

REPAIR INSTRUCTION

Tumble - dryer

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1 SAFETY

1.1 Safety instructions



Attention

Repairs may be carried out by a qualified electrician only!

The user may be put at risk and injured by improper repairs!

To prevent electric shocks, always comply with the following instructions:

- ▶ If the appliance is faulty, the housing or frame may be live!
- ▶ Electric shock may occur if live components are touched inside the appliance!
- ▶ Before commencing repairs, disconnect the appliance from the power supply!
- ▶ If tests have to be performed while the appliance is live, always use a residual-current-operated circuit-breaker!
- ▶ The protective conductor resistance must never exceed the values specified in the standard! The protective conductor is crucial for personal safety and appliance function.
- ▶ When repairs are complete, perform a test in accordance with VDE 0701 or the corresponding national regulations!
- ▶ When repairs are complete, perform a function and leak test.



Danger!

Comply with the following instructions:

The following pictograms are used in the repair instructions:



Electrostatic sensitive devices!
Please observe handling regulations!



Sharp edges:
Wear protective gloves.

1.3 EEC

1.1.1 Description



Electrostatically -

Endangering -

Components

1.1.2 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.

1.1.3 Endangered components

The following elements are endangered by electrostatic voltage:

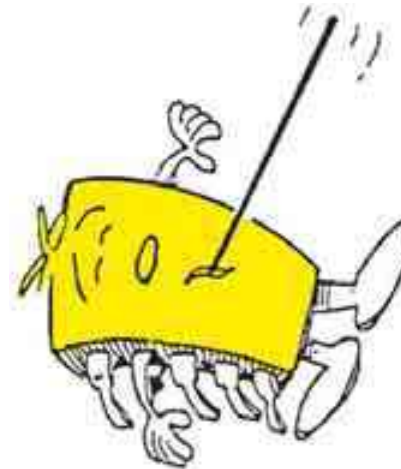
- ▶ μ Processors and IC`s
- ▶ Transistors, thyristors and Triac`s
- ▶ Diodes

1.1.4 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

1.1.5 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.

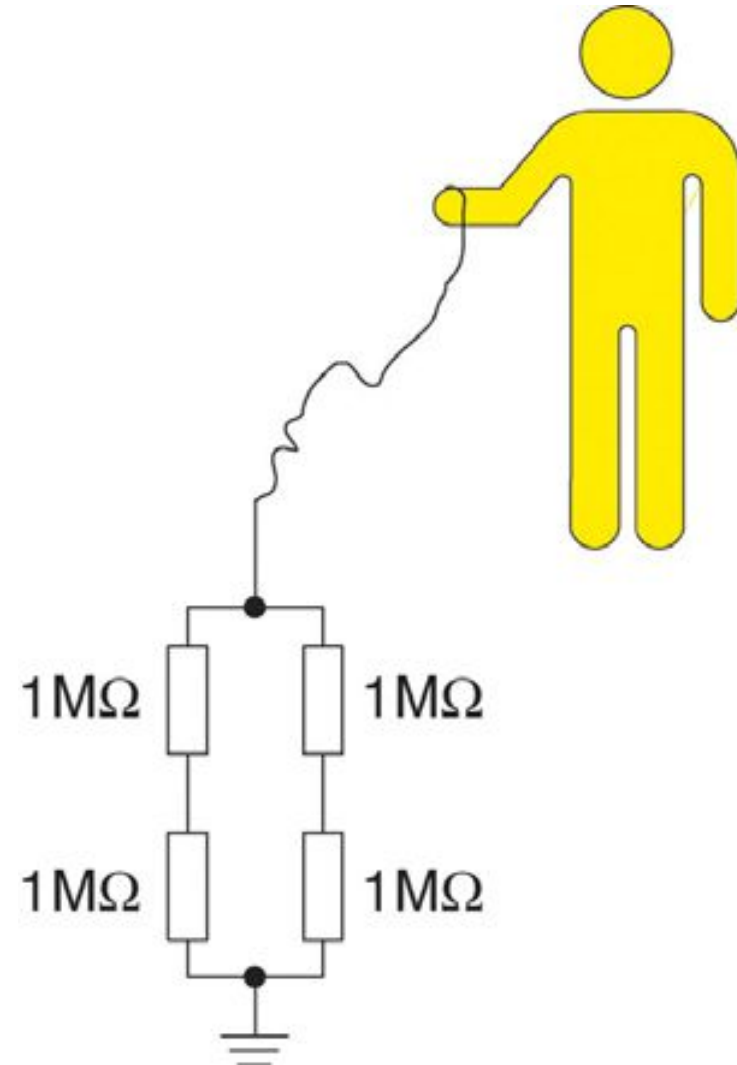
Use for transport only conductive materials or the original packaging.

1.1.6 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.

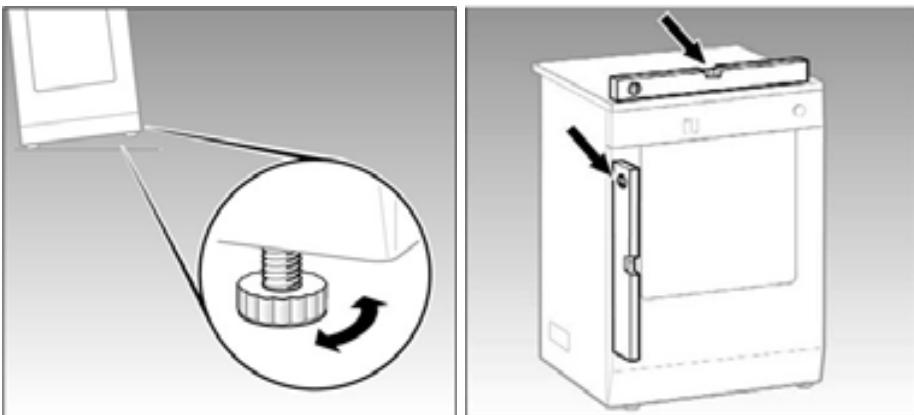
The ground connection and/or protective grounding binding must be perfect!



2 INSTALLATION

2.1 Installation / Connection

- ▶ Place the dryer on a level and firm surface.
- ▶ Level the dryer with the four height-adjustable feet. (Use a spirit level) do not remove the height-adjustable feet.



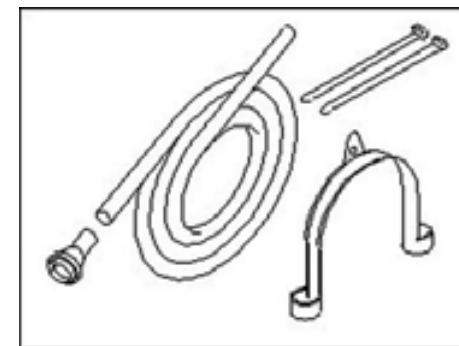
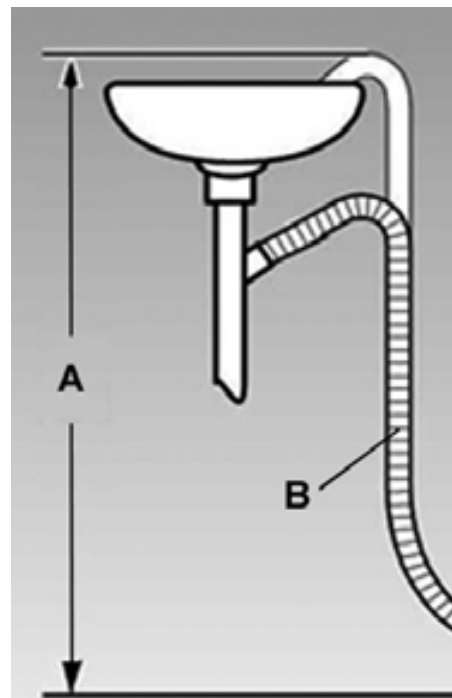
- ▶ The dryer can be installed in combination with a washing machine (front loader). To ensure a secure connection, use the original connection sets (see operating instructions).
- ▶ The installation location must be supplied with adequate fresh air (open window or door).
- ▶ Do not block the cooling-air 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

Do not extend the drainage hose (2 m).

If connection is to a wash-basin, the max. height is 100 cm

If the drainage hose is connected to a siphon (**B**), the height must not be less than 70 cm. A lower height may cause dirty water to flow back into the appliance via the drainage hose.



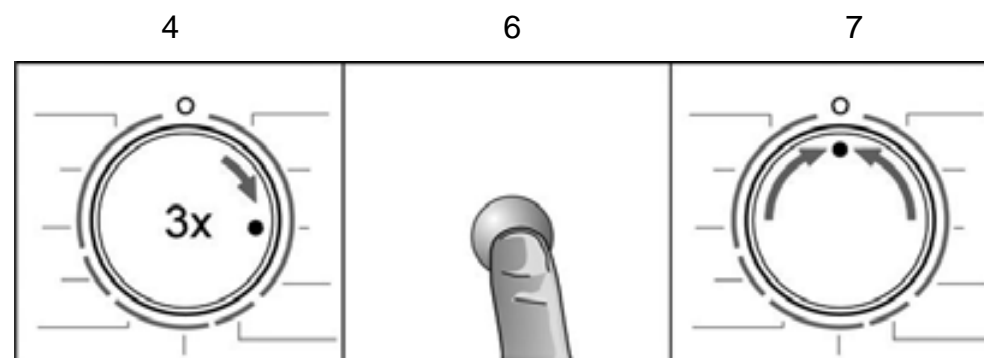
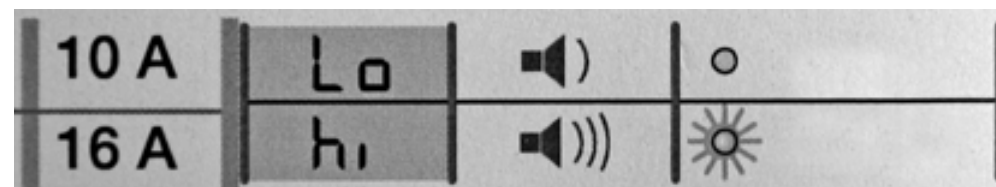
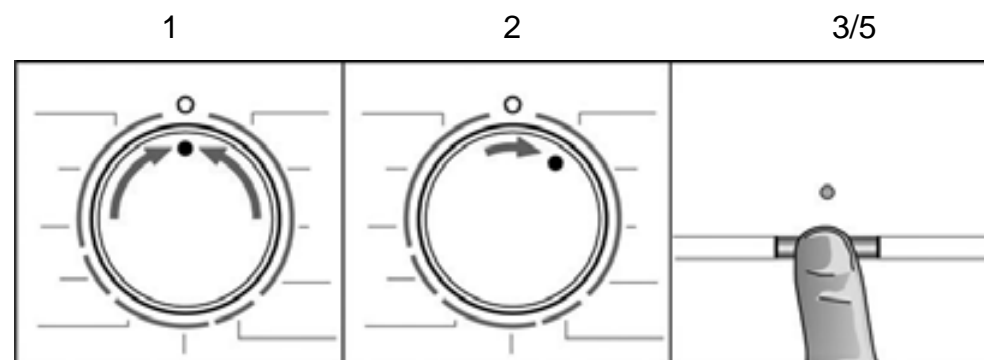
A

Order number: see circuit diagrams

2.3 Switching over the connected load

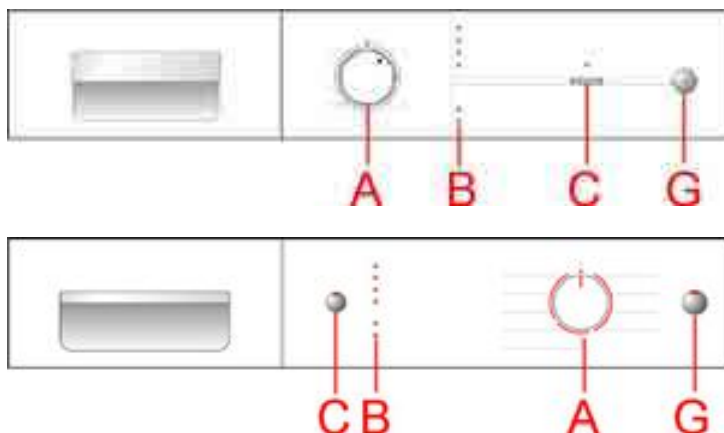
13 / 15 amps

- ▶ 1 Rotate programme selector to "Off".
- ▶ 2 Rotate programme selector 1 position to the right.
- ▶ 3 Hold down the "Low heat" button.
- ▶ 4 Rotate the programme selector clockwise a further 3 positions.
- ▶ 5 Press the "Low heat" button to set the 10 A light (Off) or 16 A light (On)
- ▶ The set value (Lo) 10A or (hi) 16A is indicated on the display (optional).
- ▶ 6 Press the "Start/Stop" button to save the setting.



3 OPERATION

3.1 Control panel operation



3.1.1 Programme selector (A)

Single-button operation, 9 drying programmes, 2 of which are timed programmes.

Automatic programmes

Cottons / Coloureds

For cotton and linen washing which is to be mangled, ironed or dried cupboard-dry.

Easy-care programmes

For easy-care synthetic and blended fabrics and cotton washing which is to be ironed or dried cupboard-dry.

Timed programme

Timed programmes 20-40 min. warm for delicate textiles made of acrylic fibres or for redrying and airing up to 6 kg of washing. The programme duration is restricted to max. 40 min.

Programme progress indicator (B)

The programme progress is indicated by LEDs.

3.1.2 Additional functions C (optional)

Low heat

For temperature-sensitive textiles (e.g. acrylic fibres) which are to be dried on a low heat. The temperature is reduced by 10 K.

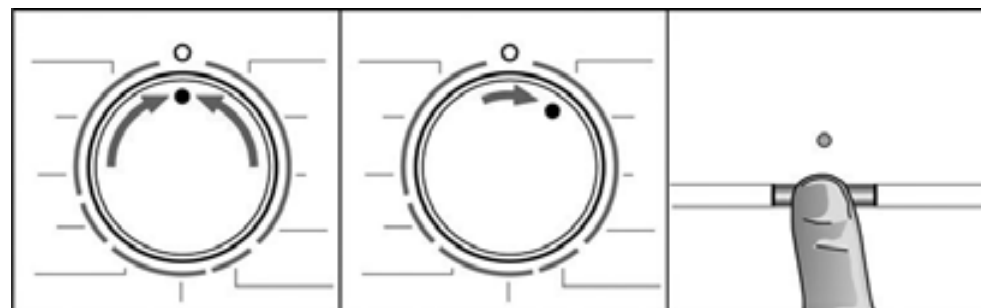
Signal

The signal signals e.g. the end of the programme or a fault.

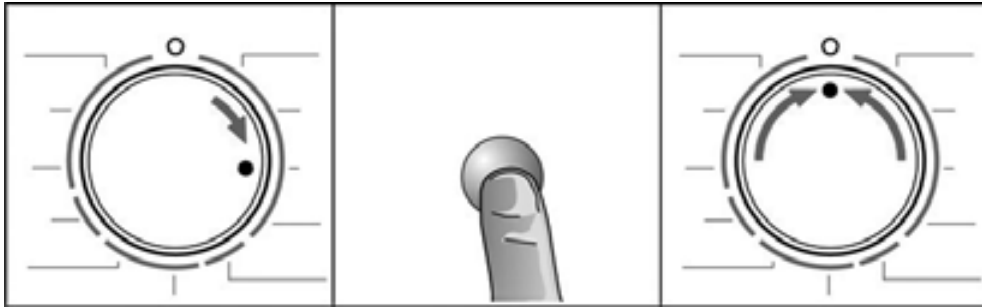
The signal volume can be adjusted 4X.

3.1.3 Adjusting the signal volume

- ▶ Set programme selector to the Off position
- ▶ Move programme selector one position to the right
- ▶ Press “Low heat” button and keep pressed



- ▶ Move programme selector another two positions
- ▶ Press “Start/Stop” button until the required volume 0–4 has been set.
- ▶ The setting is saved by rotating the programme selector to the Off position



3.1.4 Start / stop button (G)

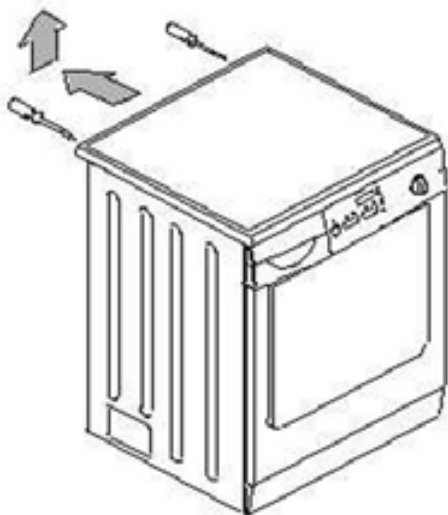
The programme can be started or stopped with the Start / Stop button.

4 COMPONENTS

4.1 Worktop

Removal

- ▶ Remove two screws from the rear of the worktop.
- ▶ Pull back the worktop and lift off.



4.2 Fascia

Removal

- ▶ Remove condensation tank.
- ▶ Loosen four screws **A** and remove fascia forwards.

Step 1



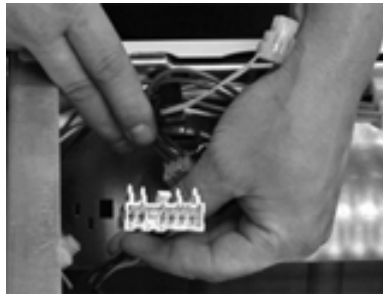
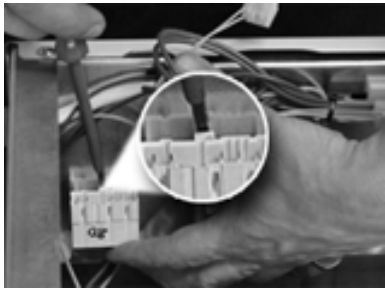
Step 2



4.3 Heater

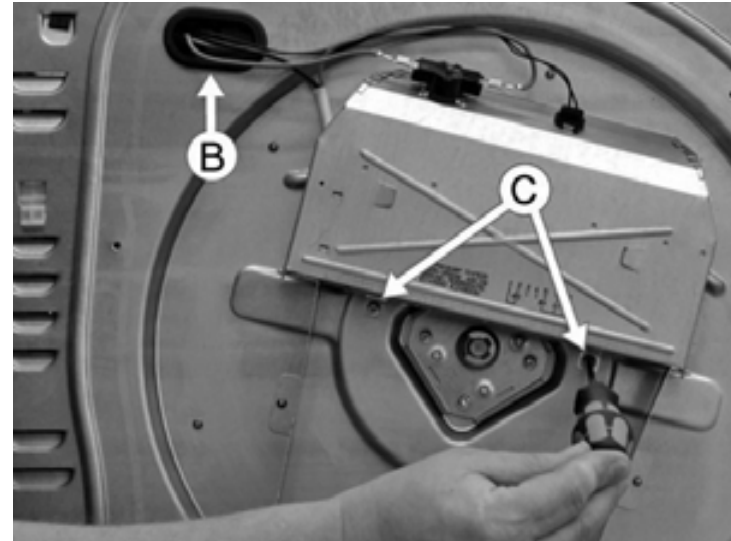
4.3.1 Removal

- ▶ Remove the worktop.
- ▶ Remove electrical connection



- ▶ Remove process air hood

- ▶ Remove electrical connection through the rear panel and remove the heater



B Cable gland

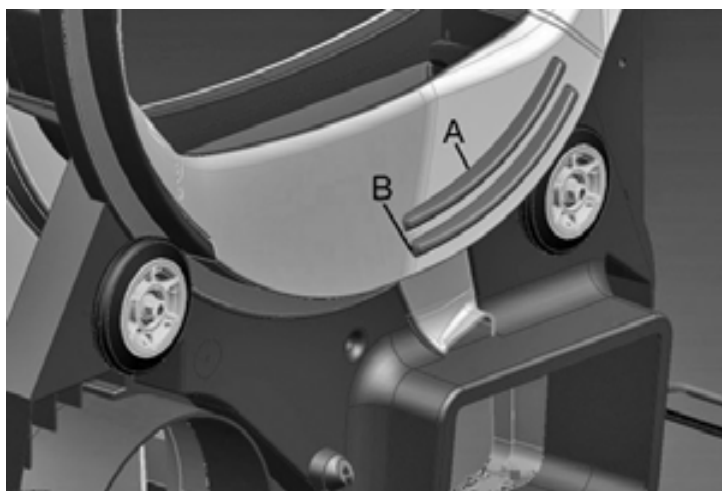
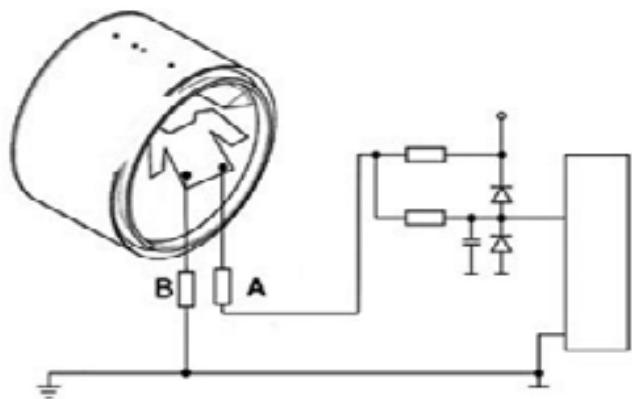
C Torx 15

NTC and safety temperature controller can be changed separately.

5 FUNCTIONS

5.1 Conductivity measurement

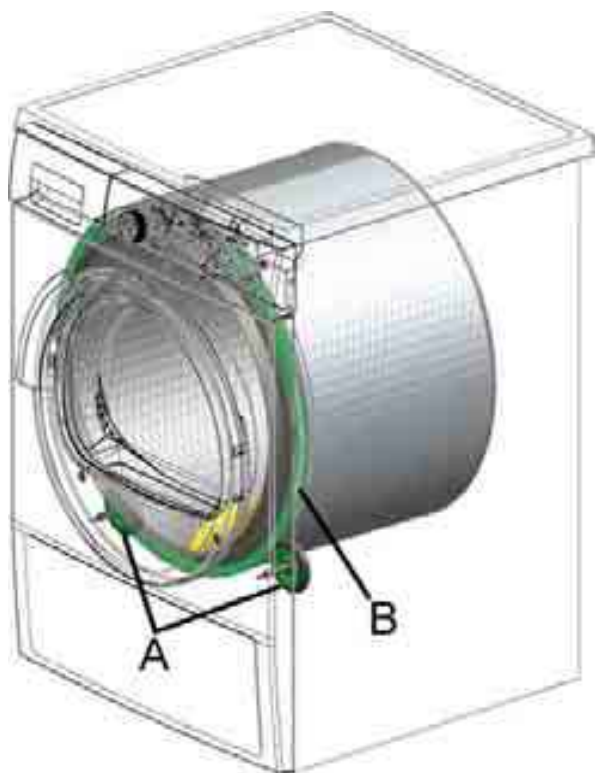
The degree of dryness is determined by a conductivity measurement. The conductivity measurement of the washing is based on a voltage or resistance measurement.



A Electrode **B** Counter-electrode

5.2 Drum bearings end shield

The drum bearings consist of two rollers (**A**) which are attached to the end plate. The only function of the sealing strip (felt) (**B**) is to provide a seal.



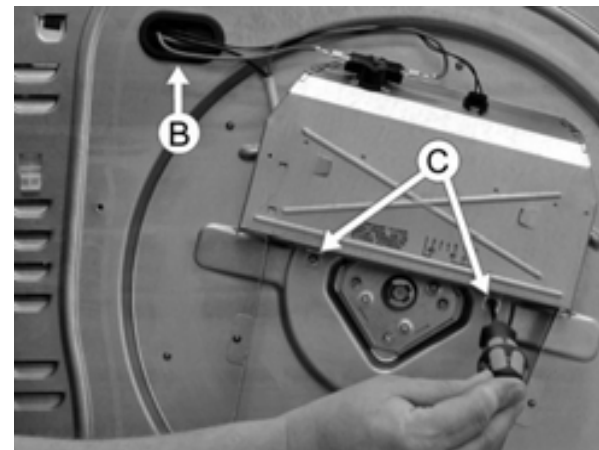
A Rollers **B** Sealing strip (felt)

5.3 Drum bearings rear panel

The drum is attached to the rear end plate by a ball bearing. The bearing can be removed without removing the drum.

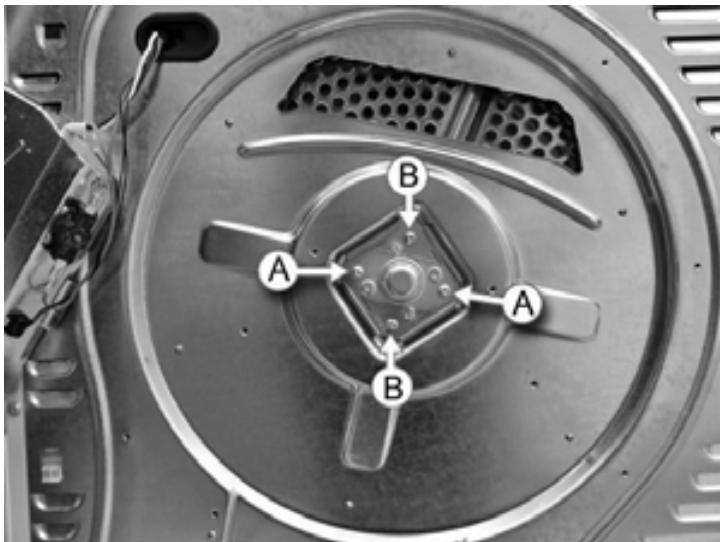
5.3.1 Removing the drum bearing

- ▶ Remove heating duct cover.
- ▶ Remove heater



▶

- Remove cover (A)



A Cover screws

B Bearing screws

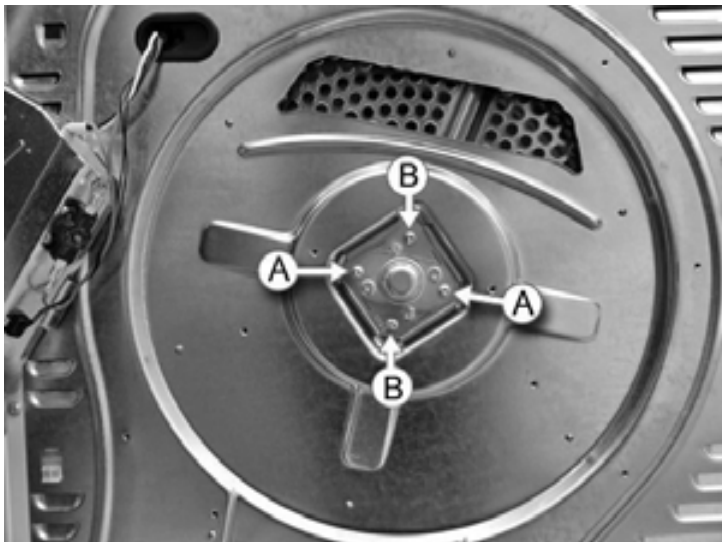
- Remove retaining ring



- Remove raceway



- Remove screws (B) from the bearing



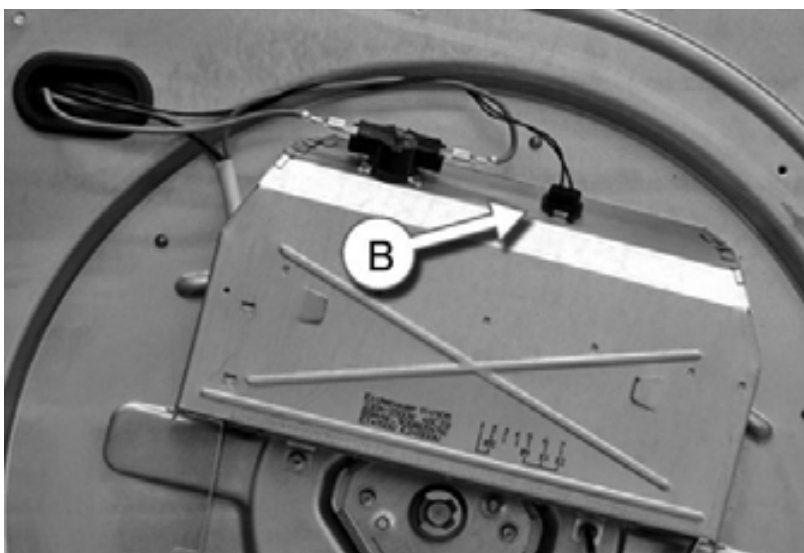
Attention:

- There is a second raceway on the inside of the drum shaft



5.4 NTC R2 heater

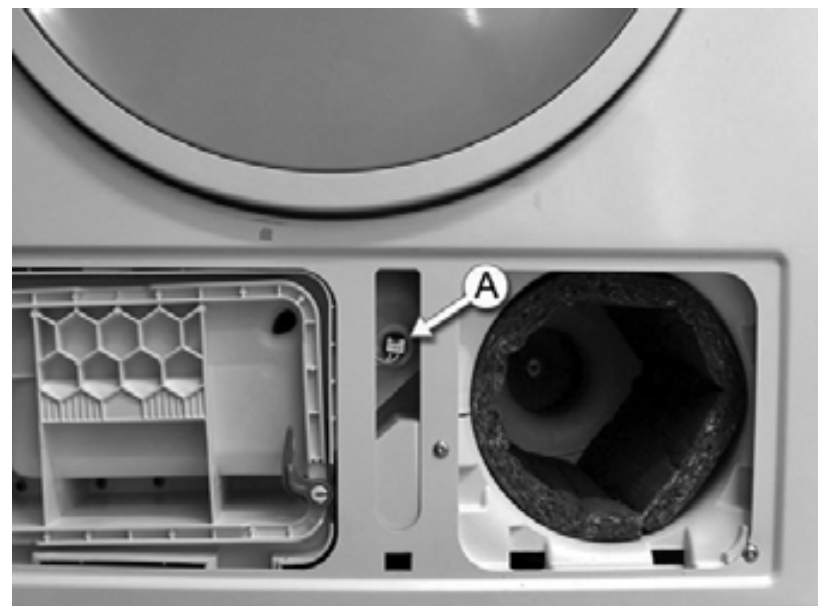
The NTC R2 is situated above the heater in the air flow and measures the heated process air. The permitted temperature range is between -12 and $+185$ °C.



NTC R2 (heater B)	
Degree in °C	Resistance values in K Ω
5	51.5
10	40.2
25	20.11
60	4.971
80	2.4
100	1.3
150	0.36

5.5 NTC R3 end shield

The NTC R3 is situated in the air duct to the air capacitor and measures the exhaust air. The temperature range is between approx. -12 and $+90$ °C.

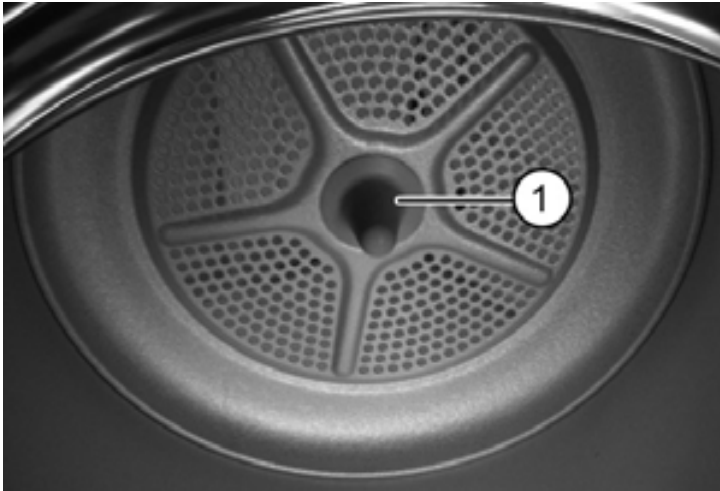


NTC R3 (end shield A)	
Degree in °C	Resistance values in K Ω
0	32.6
5	25.3
10	19.9
25	10
60	2.48
100	0.68

5.6 Tapered pin CSI08

The tapered pin is situated at the back of the inner drum.

The pin reduces tangling of the washing.



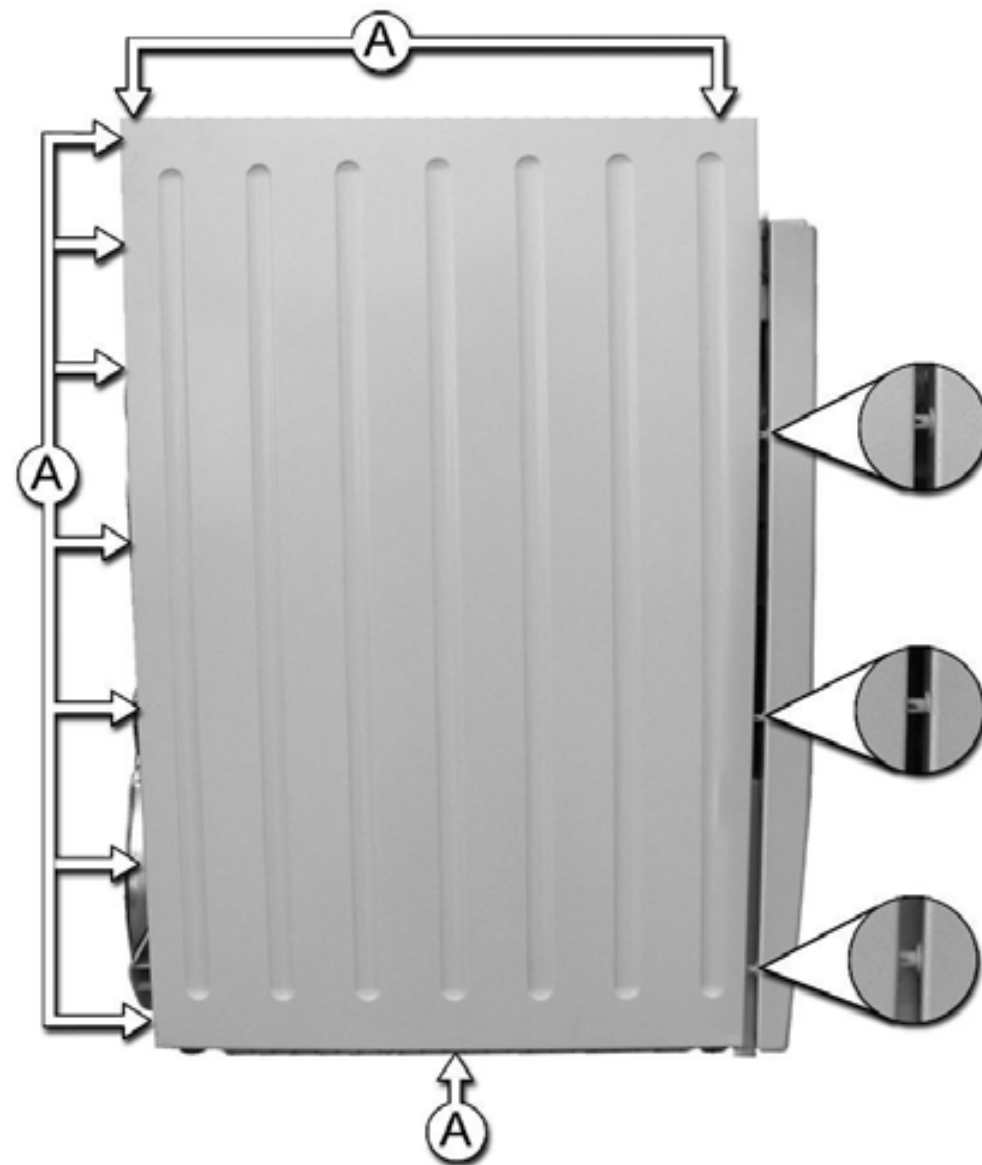
1 Pin

[Removal:](#)

6 REPAIR

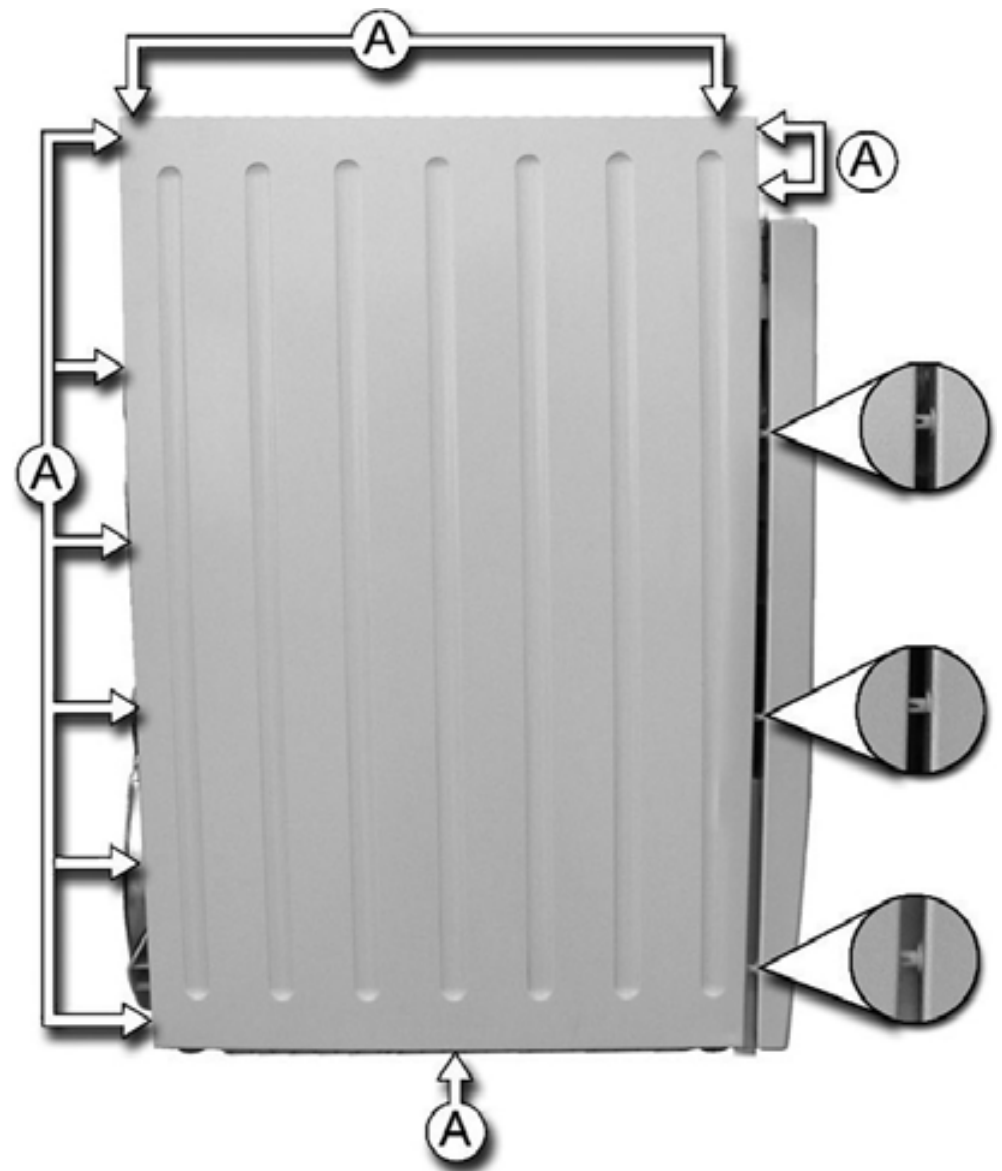
6.1 Removing the right side panel

- ▶ Remove the worktop
- ▶ Remove screws **A**
- ▶ Unlock side panel at the rear and pull out of the front holders.



6.2 Removing the left side panel

- ▶ Remove worktop.
- ▶ Remove fascia
- ▶ Remove screws **A**
- ▶ Unlock side panel at the rear and pull out of the front holders.



6.3 Condensation pump

Technical specifications:

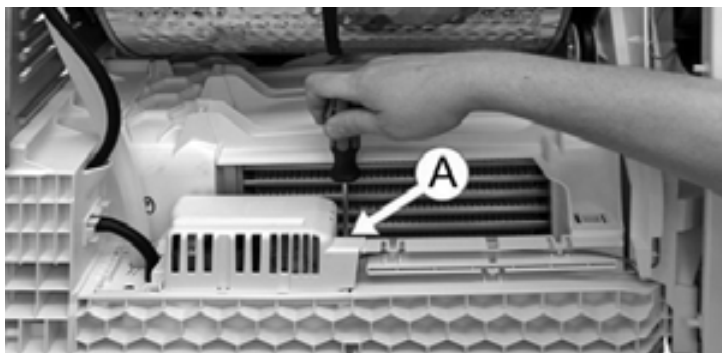
Maximum switching voltage: 270 VAC

Maximum load current: 450 mA

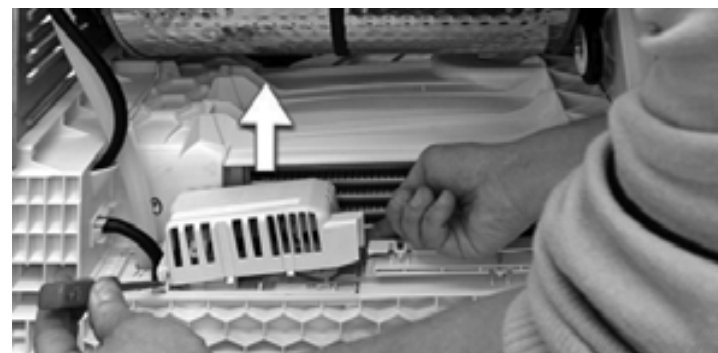
Nominal voltage 230 V

6.3.1 Removing the condensation pump

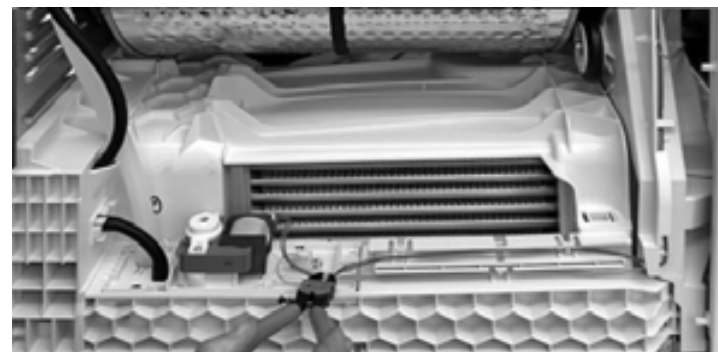
- ▶ [Remove worktop.](#)
- ▶ [Remove fascia](#)
- ▶ [Remove left side panel.](#)
- ▶ Remove screw **A** (Torx 15)



- ▶ Remove the pump cover



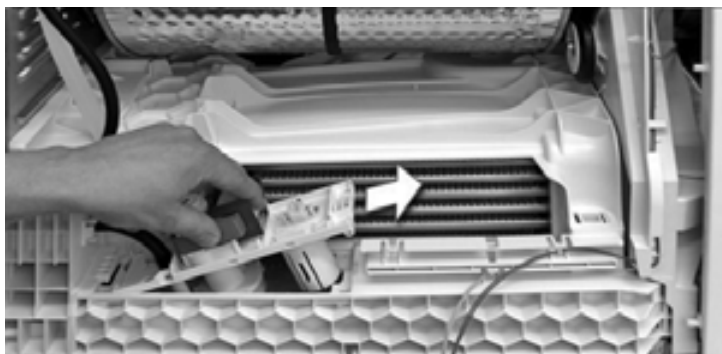
- ▶ Remove cable ties and electrical connections



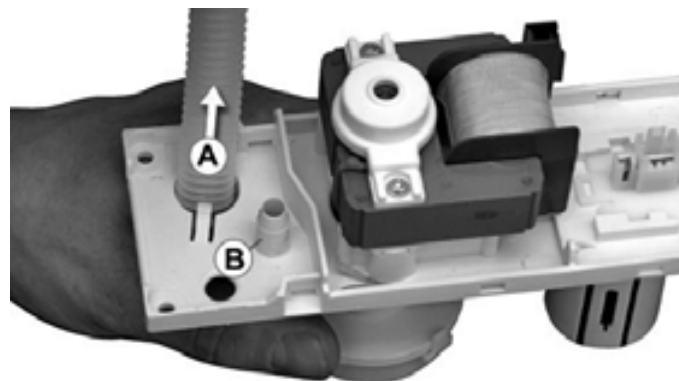
- Loosen the pump lock



- and lift off



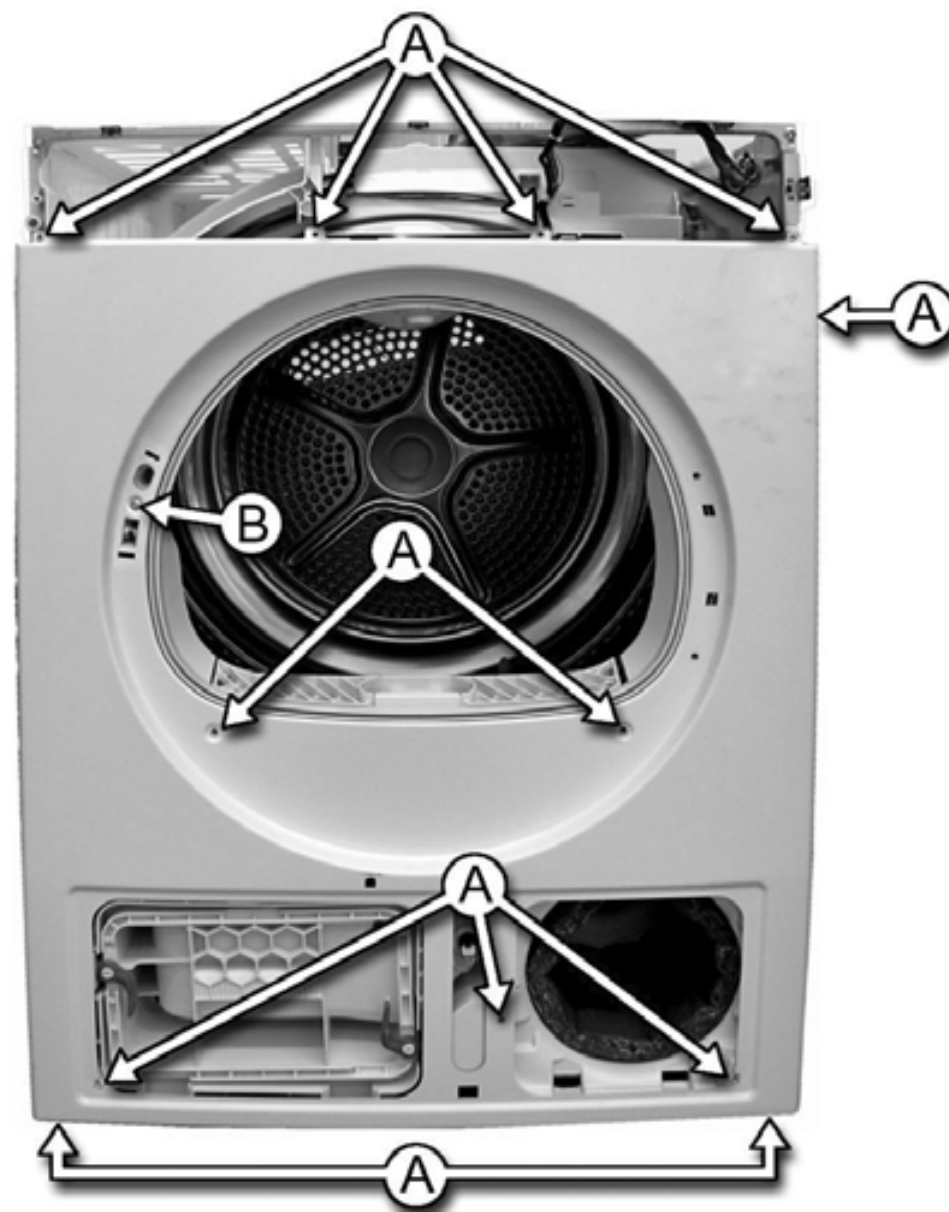
- Remove the hose between the spigot **B** and the condensation tank. Pull the overflow hose **A** up and out of the holder.



A Overflow hose **B** Spigot

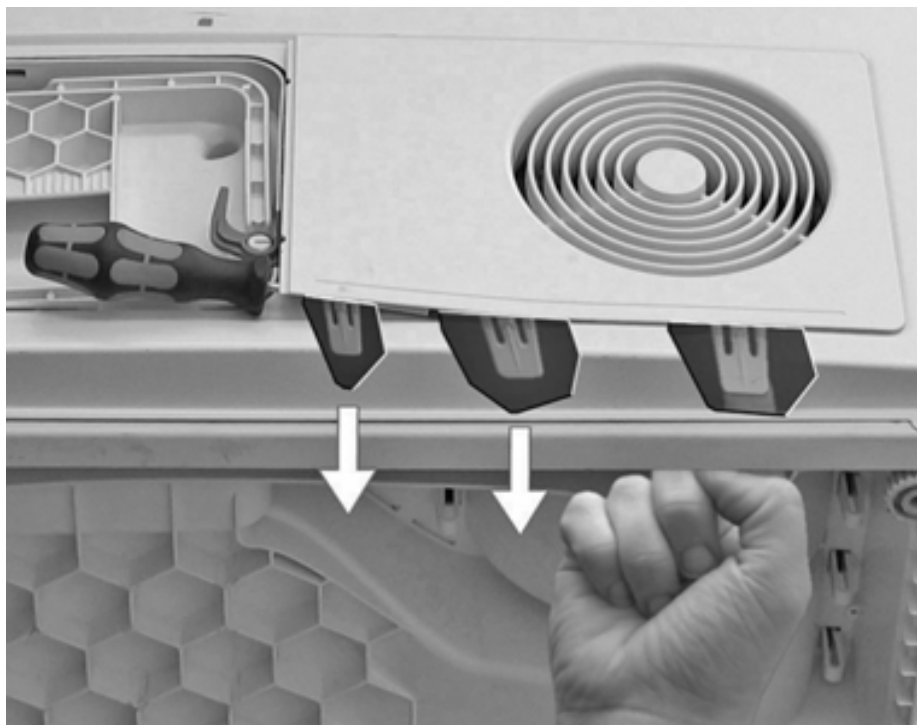
6.4 Removing the front panel

- ▶ Remove worktop.
- ▶ Remove fascia
- ▶ Remove [left](#) and [right](#) side panels
- ▶ Remove the door.
- ▶ Remove the door seal.
- ▶ [Remove cooling-air panel](#)
- ▶ [Remove door lock](#)
- ▶ Remove all screws **A**.
- ▶ Screw **B** see [Removing door lock](#)



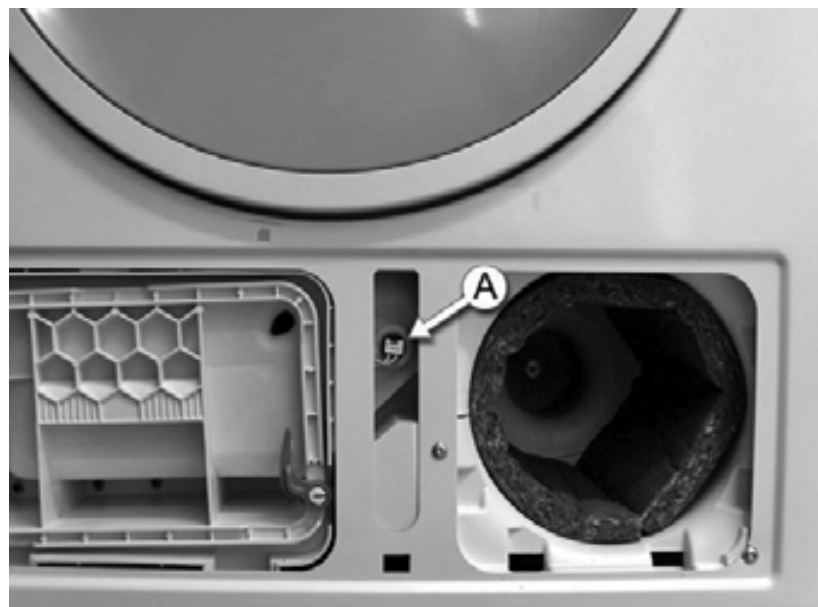
6.5 Removing the cooling-air panel

- ▶ Open the flap on the air cooler and detach.
- ▶ Tilt the appliance to the rear and pull down the catches. Prevent the catches from locking again by inserting a suitable object.



6.6 Removing NTC

- ▶ Remove the cooling-air panel
- ▶ Remove the electrical connection from the NTC
- ▶ Pull NTC **A** out of the seal



A NTC

6.7 Removing the door lock

- ▶ Remove the worktop
 - ▶ Remove the fascia
 - ▶ Remove [left](#) and [right](#) side panels
 - ▶ Remove door
 - ▶ [Remove the cooling-air panel](#)
 - ▶ [Remove the front panel](#)
1. Remove door lock cover by undoing the catch **A**.



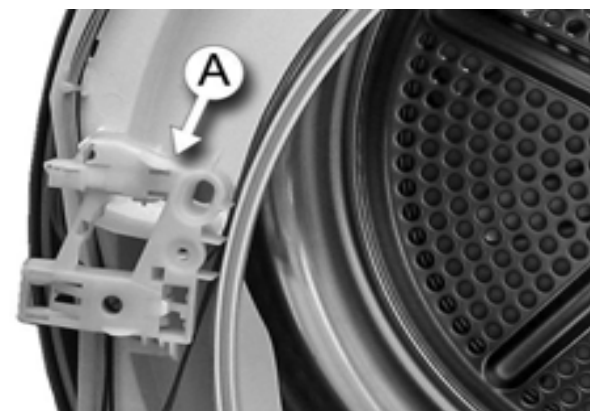
A Catches

2.



B Door lock screw

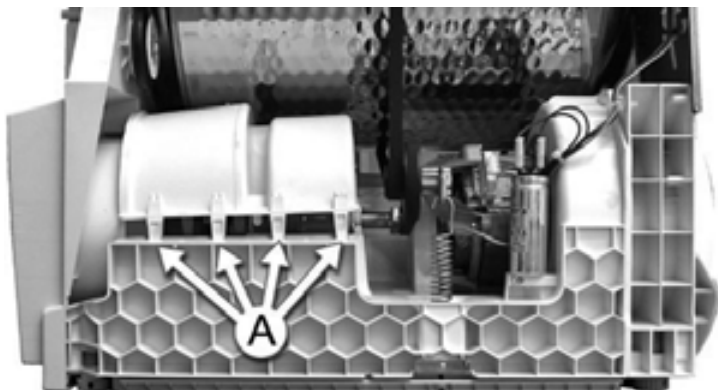
3.



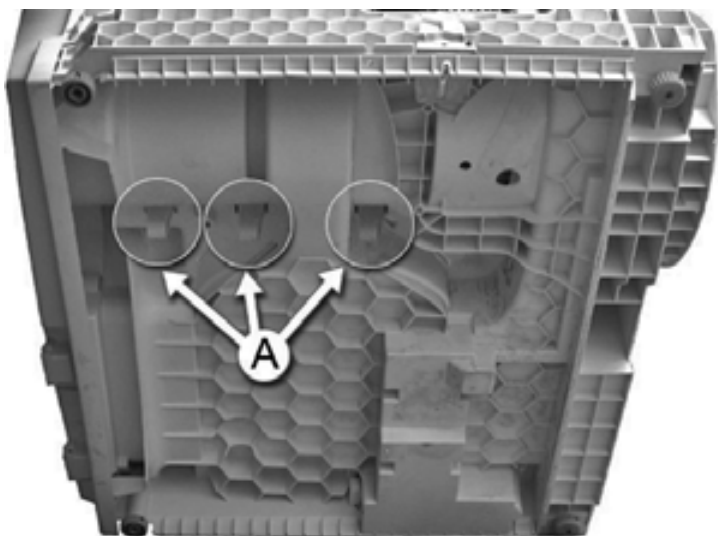
A Door lock

6.8 Removing the intake duct

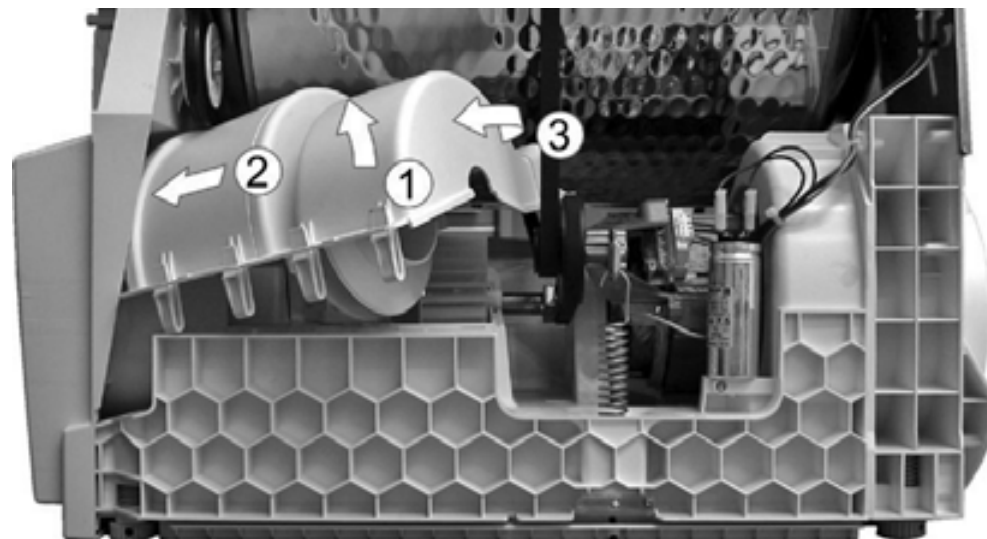
- ▶ Remove the worktop.
- ▶ Remove right side panel
- 4. Loosen locking hook **A** and lift intake duct



- 5. Tilt appliance to the rear and loosen locking hook **A**

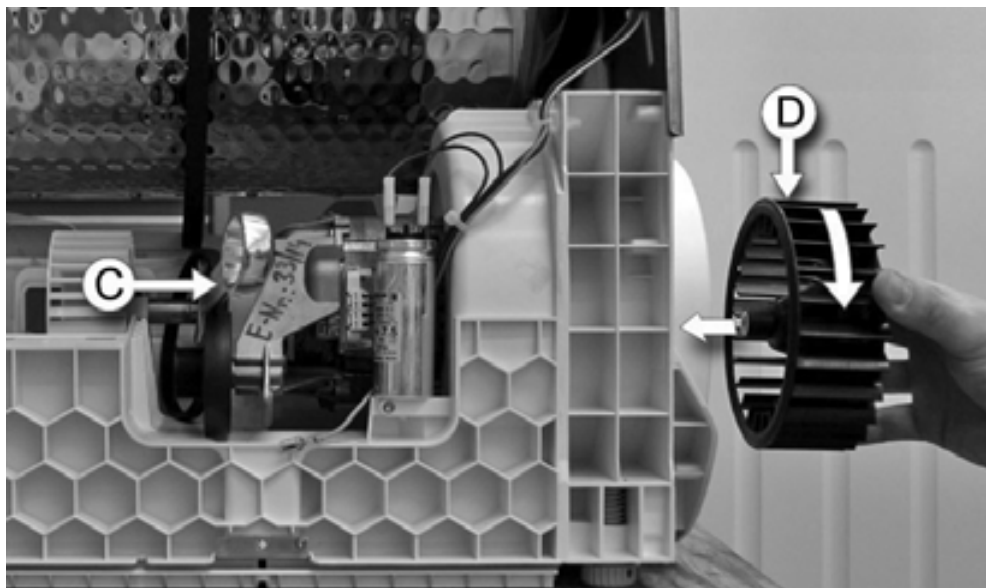


- ▶ 1 Lift intake duct
- ▶ 2 and rotate forwards into the recess in the front panel
- ▶ 3 Remove intake duct past the fan impeller



6.9 Removing fan impeller for process air

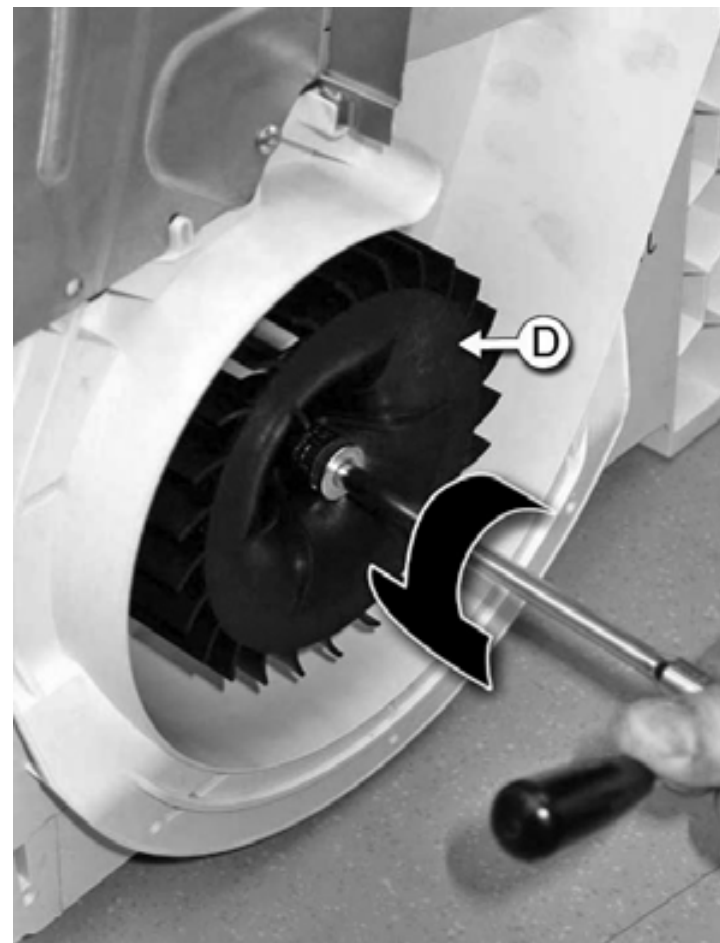
- ▶ Remove the worktop.
- ▶ Remove right side panel
- ▶ Remove rear panel (process air hood)
- ▶ Secure motor shaft with a 24 socket wrench **C**



C Socket wrench, size 24

D Fan impeller for process air

- ▶ Unscrew fan impeller for process air **D** anti-clockwise with a 13 socket wrench.



6.10 Removing the motor

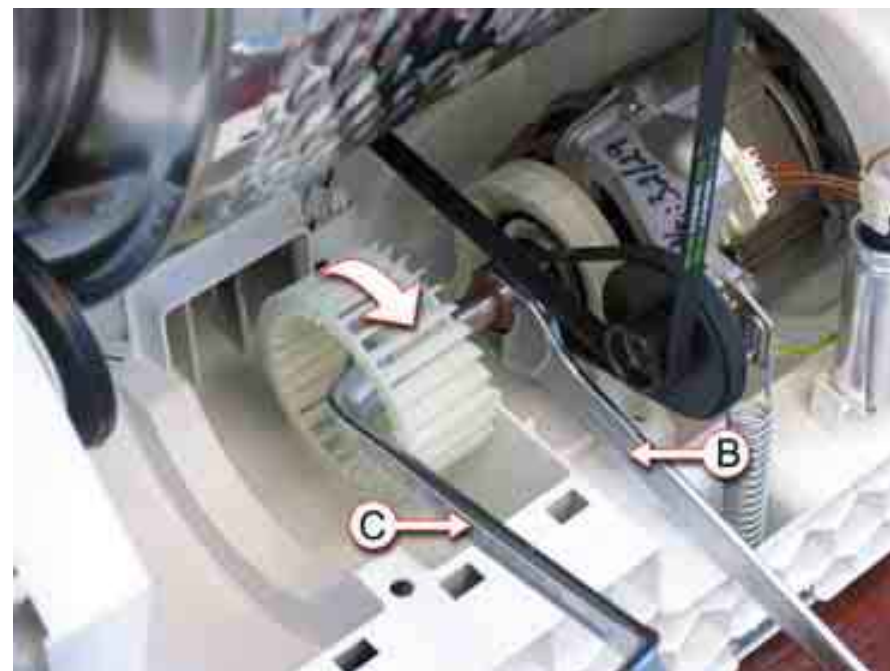
Technical specifications

- ▶ Rated input when appliance empty: 250 W
- ▶ Current input when appliance empty: 0.8 A
- ▶ Motor capacitor, capacity: 7.5 μ F
- ▶ Frequency: 50 Hz
- ▶ Operating voltage: 230 V
- ▶ Maximum switching voltage: 270 VAC
- ▶ Number of phases: 1 phase

6.10.1 Removing the motor

- ▶ Remove the worktop.
- ▶ Remove right side panel
- ▶ Remove rear panel.
- ▶ Remove fan impeller for process air.
- ▶ Remove the cooling-air duct.

- ▶ Secure motor shaft with a 24 socket wrench **B**
- ▶ Unscrew cooling fan impeller anti-clockwise with a 17 socket wrench **C**.



C Socket wrench, size 17

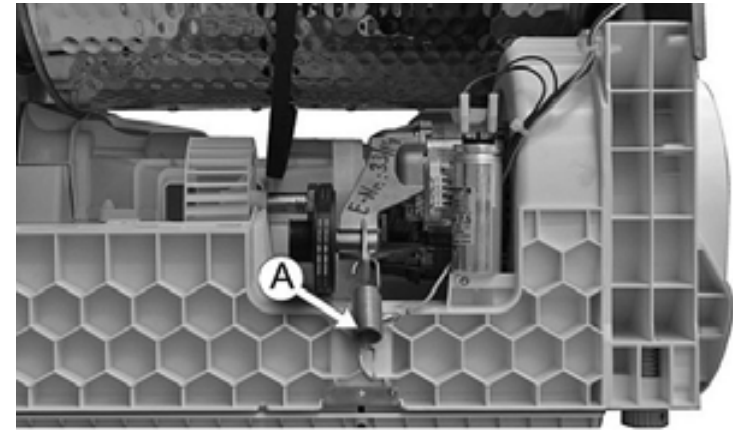
B Socket wrench, size 24

- ▶ Remove electrical connections from the motor and protect against damage.
- ▶ To remove V-belt **A**, press the motor upwards with a suitable tool



A Drive belt

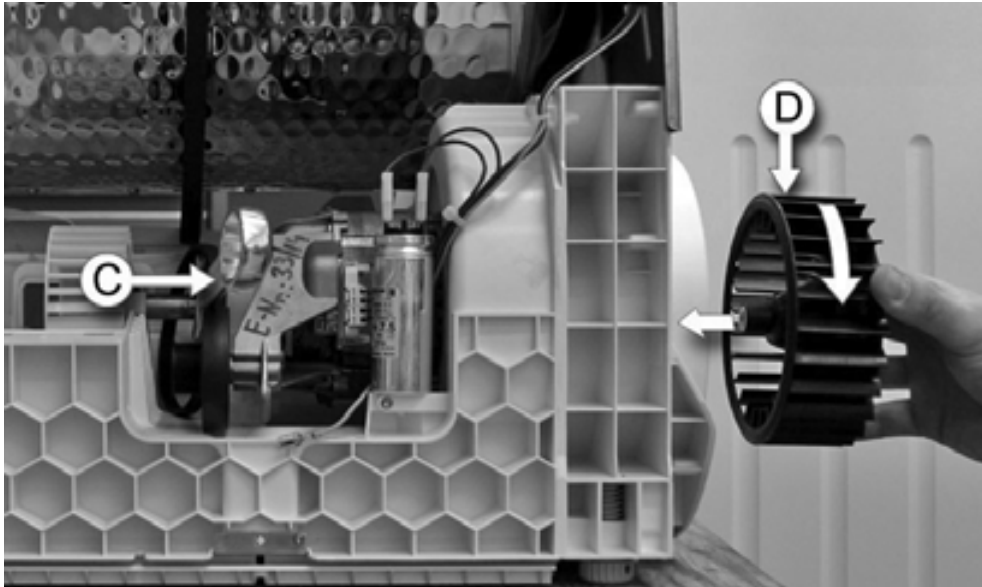
- ▶ Detach tension spring **A** from the base group.



A Tension spring

6.10.2 Removing the fan impeller for process air

- Secure motor shaft with a 24 socket wrench



C Socket wrench, size 24

Fan impeller for process air

- Loosen and unscrew fan impeller D with a 13 socket wrench



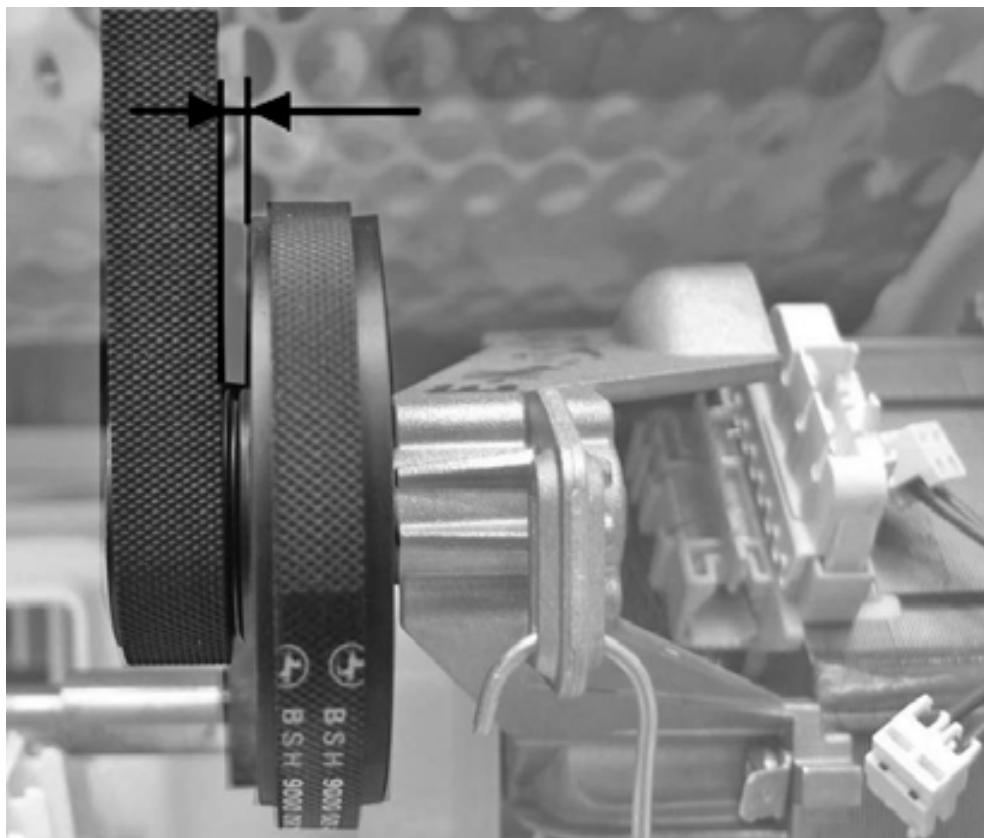
- Remove screws A (Torx 20) and remove motor.



6.11 Installing the motor / belt

When installing the motor, proceed in reverse sequence as described in "[Removing the motor](#)".

Ensure that the V-belt is fitted correctly. Observe the gap between the belt pulleys.

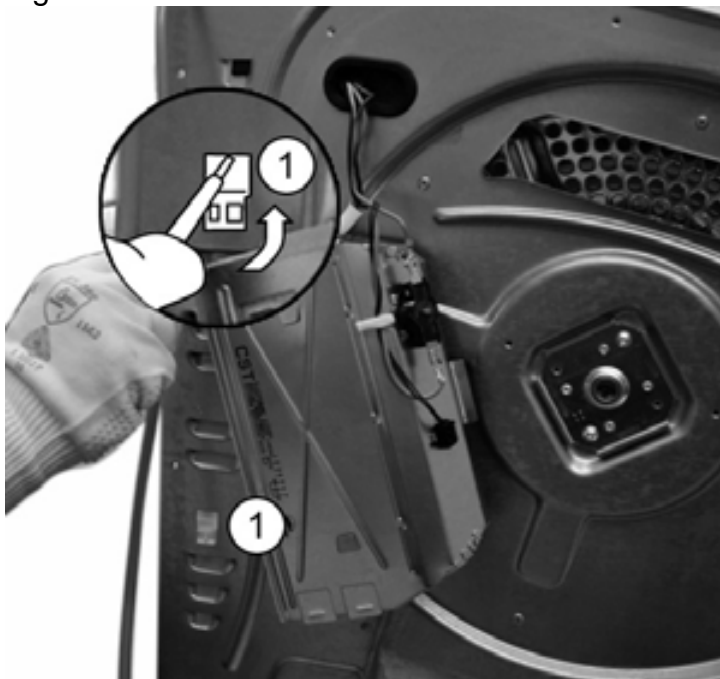


6.12 Repairing tapered pin

Removal:

- ▶ Remove the worktop
- ▶ Removing the panel
- ▶ Disconnect the power cord from the rear panel
- ▶ Remove left side panel and slacken belt
- ▶ [Press through cable duct and remove as described above Fig. 1](#)
- ▶ [Loosen right side panel at the rear only. Fig. 2](#)
- ▶ [Disconnect hoses from the rear panel \(1\) and remove rear panel in the direction \(2\).](#)
- ▶ Remove process air duct
- ▶ Unscrew all retaining screws from the rear panel
- ▶ [Remove heater with electrical connections](#)
- ▶ Completely remove bearings
- ▶ [Using a countersinking tool, unscrew 2 plastic rivets from the cover in the drum \(341299\). Fig. 4](#)

Fig. 1



1 Catches

Fig. 2

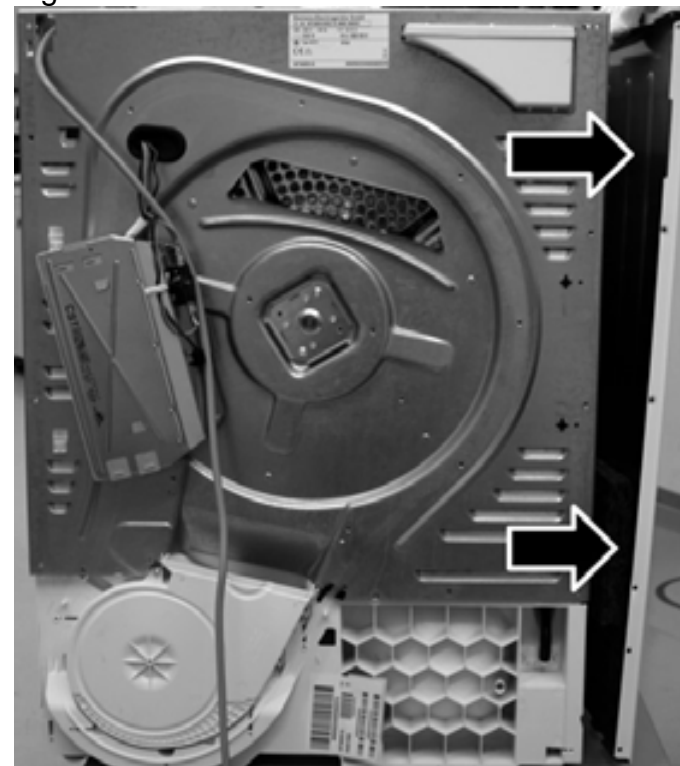
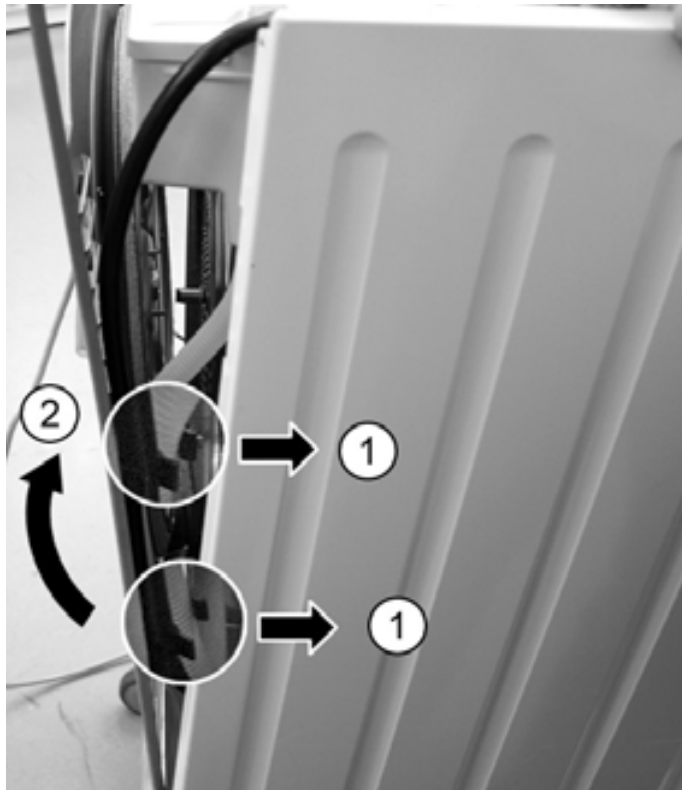
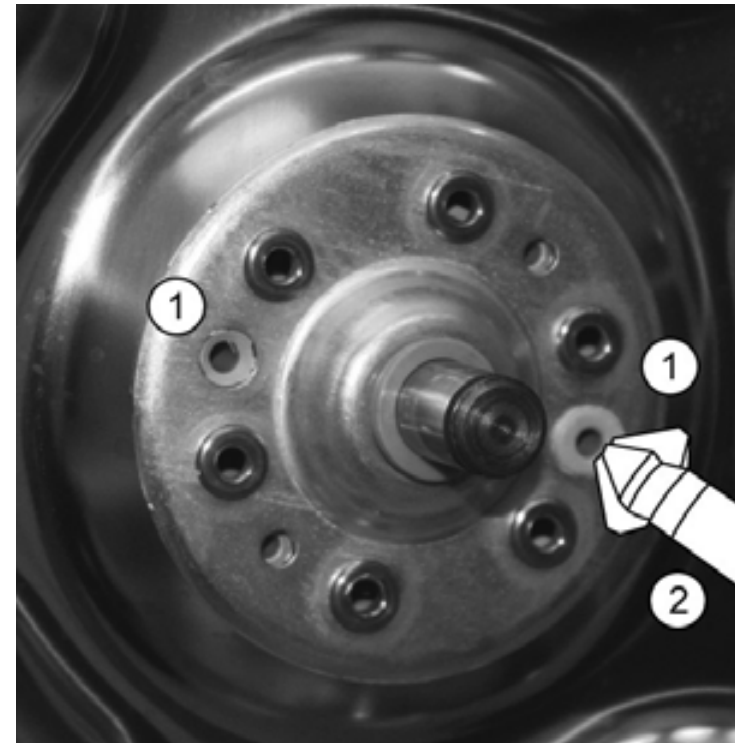


Fig. 3



1 Hose holder

Fig. 4



- 1 Plastic rivets unscrewed and original
- 2 Countersinking tool (341299)

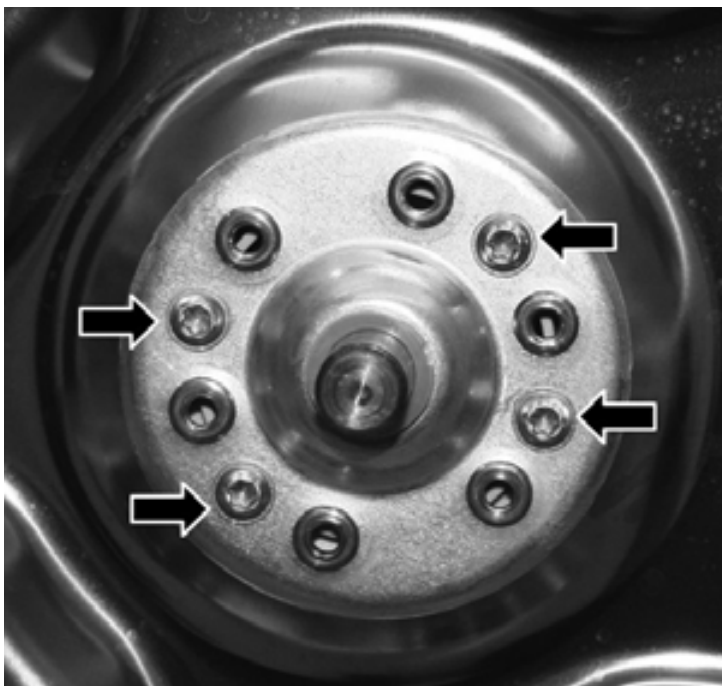
6.13 Installing the pin

Fix the pin in the drum exactly over the extinguisher and tighten with 4 screws.

See diagrams



Do not attach pin through the rivets



Correct attachment



Incorrect attachment

6.14 Diagnostic-repair tools

Universally valid

Before each repair and/or examination of the equipment the KD test program is to be started.

Probe tip

Probe tip material - No.: 340730 (with resistance tests absolutely the construction units on the module take off).



Probe Tipp Optional

Probe Tipp Mat.-Nr.:340951 for SAFETY off **KI02** for Relay plate heating



Measuring lead connection

Measuring (50 cm) Mat.-Nr.:340954



Protective glove

Material Nr.: minimum	9	= 340728
Maximum size	10	= 340729

7 FAULT DIAGNOSTICS

7.1 Fault displays

Customer complaint	Cause	Remedial action
End LED flashes (F:08 on the display)	Cable break or short-circuit NTC door	Check cable / plug contacts. Start test programme. Replace NTC door.
Drying and End LED flashes (F:09 on the display)	Cable break or short-circuit NTC heater.	Check cable / plug contacts. Start test programme. Replace NTC heater.
Iron-dry and Low heat (F:06 on the display)	Fluff strainer, air cooler, air circuit blocked (Overheating) Overloaded	Clean air circuits. Advise customer. Check heating function and, if required, replace parts. Advise customer. (max. 6 kg)
Cupboard-dry flashes (F:04 on the display)	Fluff strainer, air cooler, air circuit blocked Water passages and condensation tank blocked. Ambient temperature above 30 °C. Short-circuit or shunt in conductivity system. Time fault	Check air passages. Check and, if required, clean water passages Ensure that the cooling air circulation is adequate. Test programme conductivity measurement Max. running time of 240 min reached.
Further error displays see test program		

7.2 Controller

Customer complaint	Cause	Remedial action
Fuse was activated / released	Fuse overloaded. Adjustment of the connection power too high 10/16 A	Adjust 10 A variant (see setting up / installation or instruction)
Start time delay (end time pre-election) jumps from 1 to 2 or more	Software calculated in dependence of the programme duration always on the next full hour (1:54=2h)	Give advice to customers

7.3 Time jumps

Customer complaint	Cause	Remedial action
Remaining running time jumps at the end of the programme Time jumps	Load too high, max. +100%	Observe max. load.
	Very high ambient temperature > 30 °C	Provide adequate ventilation.
	Initial moisture too high	Increase spin speed.
	Different types of washing. Residual humidity of the textiles differs.	Point out different types of washing to customer (cotton, synthetic fibres).

7.4 Pump

Customer complaint	Cause	Remedial action
Appliance switches off after a few min. and indicates drain water. "But tank empty".	As the pump is drawing in air, condensation is not conveyed. Fluff in the pump intake connection	The surface tension is too high in the pump housing. Break the surface tension with a drop of washing-up liquid or change the pump. Remove and clean pump

7.5 Heat

Fault details	Cause	Remedial action
High temperature on the side panels	Smaller gap between the drum and the side panels.	Advise customer. Temperature is within the specified tolerances.

7.6 Odour

Customer complaint	Cause	Remedial action
Scorching odour	Drum overloaded.	Observe max. load (6 kg).
	Washing not suitable for drying.	Observe care symbol (see general repair instructions 58300000002975).
	Foreign objects in the appliance.	Remove foreign objects.
	Plug-in contacts / components.	Scorched plugs / replace components.
Chemical odour	Detergent / fabric softener / scented cloths.	Change detergent / fabric softener / scented cloths; if possible do without fabric softener / scented cloths.

7.7 Drive

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

7.8 Leakages

Customer complaint	Cause	Remedial action
Leaky at the door	Seal contaminated	Door seal with a damp cloth clean,
Water at the door seal	Normal water condensation at the seal	Customers advise
Water at the door glass		Principle condensation
Water at the door glass (water condensation)	By the printed on door glass it can come to a increased condensation formation.	New doors with double glazing. Improved isolation against cool air.
	Coldly/ Warmly bridge at the door glass.	Siemens Vollkunststoff 662930
		Siemens with Glass 664526
		Bosch Vollkunststoff 662931
		Bosch with Glass 664527

7.9 Tangling

Customer complaint	Cause	Remedial action
Washing is very tangled	Bed linen not closed Washing has gathered in the bed linen. Drum overloaded	Always close bed linen. Observe load of 1 to 7 kg. G Install pin (643899) in the drum. In production as of KI 08.

8 TECHNICAL SPECIFICATIONS
