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1 SAFETY

1.1 SAFETY



DANGER!

Repairs may only be carried out by an electrical specialist!
Inappropriate repairs may cause danger to the user or cause damage for the user!

To avoid the danger of electric shock, observe the following advice at all times:

Housing and frame may be live as a result of a fault!

Dangerous body currents may flow as a result of touching live components within the appliance!

Disconnect the appliance from the mains before repair!

An earth leakage circuit breaker must always be used when testing while voltage applies!

The protective conductor resistance may on no account exceed the value given in the standard! It is crucial with respect to both personal safety and appliance function.

Following repair, tests must be carried out according to VDE 0701 or according to regulations specific to the country concerned!

Following repair, both function tests and leak tests must be carried out.



WARNING!

Observe the following advice at all times:

When carrying out a measurement according to VDE 0701 using the connecting plug, the safety test must be carried out as described in the circuit diagrams.



Component may carry an electrostatic charge! Follow the handling regulations

1.3 EEC

Description



Electrostatically -

Endangering -

Components

Generally

Economy, environmental protection, control comfort, high functionality and working reliability are realized with electrical household appliances by the insertion of most modern electronics. This high-quality technology requires a professional handling and a competent specialized knowledge.

All electronic modules are equipped with components, which are endangered by an electrostatic voltage.

1.1.1 Endangered components

The following elements are endangered by electrostatic voltage:

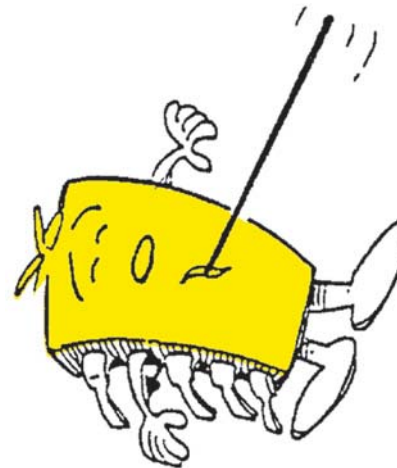
- ▶ μ Processors and IC's
- ▶ Transistors, thyristors and Triac's
- ▶ Diodes

1.1.2 Causes and effect

They lead an electrostatic voltage with itself:

- ▶ of up to 35,000 V, if you walk over a non conductive carpet,
- ▶ of up to 12,000 V, if you walk over a non conductive PVC soil
- ▶ and of up to 1,800 V, if you sit on a padding chair.

The electrostatic voltage of their body is passed to electronics and EEC's affected by them, which are possibly damaged thereby.



Dead

- ▶ A defect part
- ▶ A defect component
- ▶ A defect appliance



Slightly hurt

- ▶ Damaged
- ▶ Weakened
- ▶ Early failure

1.1.3 EEC – Notes

On all electronics modules and electronics components are electrostatically endangered elements

For the protection of these electrostatically endangered elements the following measures are to be met:

Noticing the appropriate marking of the components and modules:

Put on before contact and measurement of the EEC's a electrostatics protective system (bracelet with grounding component).

Avoid the contact of EEC's with rechargeable plastics (foils etc.).

Components, modules and PC-boards are to be touched in such a way that the conductive strips or connections are if possible not affected.

EEC's may arrive not too close at monitors and televisions.

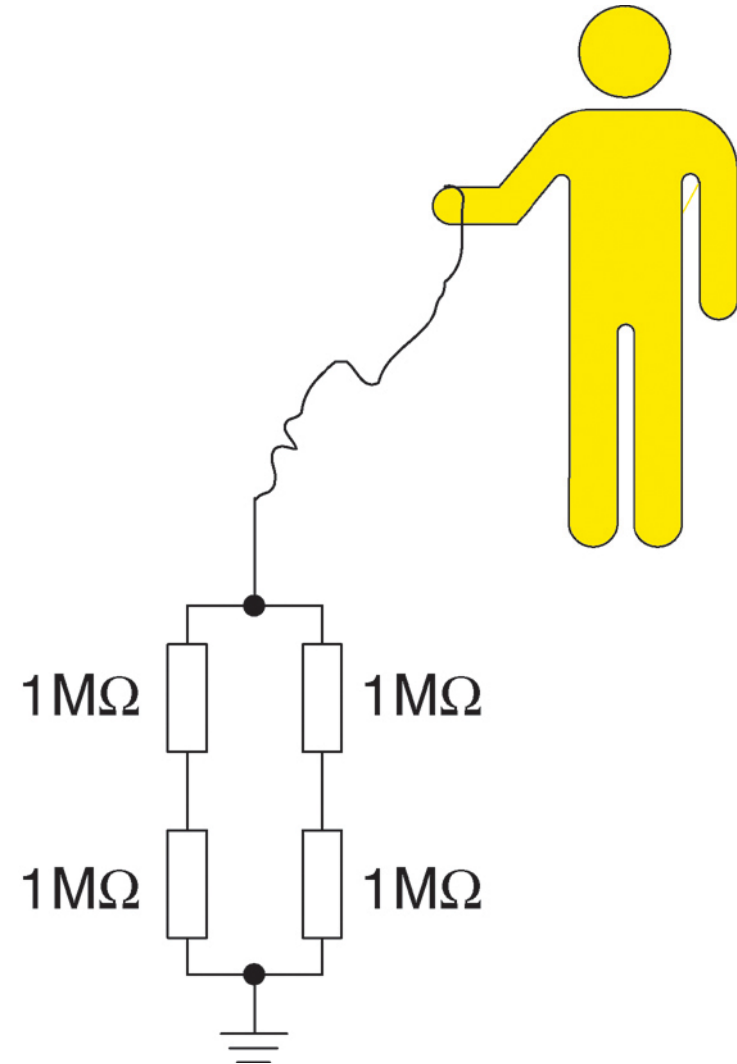
Use for transport only conductive materials or the original packaging.

1.1.4 Electrostatics protective system

The electrostatic voltage of the body is derived over the bracelet and the grounding component.

This takes place for safety reasons not directly, but over a resistance combination.

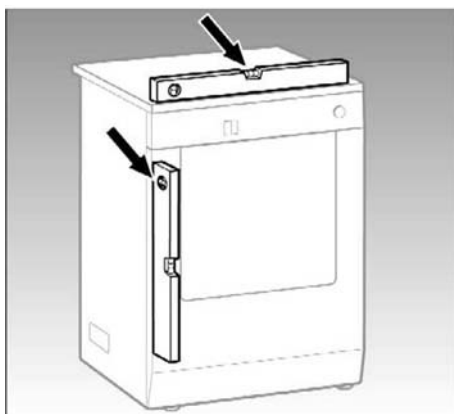
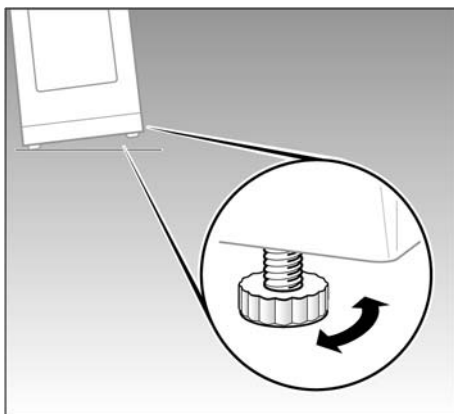
The ground connection and/or protective grounding binding must be perfect!



2 INSTALLATION

2.1 Alignment / Connection

- ▶ Place the dryer on a level and firm surface.
- ▶ Level the dryer with the four height-adjustable feet. (Use spirit level)



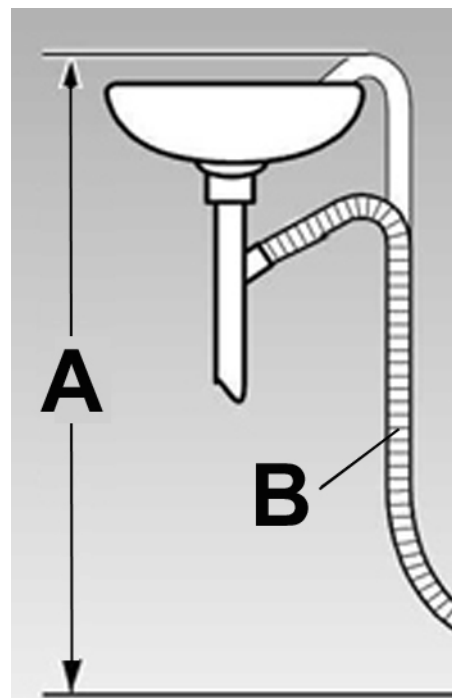
- ▶ The dryer can be installed in combination with a washing machine (front loader). To ensure a secure connection, use the original connection sets. See operating instructions.
- ▶ The installation location must be supplied with adequate fresh air. (Open window or door)
- ▶ Do not block the cooling-air grille on the front of the dryer, otherwise adequate cooling air cannot be drawn in.
- ▶ Do not install the dryer in a room where there is a risk of frost. Freezing water may damage the appliance.

2.2 Drainage fittings / Connection

If connection is to a wash-basin, the max. height is restricted to 1 metre. (Fig. 1)

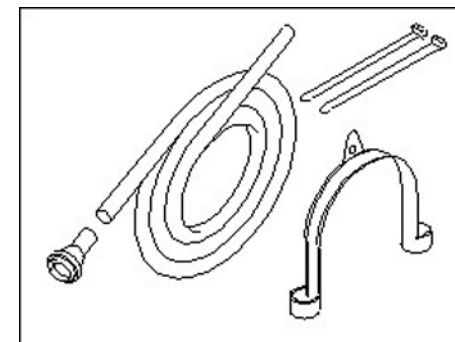
Do not extend the hose (2 m).

Order number: see circuit diagrams



A Max.100cm

B Max. 70cm



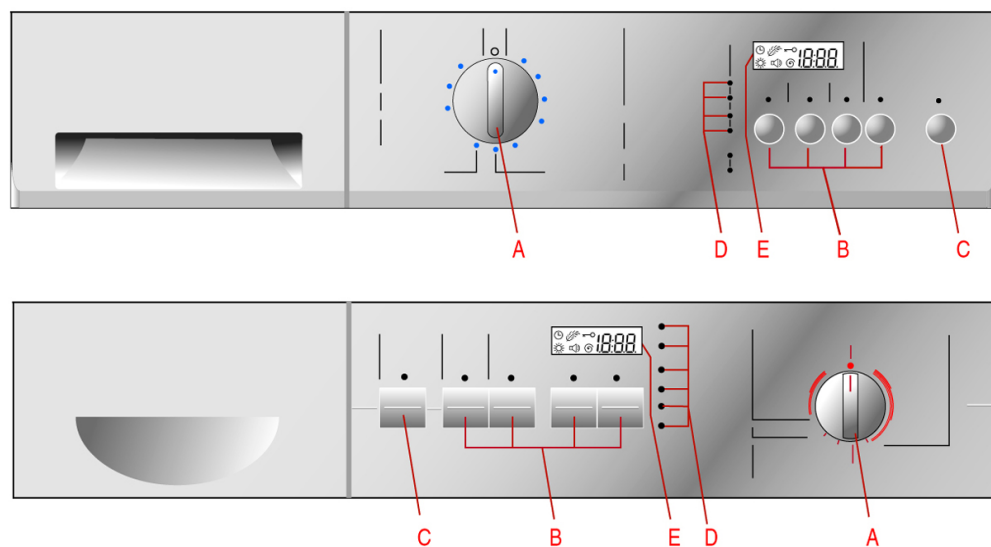
Conversion 10 / 16 A

- ▶ Set programme selector to Off.
- ▶ Simultaneously press **Start/Stop** and **Gentle** buttons and hold down.
- ▶ Rotate the programme selector to the right to "Extra dry".
- ▶ Release both buttons.

- ▶ Continue rotating the programme selector clockwise through 5 positions.
- ▶ Press the **Start/Stop** button.
- ▶ The set value is displayed.
- ▶ The setting can be switched to 10 or 16 A by pressing the **Gentle** button.
- ▶ Press the **Start/Stop** button. The value is saved and the display goes out.

3 OPERATION

3.1 Fascias



- A Programme selector
- B [Additional functions](#)
- C Start / stop button
- D Programme progress indicator
- E [LCD display](#)

3.2 Program Selector Switch

Single knob operation – 15 drying programs, including 2 timed programs warm and cold.

Automatic programs

- **Cottons / Coloureds**

Turn the program selector to the right to set the desired drying result.

- **Easy-care programs**

Turn the program selector to the left to set the desired drying result.

Timed programs

Timed programs for delicate textiles made from acrylic fibre for the final drying and airing of up to 5 kg of washing. The program duration is limited to 150 minutes.

- **Woollens Finish up to 3 kg**

Woollens Finish program lasts 2 minutes. The textiles become fluffier but are not completely dried.

- **Wool-basket program**

The woollens program is a timed program and has a fixed temperature of 65°C. The precise temperature guarantees that there is no matting or shrinkage of the wool. The program is set for a maximum length of 15 minutes.

3.2.1 Program Sequence Display

The program stage is displayed by means of LED's on the control panel. In the case of a fault the LED's indicate whichever fault has arisen.

[see checklist:](#)

3.3 Optimisation Keys

- **Crease protection / easy-iron**

Reduces crease formation by gently reversing the drum 70" right / 50" left. For crease protection (easy-iron) the program time is extended by 2 hours.

- **"Low-heat"**

Press the "low-heat" key for delicate textiles. The temperature is reduced by approx. 15°C.

3.4 Additional Functions

3.4.1 Menu

The menu key can be used to select further settings on the appliance.

3.4.2 Change

The change key can be used to modify the current setting.

3.4.3 Preset start time

A program can be started with a delay of up to 19 hours. This can be set in 1-hour steps on the LED display. On an appliance with an LCD display it can be set in half-hour steps up to 2 hours, thereafter in 1-hour steps.

3.4.4 Super low-heat

A special program for very temperature sensitive easy care (easy-iron) fabrics made of synthetics and mixtures as well as clothing with foam printing. The temperature is reduced by a further 10 °C.

3.4.5 Child protection

If child protection is selected no changes can be made while a program is running. The keys and the program selector are functionless.

Activating the child protection:

- select the program
- press the select key and choose (On/Off) 
- **cancelling child protection:**
- select the program
- press and hold the Start/Stop key for 4 seconds
- Start/ Stop flashes
- deactivate child protection using the select and change keys.

3.4.6 Fine adjustment to the degree of dryness

The degree of dryness of each of the programs “cupboard”, “very” and “extra dry” can be increased to a small extent. This is advisable if the water is hard or the ambient temperature is low. The drying result can be set in 4 steps (0, 1, 2, 3). Step 1 is 0.5 %, step 2 is 1.0 % and step 3 is 1.5 % drier.

3.4.7 End of program signal

The signal volume can be set in 4 steps (0, 1, 2, 3) corresponding to off / quiet / medium / loud.

3.4.8 Washing machine spin speed

The accuracy of the time-remaining display is increased if the washing machine spin speed is entered. The spin speed may be entered in the following steps: 800, 1000, 1200, 1400 and 1600. If the washing machine has any other spin speed setting, the next lowest spin speed should be entered.

4 COMPONENTS

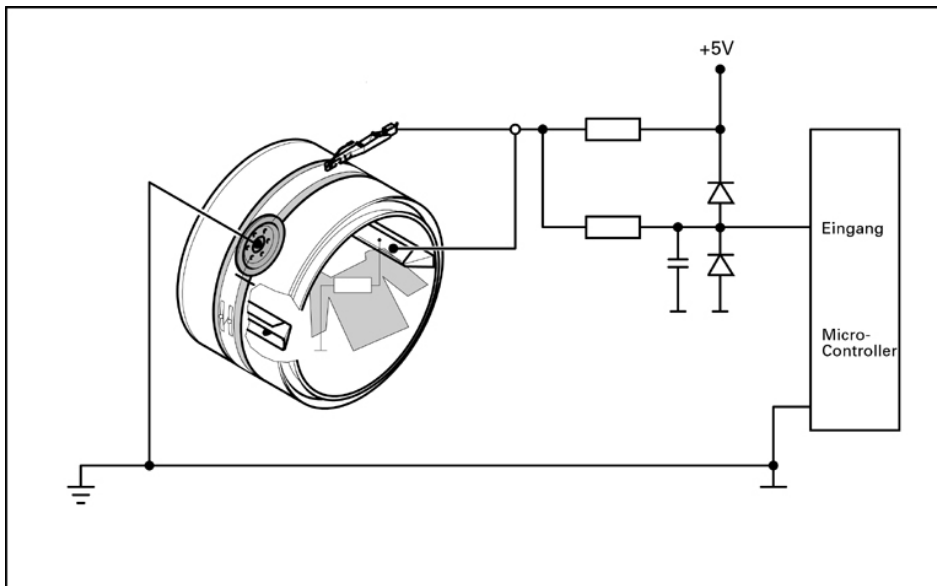
4.1 achievement module

Description of function

The module contains all components, like microprocessor and relay. It takes over functions of the control of expirations of drying, temperature monitoring, determination of parameters and the control of engine, heating and condensate pump

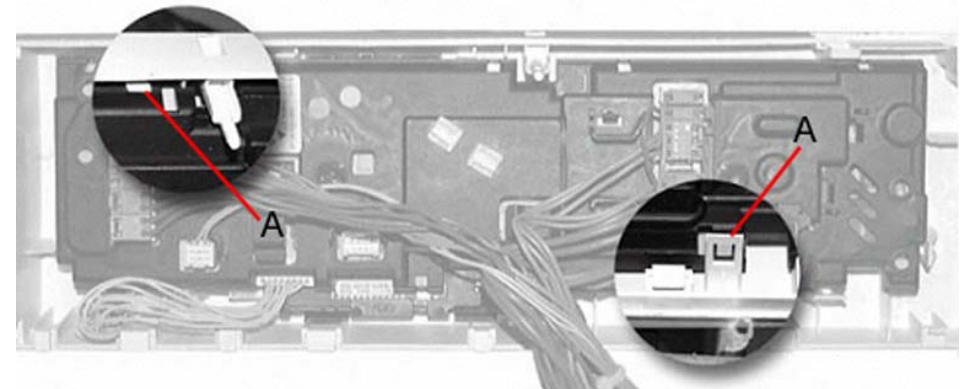
Conductance measurement

The drying goal is determined by a conductance measurement. The conductance measurement of the laundry is attributed to a stress measurement and/or a resistance test.



Disassembly

- ▶ The module is also in the serving screen rests.
- ▶ Serving screen release.
- ▶ Cable straps loosen.
- ▶ All electrical connections take off.
- ▶ Six rest hooks loosen and module infer.



A Rest hooks

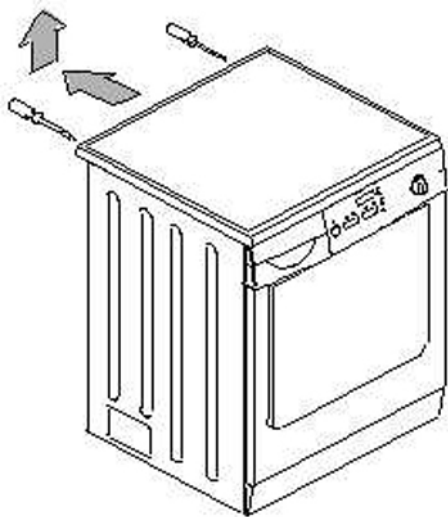
Coding:

Module is not to coding.

4.2 Worktop

4.2.1 Disassembly

Remove the two screws at the rear of the worktop and lift off the worktop towards the rear.



4.3 Control Panel

4.3.1 Disassembly

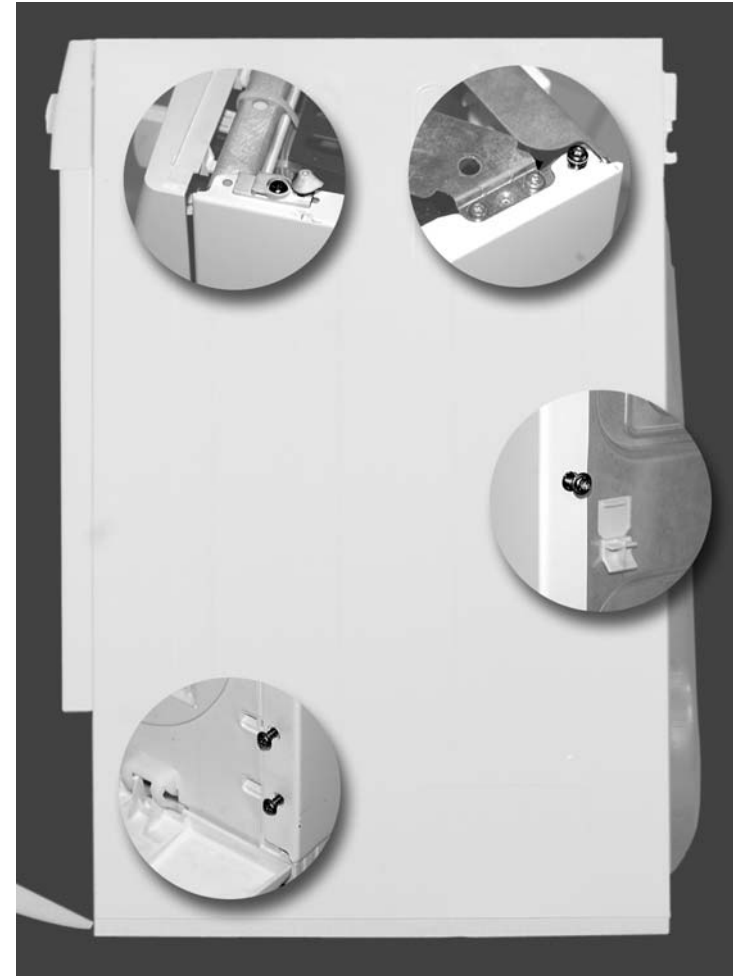
Pull the control panel towards the front with the aid of a screwdriver (Figure).



4.4 Side Panel

4.4.1 Disassembly

- ▶ [Remove the worktop.](#)
- ▶ Remove the two screws at the upper edge of the side panel (Fig. 1 - 2).
- ▶ Remove the two screws behind the service flap (Fig. 3).
- ▶ Remove all four screws on the side panel (Fig. 4).
- ▶ Lift off the side panel upwards.



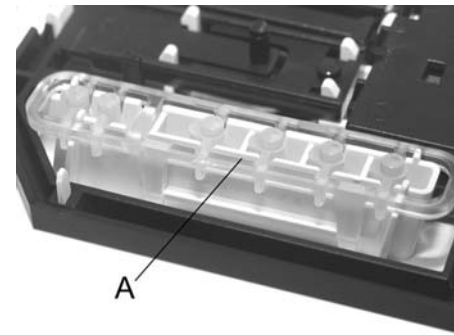
4.5 LCD Display

Disassembly

Only step by step as described.

- ▶ Panel dismantle
- ▶ Remove Power Module
- ▶ The light conductor of the status indication (fig. 1) must break through with a screwdriver to be completely removed (fig. 2).
- ▶ Push button bank release and dismantle (fig. 3)?
- ▶ LCD module remove.

Fig 1



A Light conductor

Fig 2

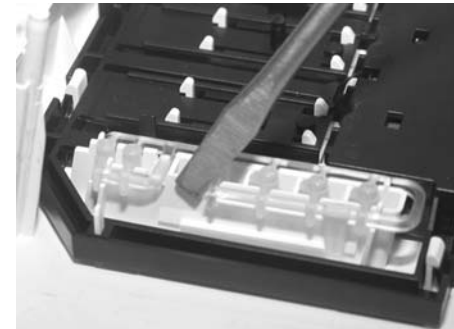
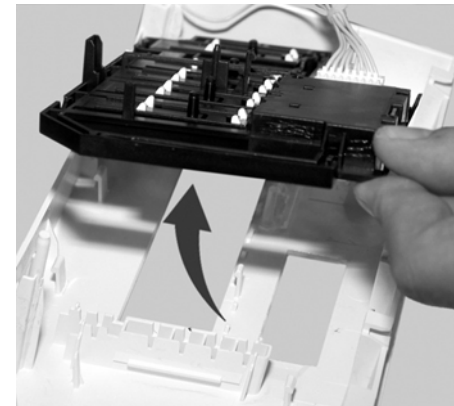


Fig 3



4.6 Condensate Pump

The pump is switched by the performance module at predetermined times.

In normal operation: 30 s on / 90 s off

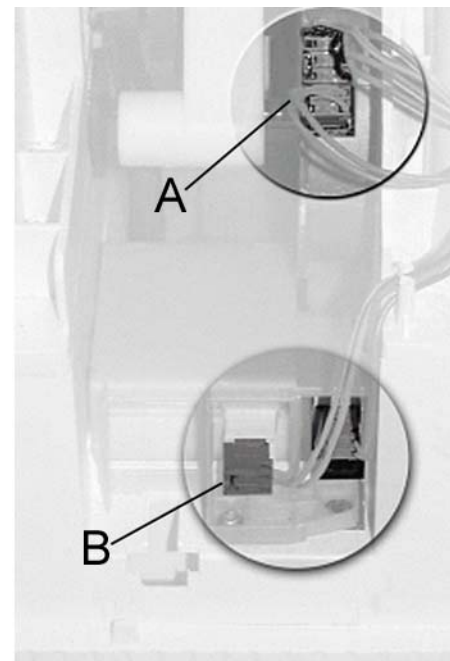
When “Container” LED is illuminated: 90 s on / 30 s off

Technical data:

- ▶ operating voltage 230 V
- ▶ frequency: 50 Hz

4.6.1 Disassembly

- ▶ [Remove worktop and right side panel](#)
- ▶ Release belt tightener
- ▶ Disconnect motor and condensate pump plugs (Fig. 1)
- ▶ Pull off motor holder
- ▶ Release hose from pump nozzle
- ▶ Unscrew the retaining screw holding the cover (Fig. 2)
- ▶ Take out the cover above the condensate pump



- A Motor plugs
- B Condensate plugs
- C retaining screw

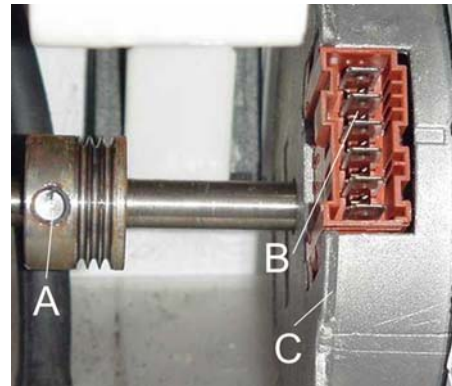
4.7 Motor

Technical Data:

- ▶ Power consumption, appliance empty: 250 W
- ▶ Current demand, appliance empty: 0.8 A
- ▶ Motor capacitor, capacity: 7.5 μF
- ▶ Frequency: 50 Hz
- ▶ Operating voltage: 230 V

4.7.1 Disassembly

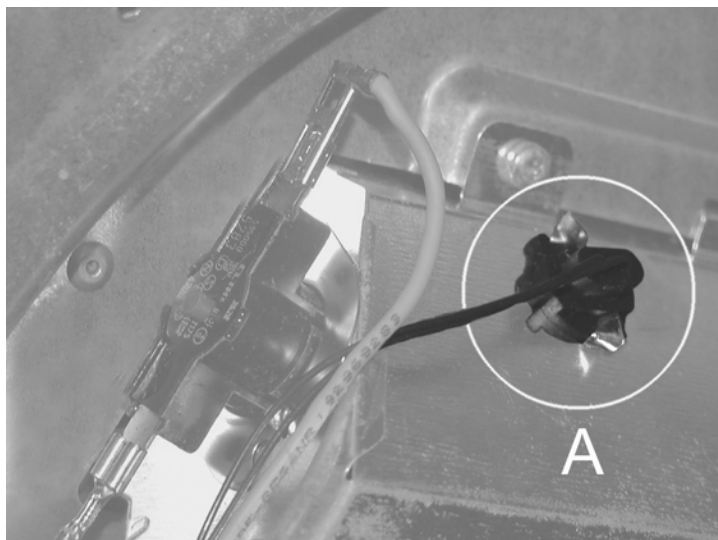
- ▶ [Remove left side panel.](#)
- ▶ Remove electrical connections from motor.
- ▶ Dismount motor holder.
- ▶ Release belt tightener.
- ▶ Lock motor shaft (6 mm drill hole)
- ▶ Remove fan wheel screws and take out the motor to the left.



- A 6 mm drill hole
- B motor plug
- C motor

4.8 NTC R2 Heating

Sits above the heating system within the air stream and measures the warmed process air. The permitted temperature lies between –12 to +185 °C.



NTC R2 (Heating)	
Degrees in °C	Resistance value in KΩ
5	51.5
10	40.2
25	25
50	7.2
80	2.4
100	1.3
150	0.36

4.9 NTC R3 Bearing End Plate

Located in the filling opening and measures the expelled air. The temperature range is from –12 to +90 °C.



NTC R3 (Bearing End Plate)	
Degrees in °C	Resistance value in KΩ
0	32,6
5	25,3
10	19,9
25	10
40	5,3
50	3,6
60	2,4

4.10 Heating

The heating circuit consists of two heating resistances, the overheat protection B9 and the NTC R2

Heat stage 1: 700 W
Heat stage 2: 1800 W
Tolerance $\pm$ 10%

Disassembly

- ▶ Remove worktop.
- ▶ Remove right side panel.
- ▶ Disconnect electrical connections.
- ▶ Remove rear panel.
- ▶ Remove screw on the heating plug.
- ▶ Remove heating screws and take out the heating system.

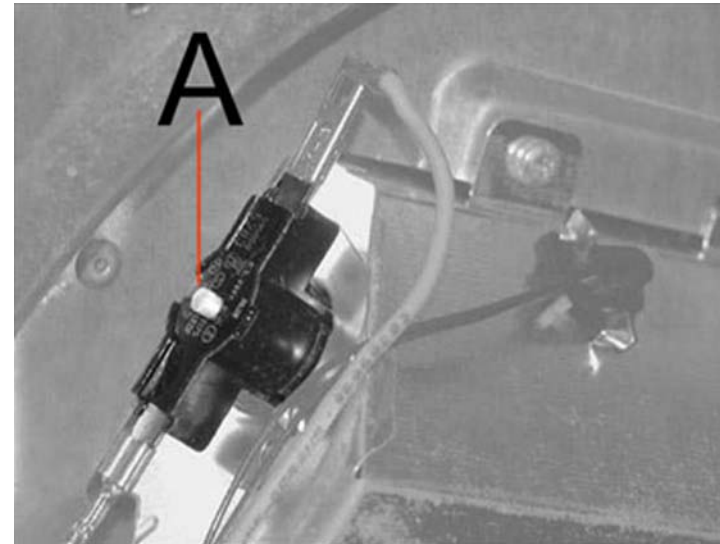
4.11 Overheat protection B9

The overheat protection cuts in if local overheating occurs, e.g. interruption of the flow of air.

(Trigger temperature approx. 170 °C)

Tip:

If the overheat protection has triggered it can only be switched back again manually by means of the red reset button.



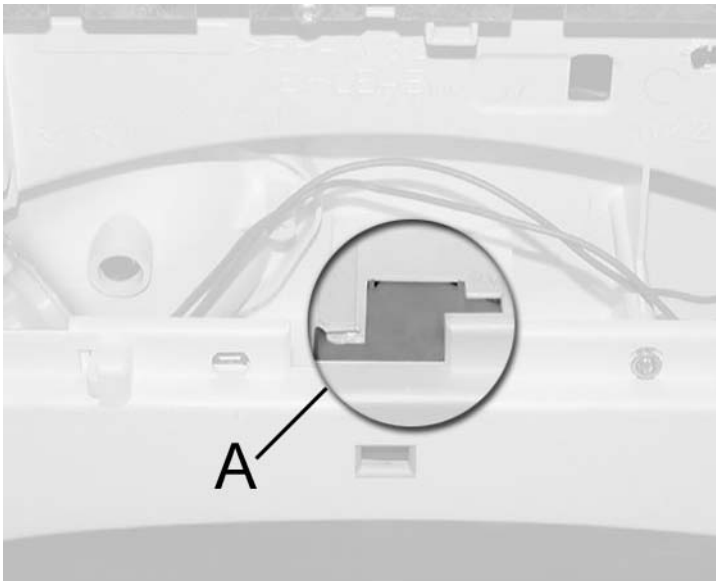
A Reset button

4.12 Door Switch

4.12.1 Disassembly

Remove the control panel.

- ▶ Take off the door
- ▶ Remove the frame and front housing
- ▶ Take out the door switch towards the front
- ▶ Disconnect electrical connections



A Door switch

5 FUNCTIONS

6 REPAIR

7 FAULT DIAGNOSTICS

7.1 Fault and status displays

Customer complaint	Cause	Remedial action
"Dry" LED flashes (E is displayed)	Cable break or short-circuit NTC R2.	Start test programme. Check NTC R2 according to terminal diagram. See measured-value table for NTC R2. If required, replace NTC. Check cable / plug contacts.
"Dry" LED flashes (E is displayed)	Cable break or short-circuit NTC R3.	Start test programme, check NTC R3 according to terminal diagram. See measured-value table for NTC R3. If required, replace NTC. Check cable / plug contacts.
"Fluff / Finished" LED flashes	Fluff strainer, air cooler, air circuit (perhaps pollen filter) blocked Water passages and condensation tank blocked.	Check and, if required, clean air passages. Check and, if required, clean water passages.
	Ambient temperature above 30 °C.	Ensure that the cooling air circulation is adequate, e.g. open door or window.
	Thermal cut-out overheated (B9)	Check air passages. Check belt and drum rotation. (Drum rotation 52–54 min ⁻¹)
	Short-circuit or shunt in conductivity system. Time fault	Run test programme to measure conductivity. Max. running time of 240 min reached.

Customer complaint	Cause	Remedial action
Filter LED flashes,	Drum difficult to move	Drum rotation below 52 min ⁻¹ Check drum supports and, if required, replace. Check electrical connections on the motor and motor capacitor.
	Rapid temperature rise on the NTC R2 (heater)	See Measured-value table , check electrical connections and NTCs. Check processor air circuit for blockage.
	Foreign objects (paper remnants) or fluff in the air passages.	Clean and check the air passages.
	Fluff filter blocked with fabric softener or scented cloths.	Clean fluff filter with warm water. Advise customer.
“Condensation tank” LED flashes, (displayed after 120 s only) the LED goes out after 10 s following the reset point.	Check water channels for foreign objects. Condensation level switch or float defective.	Remove fluff and foreign objects. Check and, if required, replace switch and float.
“Cupboard dry” LED flashes	Fluff strainer, air cooler, air circuit blocked (overheating)	Clean air circuits. Advise customer.
	Overload	Advise customer. (Max. 5–6 kg)
	Drum drive and air impellers difficult to move.	Check motor, motor capacitor, transmission, drum supports and, if required, replace.

7.2 Appliance Does Not Function

Fault message	Cause	Response
Program ends after 2 minutes	The washing is dry	Advise customer
	Short or shunt in the conducting system	Start test program (conductivity measurement)
The appliance does not start	Door switch default	Check door switch according to circuit diagrams replace if necessary
	Module [not] correctly located in the control panel	Remove control panel and check module is correctly located in the control panel
	Ambient temperature under 5 °C	Increase ambient temperature
The appliance cannot be started	Child safety lock is on G	Deactivate child safety lock

7.3 Drive

Customer complaint	Cause	Remedial action
Drum does not rotate	Cable or plug-and-socket connection on the motor interrupted. Motor capacitor defective. Belt tensioner defective. Drum support defective. Motor circuit-breaker has tripped.	Check and, if required, replace according to circuit diagrams. Check power of the motor capacitor, if required replace Check and, if required, replace belt tensioner. Check the seat of the drum support and, if required, replace. Check motor for winding short-circuit and/or mechanical secure attachment, if required replace.

7.4 Odour

Customer complaint	Cause	Remedial action
Scorching odour	Drum overloaded	Observe max. load.
	Washing not suitable for drying	Observe care symbols.
	Foreign objects in the appliance	Remove foreign objects.
	Plug-in contacts / components	Scorched plugs / replace components.
Chemical odour	Detergent / fabric softener / scented cloths	Changing detergent / fabric softener / scented cloths, if possible do without fabric softener / scented cloths.

7.5 Leaks

Customer complaint	Cause	Remedial action
Door leaking	Door seal dirty. Door seal damaged Air condenser blocked.	Clean door seal with a damp cloth. Replace door seal Clean air condenser, advise customer
Maintenance flap leaking	Seal dirty Seal is twisted	Clean and, if required, replace seal Replace seal
Rear panel leaking	Condensation pump blocked. Water passages to pump blocked. Air duct at the rear leaking	Clean condensation pump. Clean water passages. Seal air duct. If required, double the seal.

8 TECHNICAL SPECIFICATIONS
