ECO-ball |
| 8 | - | filter body |
| 9 | - | hose for ECO-ball |
| 10 | - | drain pump |
| 11 | - | drain hose |
| 12 | - | hose for water excess pressure |
| 13 | - | inlet valve |
| 14 | - | control opening of water excess pressure |

a) Advantages of the "ECO" function

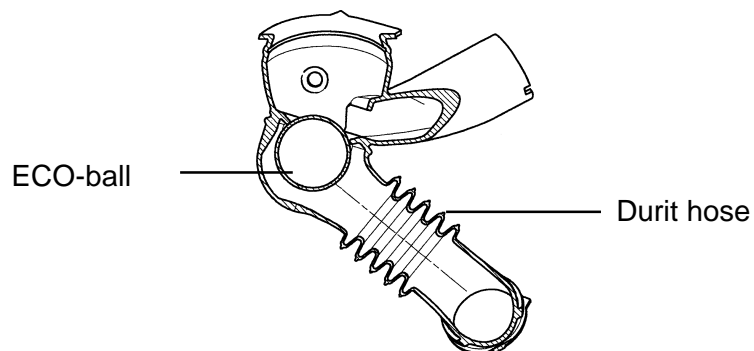
Due to the „ECO“ washing systems, with the ECO-ball in the durit-hose, the user achieves a high washing and rinsing result with a low consumption of detergent.

The detergent does not fall down as far as to the drain area during the filling cycle, but remains on the ECO-ball usable for the washing cycle.

b) Principle

During the filling cycle, a part of the water is conducted through the hose (9) into the fluff filter housing.

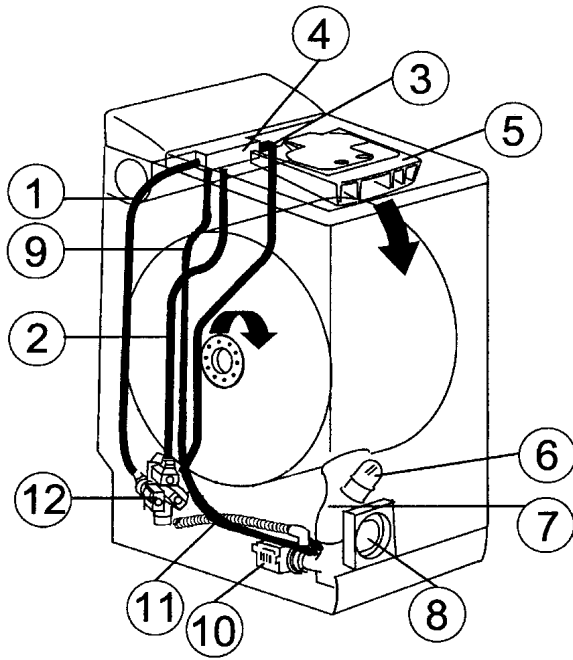
The water level in the fluff filter housing increases until the ECO-ball floats up in the durit hose and locks the way to the tub (see figure).



The further existing water pressure is passed on through the hose (12) into the tub.

When selecting the drain pump, the ECO-ball is drawn downwards because of the underpressure, the water in the tub can be drained.

4) "ECO"-washing system with nozzle



- | | | |
|----|---|-------------------------------|
| 1 | - | cold water |
| 2 | - | cold water |
| 3 | - | cold water |
| 4 | - | distributor |
| 5 | - | product box |
| 6 | - | compression chamber |
| 7 | - | durit-hose with ECO-ball |
| 8 | - | filter body |
| 9 | - | hose with nozzle for ECO-ball |
| 10 | - | drain pump |
| 11 | - | drain hose |
| 12 | - | inlet valve |

a) Advantages of the "ECO" function

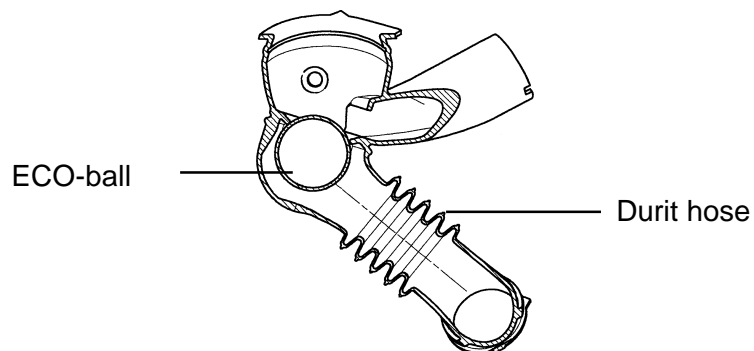
Due to the „ECO“ washing systems, with the ECO-ball in the durit-hose, the user achieves a high washing and rinsing result with a low consumption of detergent.

The detergent does not fall down as far as to the drain area during the filling cycle, but remains on the ECO-ball usable for the washing cycle.

b) Principle

During the filling cycle, a part of the water is conducted through the hose (9) into the fluff filter housing. The water quantity inflow is dosed via a nozzle. This is located in the hose (9) approximately 5 cm beneath the water distributor

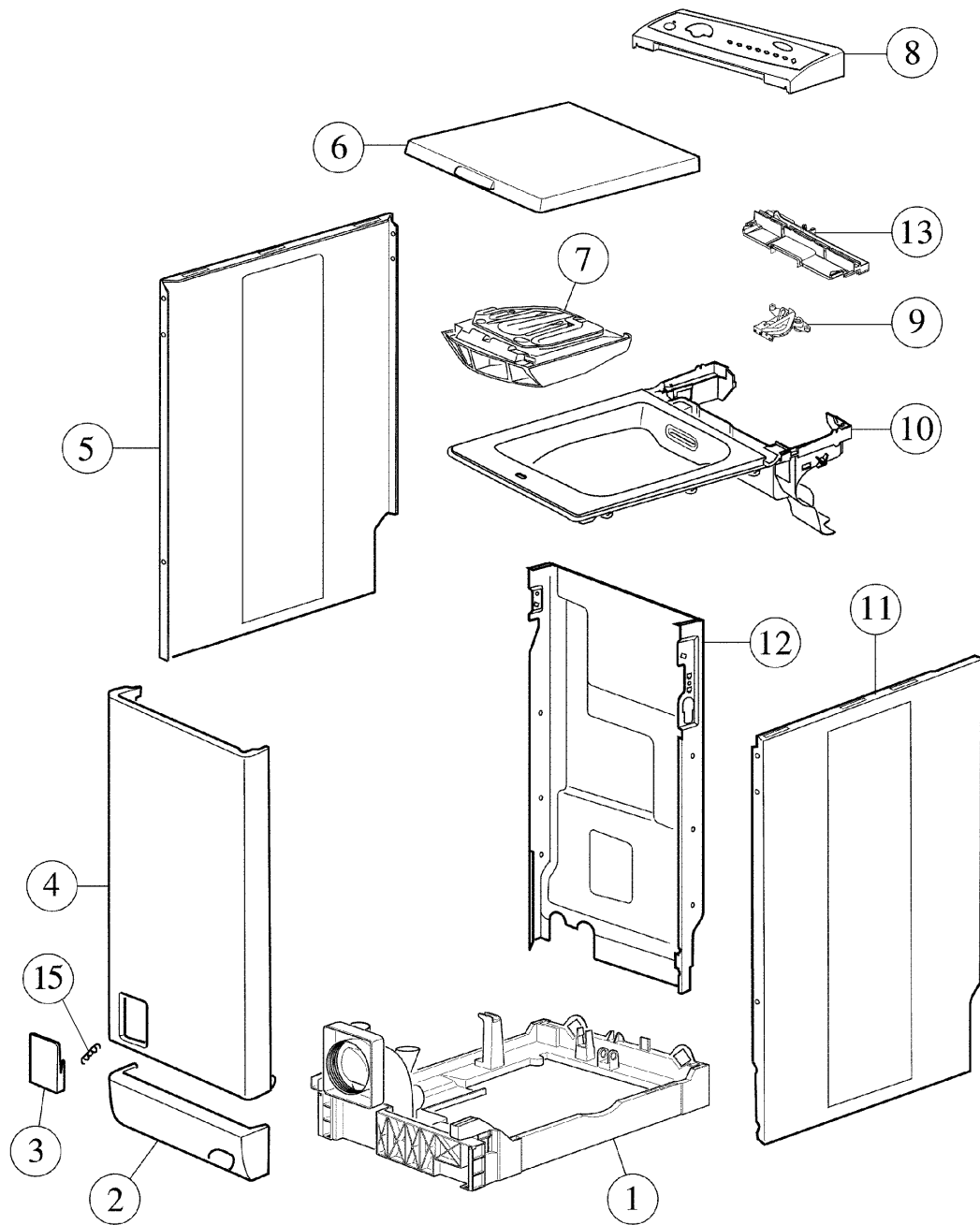
The water level in the fluff filter housing increases until the ECO-ball floats up in the durit hose and locks the way to the tub (see figure).



When selecting the drain pump, the ECO-ball is drawn downwards because of the underpressure, the water in the tub can be drained.

F) STRUCTURE

1) Cabinet

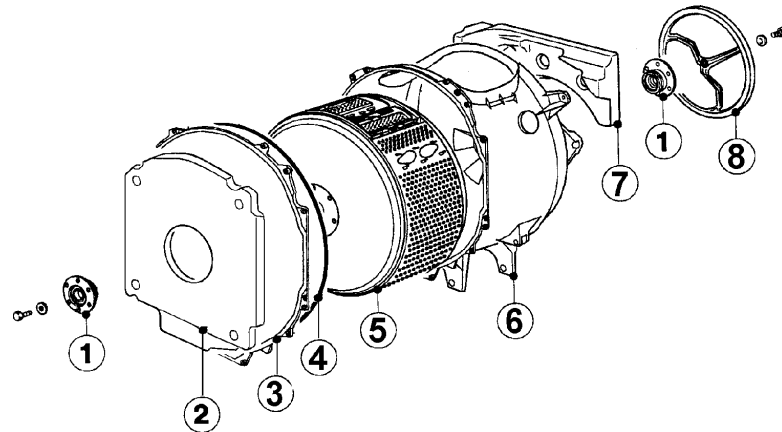


- 1 - base
- 2 - base panel
- 3 - flap for fluff filter
- 4 - front panel
- 5 - left panel
- 6 - cover
- 7 - product box

- 8 - control panel
- 9 - water distributor
- 10 - upper part
- 11 - right panel
- 12 - rear panel
- 13 - cover water distributor
- 14 - spring

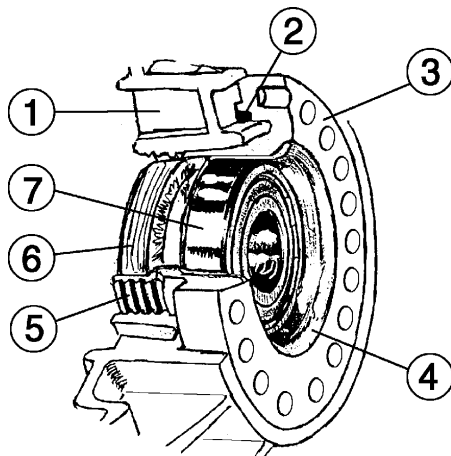
2) Internal

a) CARBORAN®-tub



- | | | | | | |
|---|---|----------------|---|---|---------------------|
| 1 | - | bearing | 5 | - | drum |
| 2 | - | left weight | 6 | - | tub |
| 3 | - | tub side panel | 7 | - | right weight pulley |
| 4 | - | tub gasket | 8 | - | |

CARBORAN®-tub bearing



- | | | |
|---|---|----------------------------|
| 1 | - | tub |
| 2 | - | static gasket |
| 3 | - | bearing body |
| 4 | - | metallic insert of bearing |
| 5 | - | threading of bearing body |
| 6 | - | dynamic gasket |
| 7 | - | bearing |

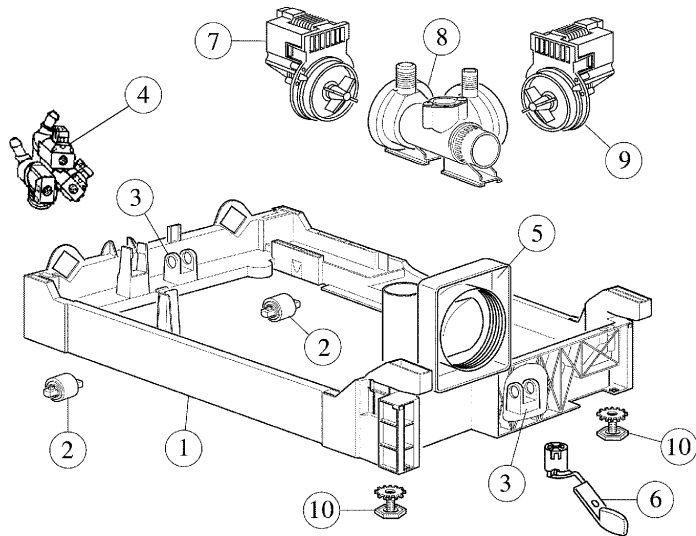
Both bearings are screwed on the tub (1).

The bearing (7) is pressed into a metallic insert.

The bearing is sealed as follows:

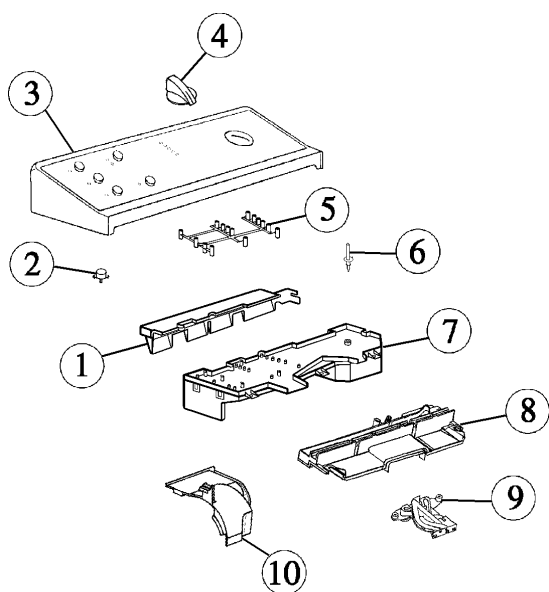
- The gaskets (6) to the shaft are set into the bearing body. The bearing seat permits to obtain a perfect concentricity between the bearing (7) and the gasket (6), which guarantees a perfect sealing.
- The bearing seat on the tub is sealed by a gasket (2).

b) Base



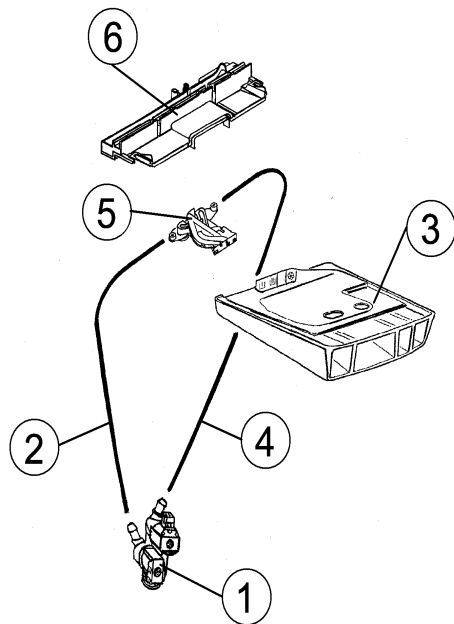
- | | | | |
|---|------------------------------------|----|---|
| 1 | - base | 7 | - drain pump |
| 2 | - rear roller | 8 | - connection drain/circulation pump (following model) |
| 3 | - fixation for shock absorber | 9 | - circulation pump (following model) |
| 4 | - cold water inlet valve (2-fold) | 10 | - adjustable feet |
| 5 | - filter body included in the base | | |
| 6 | - front roller kit | | |

c) Control panel



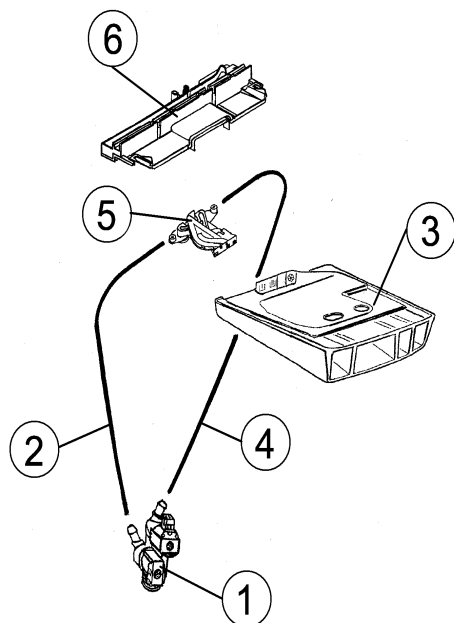
- | | |
|----|--|
| 1 | - Cover for cable connection |
| 2 | - key cap |
| 3 | - panel |
| 4 | - knob |
| 5 | - LED light guide |
| 6 | - Potentiometer axis |
| 7 | - electronic |
| 8 | - cover for water distributor |
| 9 | - water distributor |
| 10 | - Cover for pressostat and interference filter |

d) Distribution system



- 1 - inlet valve, 2-fold
- 2 - hose for main wash
- 3 - 3-chamber detergent box
- 4 - hose for pre-wash
- 5 - water distributor
- 6 - water distributor cover

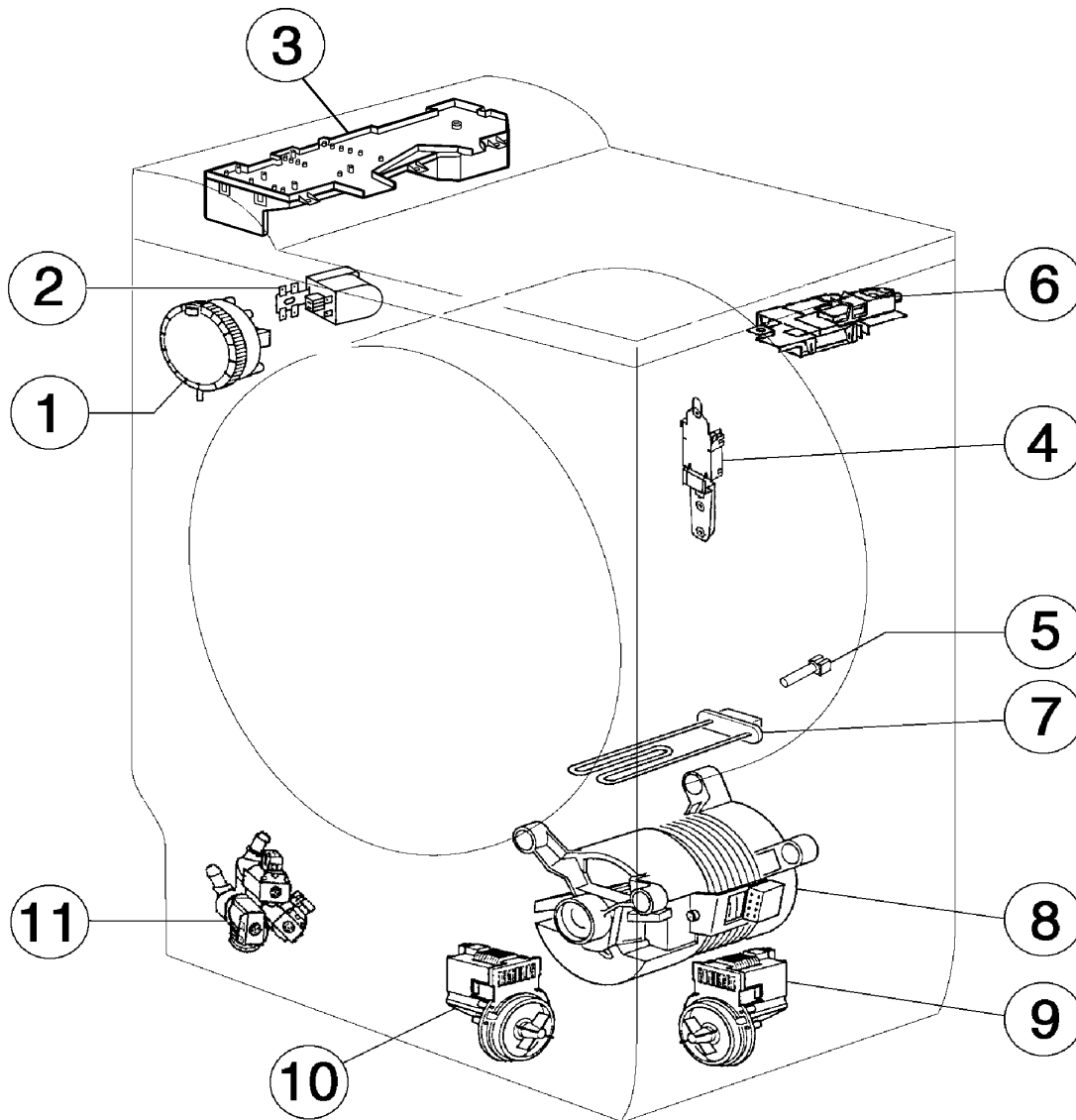
***) Attention!**
 The flushing into the prewash chamber goes via hose 4.
 The flushing into the main wash chamber goes via hose 2.
 The simultaneous filling through hoses 2 and 4 provides the fill-in through the softener chamber.



- 1 - inlet valve, 2-fold
- 2 - hose for main wash
- 3 - 4-chamber detergent box
- 4 - hose for pre-wash and bleach
- 5 - water distributor
- 6 - water distributor cover

***) Attention!**
 The flushing into the prewash resp. bleach chamber goes via hose 4.
 This is possible due to a connecting channel in the flush-in chamber.
 In doing so, approx. 75% water flows into the prewash chamber and approx. 25% into the bleach chamber.
 It is not possible to select both options prewash and bleaching at the same time.
 The flushing into the main wash chamber goes via hose 2.
 The simultaneous filling through hoses 2 and 4 provides the fill-in through the softener chamber.

e) *Electric components position*



- 1 - pressure switch
- 2 - suppressor
- 3 - electronic module
- 4 - DSP - drum support positioning
- 5 - NTC sensor (drain bellows)
- 6 - door lock
- 7 - heating element
- 8 - drum motor
- 9 - circulation pump
- 10 - drain pump
- 11 - cold water inlet valve (2-fold)

G) ACCESS TO THE COMPONENTS

1) Control panel

a) Disassembling

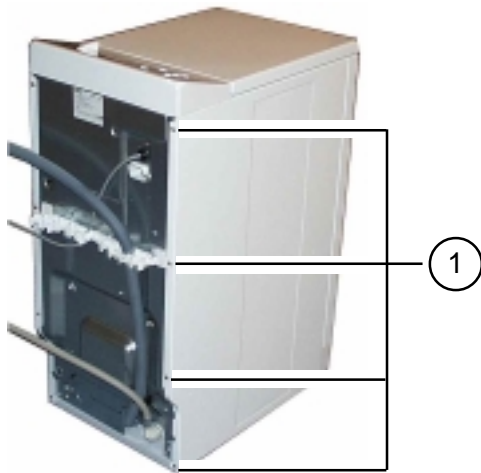


- 1 - Unlock the control panel of side anchoring.
- 2 - Tilt the control panel to the back.
- 3 - Unlock the clips on the 2 points of rear anchoring.
- 4 - Remove the control panel.

The disassembling of the control panel gives access to:

- of electronics
- of potentiometer axle
- of pushbutton cap
- of cover to water diverter
- of pressostat
- of interference suppression

2) Side panel



- 1 - Unscrew the 4 rear fixation screws.

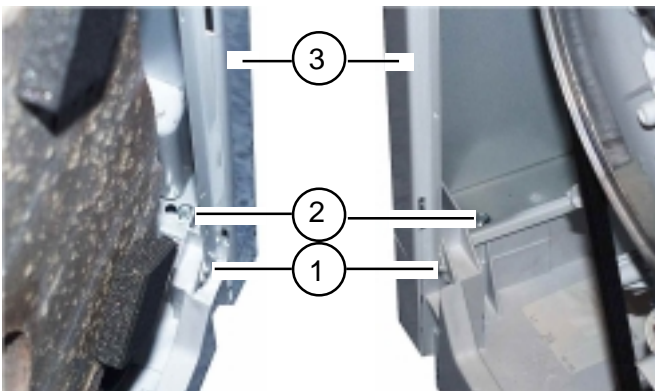
Warning: Do not forget the two washers when assembling. They confirm the earth connection of the side panels.

- 2 - Pull the side panel to the back in order to disassemble the upper anchoring and the three points of front anchoring.
- 3 - Then remove the side panel.

3) Front panel

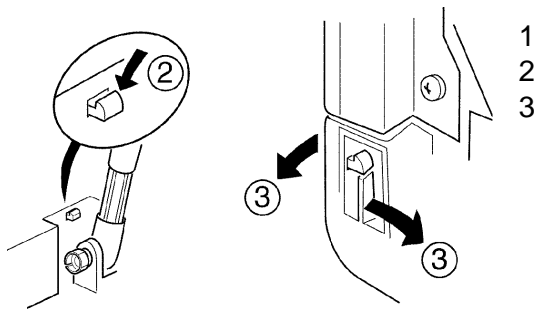
Warning: For easier handling it is necessary to put a block under the motor.

Remove the right and left side panel.

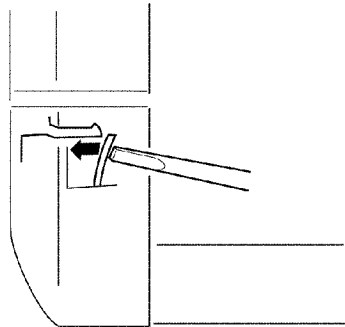


- 1 - Unscrew the two lower side fixation screws.
- 2 - Unscrew the two lower side fixation screws.
- 3 - Unscrew the two upper side fixation screws.
- 4 - Remove the front panel.

4) Base panel



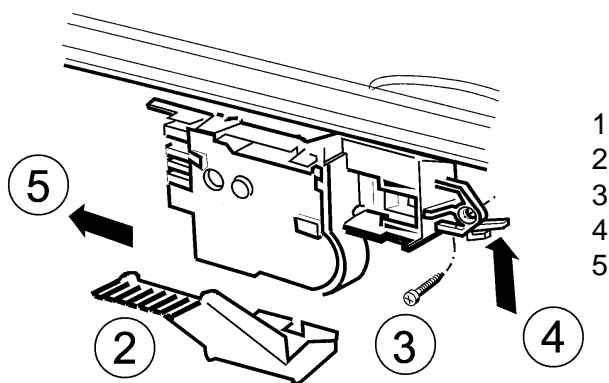
- Remove the side panels.
- Press down the middle clip.
- Pull the side of the base panel to the outside and, using a screwdriver, press the locking part to the back. Press down the clip tilting the base panel to the front at the same time.



Warning: During the assembling of the base panel take care that the side clips are in place.

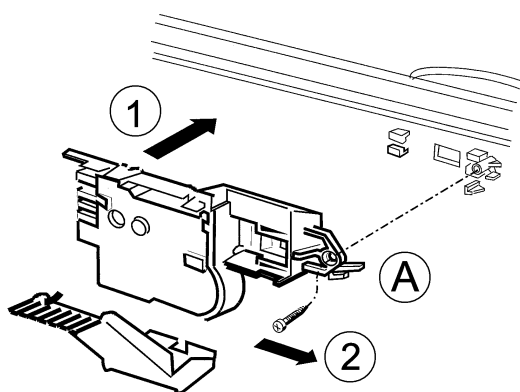
5) Door lock

a) *Disassembling*



- Remove the side panels.
- Remove the cover cap.
- Remove the screw.
- Unlock the safety clip and unlock it to the left by pushing the door lock.

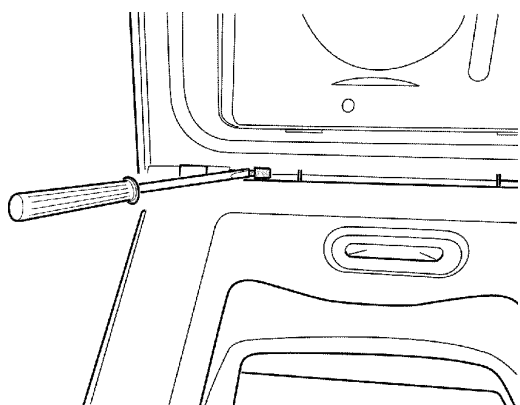
b) Assembling



- 1 - Put the door lock in front of the slides.
- 2 - Lock it by pushing to the right.
- 3 - Turn in the screw.
- 4 - Put the cover cap on.

Warning: Take care that the clip (A) is correctly locked and that the splash protection is in place.

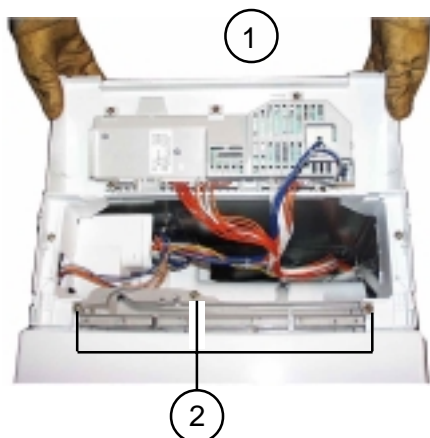
6) **Cover**



- 1 - Open the cover.
- 2 - Move out both fixing pins using a screwdriver.
- 3 - Remove the cover.

Warning: Put the water inlet tray or a cloth on the drum that the fixing pins cannot fall into the appliance when removing.

7) Water distributor cover and water distributor



- 1 - Remove the control panel.
- 2 - Remove 3 screws.
- 3 - Remove the water distributor cover.



Warning: Take care that the cover of the water distributor is sealed with silicone when assembling.



- 1 - Remove the water distributor.

8) Electronic

a) *Disassembling*

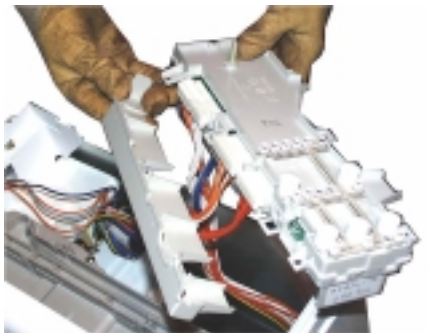


1 - Remove the control panel.

2 - Remove the five fixation screws from the electronic.



3 - Disengage cable cover



4 - Disconnect all plugs.

b) *Assembling*

1 - Lock new pushbutton caps and potentiometer axle into place in electronic unit

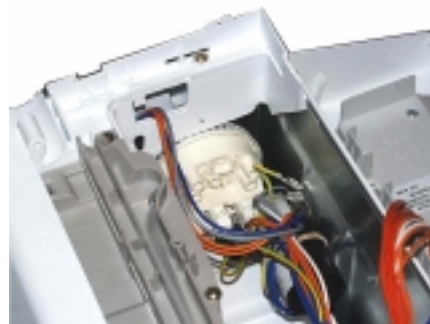
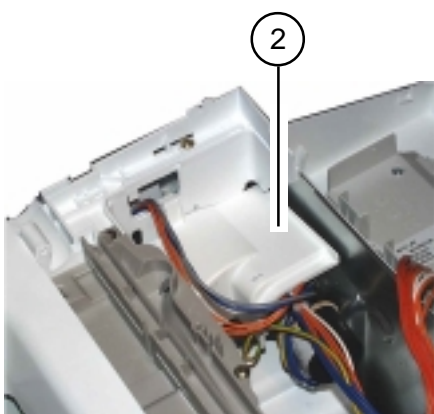
Warning: Take care to the correct wiring when assembling.

9) Pressure switch, suppressor

a) *Disassembling*

1 - Remove the control panel.

2 - Remove cover

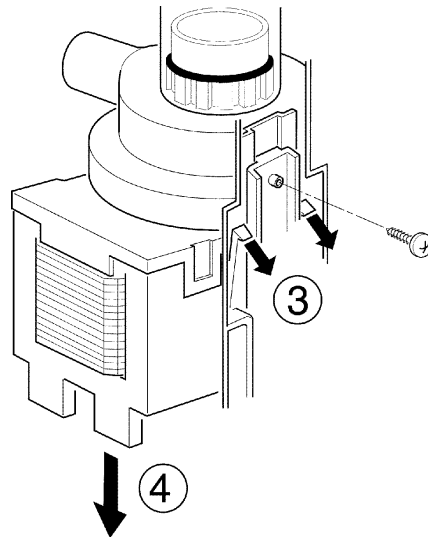


10) Inlet valve

a) *Disassembling*

- 1 - Remove the left side panel.
- 2 - Remove the valve cover.
- 3 - Pull off the distribution hoses (2 hoses).
- 4 - Unscrew the inlet hose.
- 5 - Unlock the inlet valve with the connecting piece from the base.
- 6 - Unscrew the connecting piece from the inlet valve.

11) Drain pump



- 1 - Remove the left side panel.
- 2 - Tilt the appliance to the back.
- 3 - Unlock the clips for pump and connection part (following appliance).
- 4 - Pull out the pump from the rear.

If (when you disassemble the drain pump or the connection part of drain pump/circulation pump), one of its fixation clips has been broken, use the screws with reference no. **6020190-01/0**.

12) Circulation pump

Proceed as described above.

Warning: Take care after reassembling to the correct position of the “direct spray” hose.

13) Motor

a) *Disassembling*

- 1 - Remove the left and right side panel.
- 2 - Remove the drive belt.
- 3 - Pull off the earth connection and the motor plug.
- 4 - Remove the 3 fixation screws.
- 5 - Take out the motor.

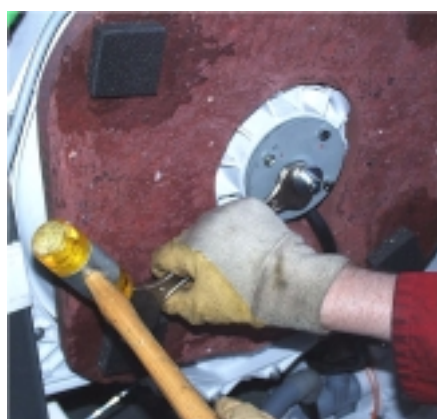
14) Bearings

a) For the drum shaft 21mm



Left bearing

- 1 - Remove the left side panel.
- 2 - Remove the drum screw.
- 3 - Use the tool for loosening the bearing (in the direction of opening).
PN 8992980018-48/5



Right bearing

- 1 - Remove the right side panel.
- 2 - Remove the drum screw with pulley.
- 3 - Remove the pulley.
- 4 - Remove the drum earth fastening parts with a saw
- 5 - Use the tool for loosening the bearing (in the direction of opening).
PN 8992980018-48/5



- 1 - During assembling take care to the correct position of the round gasket.
- 2 - Clean the drum shaft, grease the shaft-sealing ring, screw the bearing to the tub (closed sense).
- 3 - **Is only valid for the right bearing:** Secure the ground with the enclosed screw.

Note! In order to avoid a tearing off of the hexagonal screw tighten the screw carefully.
These bearings are auto-fastening, therefore do not fasten them too strong.

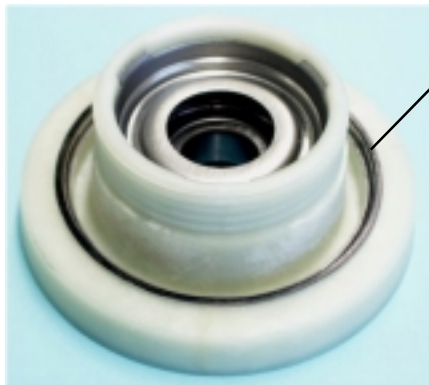
b) For the drum shaft 17mm

Disassemble the left and the right bearing as described under point a).
Remove the gasket from the drum shaft.



1 - After removing the old bearing and the gasket from the drum shaft purify the drum shaft and the gasket seat thoroughly.

2 - Shift the new gasket onto the drum shaft, afterwards apply a thin film of grease to the sealing lip.



3 - During assembling take care to the correct position of the round gasket.

4 - The new bearing only has to be assembled precisely to the bearing flange.

5 - **Is only valid for the right bearing:**
Secure the ground with the enclosed screw.
For fixing the pulley use the enclosed hexagon screw.

Note! In order to avoid a tearing off of the hexagonal screw tighten the screw carefully.
These bearings are auto-fastening, therefore do not fasten them too strong.

15) **Left and right weight**

a) Disassembling / Assembling

The whole tub can be equipped with 3 kinds of weights:

- weight of concrete
- weight with a "polypropylene" housing
- weight of iron

Right weight

- 1 - Remove the right side panel.
- 2 - Remove the foam damper.
- 3 - Untighten and remove the 4 screws for the fixation of the weight, which have a different length depending on the kind of weight.

Left weight

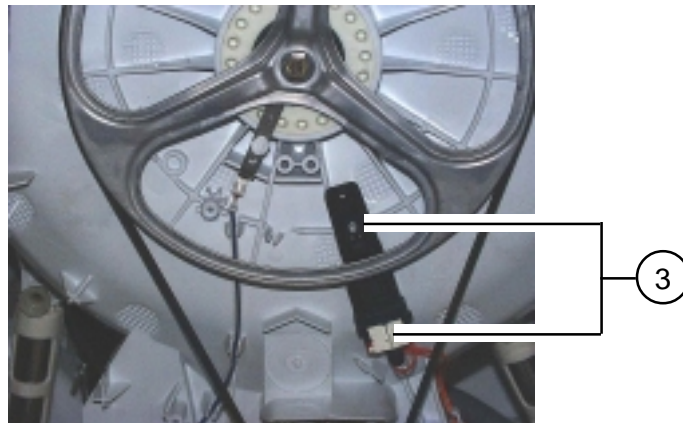
- 1 - Remove the left side panel.
- 2 - Remove the foam damper.
- 3 - Remove the direct spray hose.
- 4 - Untighten the 4 screws for the fixation of the fixing device and remove this device.

The weights are assembled in reverse order.

16) Drum support positioning DSP

a) Disassembling

- 1 - Remove the right side panel.
- 2 - Remove the drive belt and the pulley.
- 3 - Unscrew the 2 screws from the DSP.



17) NTC-sensor



a) Disassembling / Assembling

- 1 - Remove the right side panel.
- 2 - Heatingelement loosen.
- 3 - Remove the NTC-sensor careful
- 4 - Press in the NTC sensor and retighten the heating element.

H) CHANGES

Date	Page changed
07.05	2, 8, 23
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12.05	21, 22