Repair Instructions Consumer Products

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Concerning this document

1.1 Purpose and target group

These repair instructions include information on troubleshooting and repairs.

This information supports the following employees in customer service:

- Service technicians who repair domestic appliances
- Technical storemen in the spare-parts warehouse who determine the required spare parts
- · Call centre employees who take orders

1.2 Other applicable documents

The following documents include additional relevant repair information:

- Documents "Design and function" and "Customer advice"
- Test programmes
- · Circuit diagrams
- Exploded drawings
- Parts lists
- Repair videos

Safety

2.1 Qualification

In Germany repair work may be performed only by electrical engineers who have been trained by BSH or a centre authorised by BSH.

In all other countries repair work may be performed by comparably trained technicians only.

2.2 Information in warning messages

2.2.1 Danger levels and warning symbols

Warning messages are provided with danger levels and warning symbols in this document.

The warning levels consist of a symbol and a warning word. The warning word indicates the severity of the danger.

Warning level	Description
⚠ DANGER	Non-observance of the warning message will result in death or serious injuries.
▲ WARNING	Non-observance of the warning message could result in death or serious injuries.
▲ CAUTION	Non-observance of the warning message could result in minor injuries.
NOTICE	Non-observance of the warning message could result in damage to property.

Table 1: Danger levels

Warning symbols are symbolic representations which give an indication of the kind of danger.

Symbol	Description
<u>^</u>	General warning message
4	Danger from electrical voltage
	Risk of explosion
	Danger of cuts

Safety

Symbol	Description
	Danger of crushing
	Danger from hot surfaces
<u>⋒</u>	Danger from strong magnetic field
	Danger from non-ionizing radiation

Table 2: Warning symbols

2.2.2 Structure

Warning messages in this document have a standardized appearance and a standardized structure.





Type and source of danger!

Consequences of ignoring the warning.

► Actions to protect from danger.

The following example shows a warning message that warns against electric shock:





High voltage!

Death by electric shock.

- ▶ Disconnect appliance from grid.
- ► Discharge high-voltage capacitor.

Safety

2.3 Basic safety instructions



These repair instructions form the basis for a systematic and safety-conscious procedure for the repair of domestic appliances.

2.3.1 Measures to be taken for each repair

The following dangers are associated with the repair of domestic appliances:

- · Danger of electric shock from exposed, live wires and components
- · Risk of cut injuries from sharp edges
- Risk of destruction of electronic components by electrostatic discharge

Specific measures prevent injuries and damage. Service technicians are obliged to take these measures for each repair.

Preventive	measures
against electric shock	When carrying out repairs: Disconnect appliance from power supply. When running tests with power supply on:
	 Use a residual-current-operated circuit-breaker. Select protective conductor connection less than standard value.
to prevent cut injuries	wear protective gloves.
electronic components	wear earthing wrist strap.Discharge capacitors.

Table 3: Measures to be taken for each repair

2.3.2 Measures to be taken after each repair

State of the appliance	Measures
Appliance has been repaired and is functionally reliable.	 Run tests in accordance with VDE 0701 or comparable national regulations. Conduct a performance test. Document repair work, tests, measured values and functional reliability.
Appliance is still defective and not functionally reliable.	 Clearly identify appliance as "not functionally reliable". Inform customer in writing about the lack of functional safety.

Table 4: Measures to be taken after each repair

2.4 Grouped safety messages





Exposed, live components!

Death from electric shock.

- ▶ Disconnect the appliance from the power supply.
- ▶ Do not touch housing, frame or components.
- ► If running tests while the power is on, always use a residual current circuit-breaker.
- ► Ensure that the resistance of the protective conductor does not exceed the standardised value.





Discharge current of charged capacitors!

Death from electric shock. Risk of injury from startle response.

- ▶ Disconnect the appliance from the power supply.
- ► Discharge capacitors.



⚠ DANGER

Exposed, defective components live!

Death from electric shock.

- ▶ Disconnect the appliance from the power supply.
- ▶ Do not touch housing, frame or components.
- ► If running tests while the power is on, always use a residual current circuit-breaker.
- ► Ensure that the resistance of the protective conductor does not exceed the standardised value.





Sharp edges!

Cut injuries.

- ► Wear protective gloves.
- ► Wear personal protective equipment.

NOTICE

Touching electrostatically sensitive components!

Destruction of components.

- ▶ Use a system offering electrostatic discharge protection.
- ▶ Observe measures to protect components susceptible to electrical discharge.

NOTICE

Unnecessary replacement of sensitive components!

Destruction of components.

- ▶ Systematically check components before replacement.
- ▶ Do not replace components without reason.
- Observe technical documentation.

Design and function

3.1 Overview of appliances, general



• There is no appliance overview for the appliance.

4.1 Malfunction

Fault	Possible cause	Troubleshooting	
Appliance does not function.	No current.	► Check the connection to the power source.	
		► Press On/Off switch several times.	
		if Appliance does not start	
		► Check the motor. (Page 13)	
		if Motor defective	
		► Replace motor. (Page 26)	
	Cable reel is defective.	► Check the cable reel. (Page 14)	
		if Cable reel is defective	
		► Replace the cable reel. (Page 27)	
	Electronics are defective.	► Replace the electronics module. (Page 24)	

4.2 Result faults

Fault	Possible cause	Troubleshooting
Suction power too low.	Vacuum cleaner tube or floor nozzle blocked.	 Empty and clean vacuum cleaner tube. Advise customer: See Operating instructions.
	Air guide tube blocked	 Empty and clean air guide tube. Advise customer: See Operating instructions.
	Suction hose leaking.	 Check suction hose for leaks, if required replace. Advise customer: See Operating instructions.
	Telescopic tube not fitted correctly.	 Check that telescopic tube is positioned correctly. Advise customer: See Operating instructions.
	Floor nozzle blocked or defective.	 Clean or replace floor nozzle. Advise customer: See Operating instructions.
	Floor nozzle set incorrectly.	 Set floor nozzle according to the floor. Advise customer: See Operating instructions.
	Setting on the rotary controller wrong.	 Set slide control according to the floor. Advise customer: See Operating instructions.
	Dust container full.	 Empty dust container. Advise customer: See Operating instructions.
	Filter blocked.	 Check and clean all filters, if required replace. Advise customer: See Operating instructions.
Floor scratched.	Floor nozzle rollers or housing rollers defective.	 Check and clean rollers, if required replace. Advise customer: See "Advising customer" document.

4.3 Electrical faults

Fault	Possible cause	Troubleshooting
Suction power setting does not function.	Rotary controller does not function.	No resistance to rotation
	(Motor functional).	► Replace the rotary controller/upper section of housing. (Page 22)
	(Wotor randudinar).	(if) Electronics defective
		► Replace the electronics module. (Page 24)
	Rotary controller jammed.	► Check rotary controller zero position on the potentiometer.
		(if) Electronics defective
		► Replace the electronics module. (Page 24)
Appliance is not extracting.	Filter blocked.	► Clean the filter. (Page 28)
		► Replace filter if necessary.
		► Advise customer:
		See operating instructions.
	Motor is running irregularly.	► Check the motor. (Page 13)
		(if) Motor defective
		► Replace motor. (Page 26)

4.4 Noises

Fault	Possible cause	Troubleshooting
Whistling noise during operation.	Air guide seal defective.	► Advise customer: Check floor nozzles, accessories, telescopic tube and suction hose for blockage. Check and clean all filters, if required replace. Check seal on the housing. If operation is increased, reduce cleaning interval.

5.1 Testing the electronics module

Prerequisite:

- · Appliance is connected to the power supply.
- · Air duct is not blocked.
- Filters are cleaned.

5.1.1 Procedure

A blocked filter is simulated when the electronics module is tested.

- 1. Remove suction hose from connecting piece.
- 2. Switch on the appliance.
- 3. Close the connection opening on the connecting piece with your hand.
- 4. **(ii)** IF after approx. 30 s the electronics module does not decelerate the motor and the signal lamp for filter cleaning does not flash
 - ► Replace the electronics module. (Page 24)



In exceptional circumstances deceleration of the motor and flashing of the signal lamp for filter cleaning only takes place after 3 minutes.

This is not a malfunction, but is due to a temporary change in the software.

5.2 Testing the motor

5.2.1 General check

Prerequisite:

- Appliance is disconnected from the power supply.
- Cable reel has been checked.
- · Rotary control has been checked.
- Electronics module has been checked.
- ▶ Visually check cabling for damage.

5.2.2 Checking the motor function

- 1. Connect appliance to power supply.
- 2. Press the On/Off switch.
- 3. if Motor does not switch on
 - ► Replace motor. (Page 26)

5.3 Checking cable reel

Prerequisite:

- Appliance is disconnected from the mains.
- · Cable reel is accessible.

5.3.1 Visual inspection

- 1. Unwind the power cord.
- 2. Visually check cable for damage.
- 3. if IF the cable is damaged,
 - ► replace the cable reel. (Page 27)
- 4. Visually check cable reel for damage.
- 5. If the cable reel is damaged,
 - ► replace the cable reel. (Page 27)

5.3.2 Checking electrical function

Required tools:

- **/** Tester
- 1. Hold test probes on mains plug and connection contacts.
- Check current flow.
- 3. (if) IF current flow cannot be measured,
 - ► replace the cable reel. (Page 27)

5.3.3 Checking mechanical function (spring tension)

2 factors are important for the mechanical function of the cable reel:

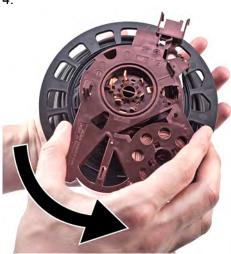
- Spring tension: the spring must be adequately pretensioned.
- · Winding pattern: the cable must be wound up evenly
- 1. Take cable reel out of the appliance.

2. Visually check spring pretension.



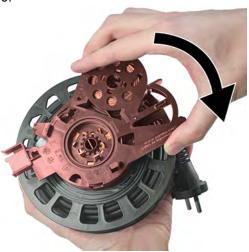
- 3. If **less** than 2 layers of the spring have been wound on to the spindle of the cable reel,
 - ▶ hold the cable reel in place and turn the crossmember anti-clockwise until there are 2 layers.





- 5. If **more** than 2 layers of the spring have been wound on to the spindle of the cable reel,
 - ▶ hold the cable reel in place and turn the crossmember clockwise until there are only 2 layers.





- 7. Fully unwind the cable from the cable reel and wind up again.
- 8. Visually check spring pretension again.



- 9. If the spring pretension is correct,
 - check the mechanical function (winding pattern). (Page 15)
- 10. (if) IF the spring tension is not correct,
 - ▶ check spring tension again (repeat as from Step 3).
- 11. (f) IF the spring pretension is not correct after checking twice,
 - ► replace the cable reel. (Page 27)

5.3.4 Checking mechanical function (winding pattern)

- 1. Unwind the cable from the cable reel and wind up again.
- 2. Visually check winding pattern.



- 3. If the winding pattern is even,
 - ▶ install the cable reel. (Page 27)
- 4. If the winding pattern is uneven,
 - a) Unwind cable and wind up evenly.
 - b) Checking mechanical function (spring tension). (Page 14)

6.1 Replacing handle

Required tools:

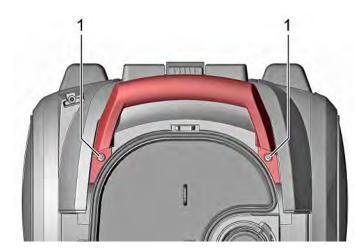
✗ Screw driver Torx T15 (mat. no. 341252)

Prerequisite:

The lid of the motor filter is removed.

6.1.1 Removal

1. Remove screws (1) and detach handle.



2. Replace handle.

6.1.2 Installation

► Install in reverse order.

6.2 Replacing connecting piece

Required tools:

Flat-tipped screwdriver

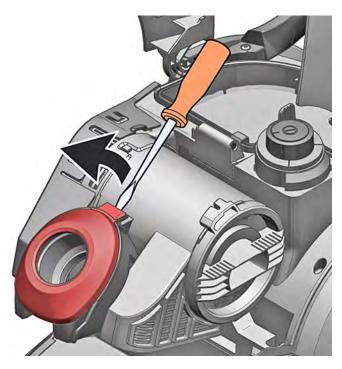
Screw driver Torx T15 (mat. no. 341252)

Prerequisite:

- · Appliance is disconnected from the power supply.
- · The suction hose has been removed.
- The dust box with lid has been removed.

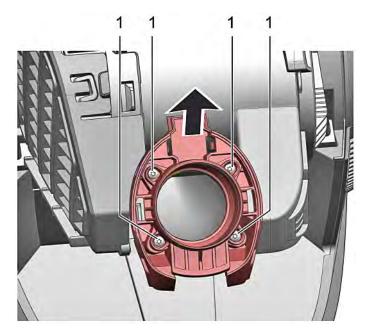
6.2.1 Removal

1. Position the flat-tipped screwdriver in the centre of the recess.



2. Lever the connecting piece lid **up** out of the catches and remove.

3. Remove screws (1).



- 4. Pull the connecting piece **forwards** from the guide pins and remove.
- 5. Replace connecting piece.

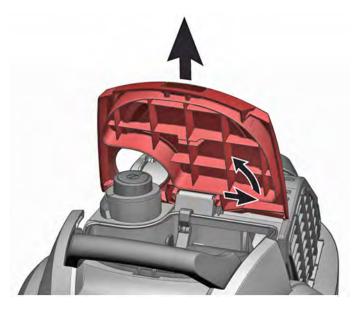
6.2.2 Installation

► Install in reverse order.

6.3 Replacing lid of the motor filter

6.3.1 Removal

- 1. Open the lid of the motor filter.
- 2. Push the lid of the motor filter to the **right** and release the catch on the right.



- 3. Guide the lid of the motor filter **up** over the support, push to the **left** and release the catch on the left.
- 4. Remove the lid of the motor filter ${f up}$ off the appliance.
- 5. Replace the lid of the motor filter.

6.3.2 Installation

NOTICE

Incorrect installation!

Damage to the motor filter lid.

- ▶ Before closing, insert the filter to unlock the filter detection lever.
- ► Install in reverse order.

6.4 Replacing separator

Required tools:

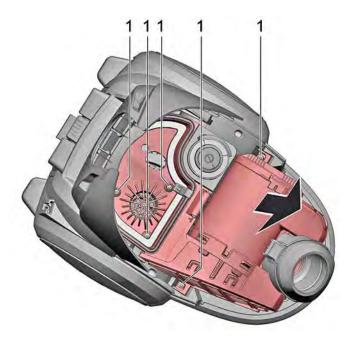
✓ Screw driver Torx T15 (mat. no. 341252)

Prerequisite:

- The dust box with lid has been removed.
- The lid of the motor filter is removed.
- · The handle has been removed.
- · The motor filter is removed.

6.4.1 Removal

- 1. Open the separator lid.
- 2. Remove the separator screws (1) on the housing **on the top** and **front on the left/right**.



3. Lift the separator **up** off the appliance.

4. Replace the separator.

6.4.2 Installation

NOTICE

Incorrect installation!

Damage to motor.

- ▶ Do not let the screws fall through the suction grid into the motor.
- Install in reverse order.

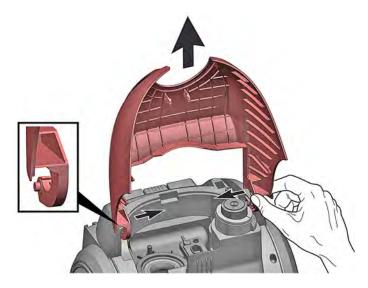
6.5 Replacing separator lid

Prerequisite:

· The separator has been removed.

6.5.1 Removal

- 1. Open the separator lid.
- 2. Press the holders together on the **left/right** and release the catches.



- 3. Lift the separator lid **up** off the appliance.
- 4. Replace the separator lid.

6.5.2 Installation

► Install in reverse order.

6.6 Replacing upper section

Required tools:

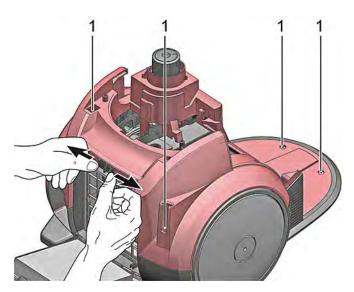
✓ Screw driver Torx T15 (mat. no. 341252)

Prerequisite:

The separator lid has been removed.

6.6.1 Removal

1. Remove the screws (1) of the upper section on the housing **on the front** and **rear on the left/right**.



- 2. Reach into the recess on the upper section and pull hard outwards.
- 3. Lift upper section **up** off housing.

4.



 Removal and installation of the rotary control is described separately in the relevant section of the instructions.

Remove rotary control from upper section.

- 5. Pull light guide out of upper section.
- 6. Replace upper section.

6.6.2 Installation

Install in reverse order.

6.7 Replacing rotary control

Required tools:

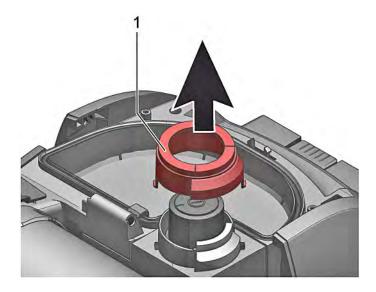
Flat-tipped screwdriver

Prerequisite:

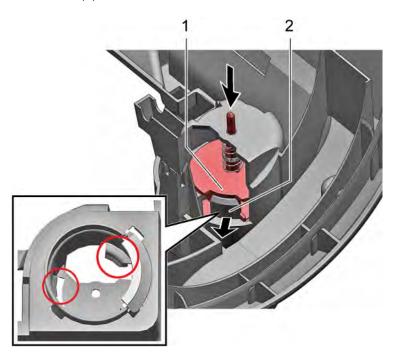
- · Appliance is disconnected from the power supply.
- · The suction hose has been removed.
- The dust box with lid has been removed.
- The filter grid with foam has been removed.
- · The lids have been removed.
- · The separator has been removed.
- · The handle has been removed.
- The upper section has been removed.

6.7.1 Removal

1. Release the control element cover (1) from the catches on the **right/left** and lift it **up** off the rotary control.



2. Position the recess (1) on the rotary control at the front catch of the upper section (2).



- 3. Use the screw driver to force the front catch of the upper section (2) from the rotary control.
- 4. Push the rotary control out of the upper section.
- 5. Replace the rotary control.

6.7.2 Installation



- Make sure that the recess on the rotary control is correctly positioned at the catch of the upper section.
- ► Install in reverse order.

6.8 Replacing cap housing

Required tools:

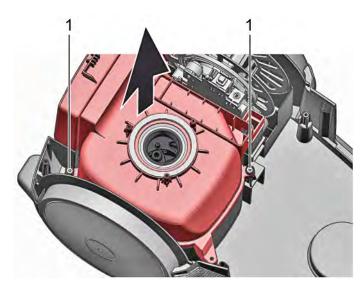
✗ Screw driver Torx T15 (mat. no. 341252)

Prerequisite:

The upper section has been removed.

6.8.1 Removal

- 1. Open exhaust grille.
- 2. Remove blow-out/HEPA filter.
- 3. Remove vacuum-bleed cover with hose.
- 4. Remove vacuum-bleed valve.
- 5. Remove cap housing screws (1) on lower part of housing.



- 6. Remove cap housing **up** out of appliance.
- 7. Remove cap housing sound insulation.
- 8. Replace cap housing.

6.8.2 Installation

► Install in reverse order.

6.9 Replacing the electronics

Prerequisite:

- · Appliance is disconnected from the power supply.
- · The suction hose has been removed.
- The dust box with lid has been removed.
- The filter grid with foam has been removed.
- · The lids have been removed.
- · The separator has been removed.
- · The handle has been removed.
- The upper section has been removed.
- · The cap housing has been removed.

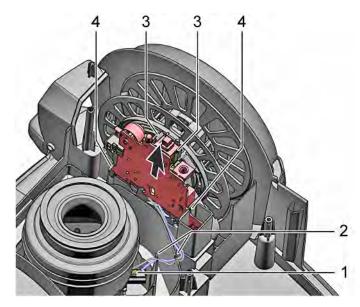
6.9.1 Removal

1.



 Before dismantling take note of the assignment of "electronics on motor" connections.

Remove electronics on motor plug contacts (1).



- 2. Detach cable connection from guides (2).
- 3. Release electronics on cable reel catch (3) at the **top**.
- 4. Pull the electronics out of the guides (4) on the bottom part of the housing and remove.
- 5. Replace the electronics.

6.9.2 Installation

NOTICE

Touching electrostatically sensitive components!

Destruction of components.

- ▶ Use a system offering electrostatic discharge protection.
- ▶ Observe measures to protect components susceptible to electrical discharge.



- Insert the contact clips of the electronics correctly in the flat connectors on the cable reel.
- ► Install in reverse order.

6.10 Replacing the motor

Prerequisite:

- Appliance is disconnected from the power supply.
- The suction hose has been removed.
- The dust box with lid has been removed.
- The filter grid with foam has been removed.
- · The lids have been removed.
- · The separator has been removed.
- The handle has been removed.
- The upper section has been removed.
- · The cap housing has been removed.

6.10.1 Removal

1.

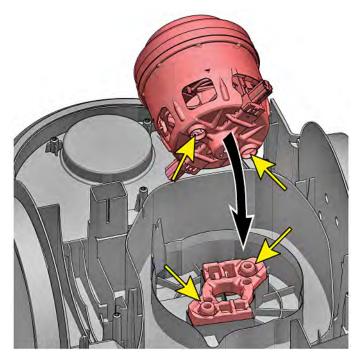


• Before dismantling take note of the assignment of electronics on motor connections.

Remove electronics on motor plug contacts.

- 2. Lift motor from rubber bushing on lower part of housing and remove.
- 3. Replace the motor.

6.10.2 Installation



Graphic 1: Positioning



- Position the motor with the connections towards the electronics side.
- Insert the guide bores on the underside of the motor correctly in the supports on the rubber bushing of the lower part of the housing.
- Install in reverse order.

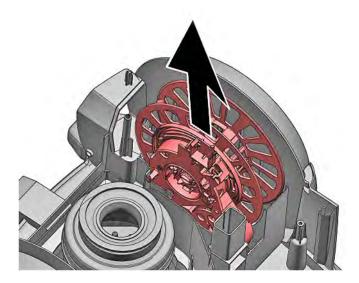
6.11 Replacing the cable reel

Prerequisite:

- Appliance is disconnected from the power supply.
- · The suction hose has been removed.
- · Dust box with lid has been removed.
- The filter grid with foam has been removed.
- · The lids have been removed.
- · The separator has been removed.
- · The handle has been removed.
- The upper section has been removed.
- The cap housing has been removed.
- Electronics have been removed.

6.11.1 Removing the cable reel

1. Pull the cable reel **upwards** out of the support on the lower part of housing.



2. Replace the cable reel.

6.11.2 Installing the cable reel

- 1. Check the cable reel before installation. (Page 14)
- 2. Install in reverse sequence.

6.12 Cleaning the filter



- If the filter control display lights blue, the vacuum cleaner works perfectly.
- If the display starts to flash red, the filters must be checked and if necessary cleaned.
- If the nozzle, suction pipe and suction hose are blocked, this will also trigger the filter check display.
- The appliance is automatically adjusted to the lowest power level.

FILTER	FREQUENCY	CLEANING
Fluff filter	should be regularly	tapped out, rinsed
The motor protection	should be regularly	tapped out, rinsed
HEPA/blow-out filter	should be annually	rinsed
Crossflow (is omitted since FD9411)	if required,	tapped out, rinsed

Table 5: Filter cleaning

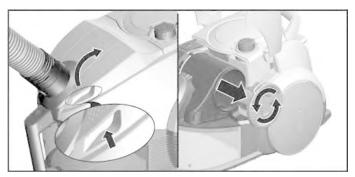


Rinsed out filters must be dried for 24 hours before being reused.

Prerequisite:

- Appliance is disconnected from the power supply.
- The suction hose has been removed.

6.12.1 clear fluff filter



Graphic 2: Fluff filter

- 1. Open the lid separator.
- 2. Release the fluff filter completely anti-clockwise and remove.
- 3. Shake and/or tap out the fluff filter gently.
- 4. if IF this is not sufficient
 - ▶ remove the dirt particles with a dry cloth and/or brush. Wash fluff filter

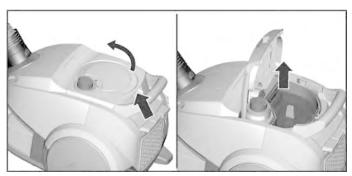
5.



Remove any protruding dirt before installation.

To install, follow the removal steps in reverse order.

6.12.2 Cleaning the motor protection filter



Graphic 3: Motor protection filter

- 1. Open the lid of the motor filter.
- 2. Pull the motor protection filter **upwards** to remove from the appliance.
- 3. Tap out the motor protection filter.
- 4.

 IF this is not sufficient
 - remove the foam filter from the filter frame.
- 5. Rinse the foam filter.

6.

NOTICE

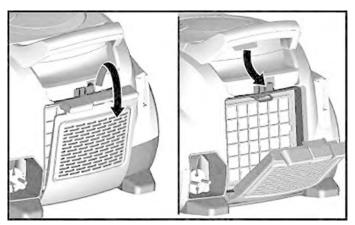
Incorrect installation!

Damage to the motor filter lid.

▶ Before closing insert the motor protection filter to unlock the filter detection lever.

To install, follow the removal steps in reverse order.

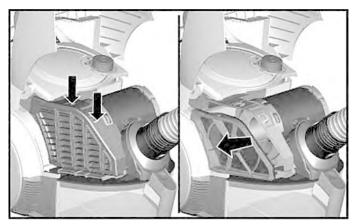
6.12.3 Cleaning the blow-out filter (HEPA filter)



Graphic 4: Hepa filters

- 1. Press the fastening flap **downwards** and open the lid of the blow-out filter.
- 2. Release the HEPA filter and remove it from the appliance.
- 3. Tap out the filter unit and rinse it under running water.
- 4. To install, follow the removal steps in reverse order.

6.12.4 Cleaning the crossflow filter



Graphic 5: Crossflow filter

- 1. Open the lid separator.
- 2. Release the catches and remove the crossflow cover.
- 3. Remove the crossflow filter from the appliance.
- 4. Tap out the filter unit and rinse it under running water.
- 5. To install, follow the removal steps in reverse order.