# Repair Instructions – Dishwashers

# Concerning this document

## 1.1 Important information

Read and observe chapter 2 "Safety" before performing any work!

### 1.1.1 Purpose

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

These repair instructions include information about troubleshooting and repair.

### 1.1.2 Target group

These repair instructions are intended for persons who are familiar with equipment technology and were instructed by BSH or an authorised body:
- Service technicians for the repair of domestic appliances
- Pre-assemblers in the spare part stockroom when determining required spare parts
- Call centre employees during order acceptance

### 1.1.3 Other applicable documents

The following documents include additional relevant repair information:
- General repair instructions
- Error codes and service programs
- Circuit diagrams
- Exploded drawings
- Parts lists
- Repair videos

## 1.2 Explanation of symbols

### 1.2.1 Danger levels

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

| Warning level | Meaning |
|---|---|
| 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*

### 1.2.2 Hazard symbols

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

The following hazard symbols are used in this document:

| Hazard symbol | Meaning |
|---|---|
|  | General warning message |
|  | Danger from electrical voltage |
|  | Risk of explosion |

| Hazard symbol | Meaning |
|---|---|
|  | Danger of cuts |
|  | Danger of crushing |
|  | Danger from hot surfaces |
|  | Danger from strong magnetic field |
|  | Danger from non-ionizing radiation |

*Table 2: Hazard symbols*

### 1.2.3 Structure of the warnings

Warnings in this document have a standardised appearance and a standardised structure.

CAUTION

**Type and source of danger!**

Consequences of ignoring the warning.

► Actions to protect from danger.

The following example shows a warning that warns against electric shock due to live parts. The measure for avoiding the danger is mentioned.

DANGER

**Risk of electric shock due to live parts!**

► Disconnect the appliance from the mains at least 60 seconds before starting the work .

### 1.2.4 General symbols

The following general symbols are used in this document:

| Gen. symbol | Meaning |
|---|---|
|  | Identification of a special tip (text and/or graphic) |
| Start | Identification of a key or button |
| [ 00123456] | Identification of a material number |
|  | Identification of a condition (if ..., then ...) |
|  | Identification of a simple tip (only text) |

*Table 3: General symbols*

# Safety

## 2.1 Qualification

In Germany, only qualified electricians trained by BSH or an authorised body may perform any repair work.

In other countries, only similarly trained qualified personnel is permitted to perform the repair work.

Appliances must only be repaired by persons that are qualified, **approved** and trained by BSH or an authorised body as instructed.

## 2.2 General safety information

### 2.2.1 All domestic appliances

**Risk of electric shock due to live parts!**
- Disconnect the appliance from the mains for at least 60 seconds before starting work.
- Do not touch the housing, components and cables.
- For tests on an energised system, use a residual current circuit breaker.
- Discharge high-voltage capacitors.

**Risk of injury from sharp edges!**
- Wear protective gloves.

**Risk of injury when dealing with harmful substances!**
- Observe the associated safety data sheet!

**Risk to the appliance's safety / function!**
- Only use original spare parts.

**Risk of damage to electrostatically sensitive components (ESDs)!**
- Before touching ESDs, use an electrostatic protection system (wristband with earth safe plug).
- Do not touch connections and conductor paths of the modules.
- Only transport ESDs in conductive materials or original packaging.
- Keep ESDs clear of electrostatically chargeable materials (i.e. plastic).

## 2.3 Product-specific safety information

### 2.3.1 Microwave ovens

**Risk of scalding due to explosive escape of liquids in case of delayed boiling!**
- Before heating place a metal spoon in the liquid.

**Health hazard due to non-ionising radiation!**
- After any work on the appliance, check the tightness with leak rate measurement.

### 2.3.2 Induction appliances

Induction appliances fulfil the relevant regulations for safety and electromagnetic compatibility (EN 50366).

**Danger to life due to magnetic fields!**
- People with pacemakers should stay clear during repairs on an open appliance!

**Health hazard due to magnetic fields!**
- People with medical devices (for example insulin pump / hearing aid) should stay clear of the opened appliance!

### 2.3.3 Gas appliances

**Explosion hazard due to escaping gas!**
- Cut off the gas supply before working on gas carrying connections.
- Check tightness following work on connections carrying gas.
- Only repair gas appliances with original parts that were tested and released for such use.

**If you smell gas!**
- Do not press any electrical switches.
- Extinguish / keep clear of open flames.
- Ensure that room is well ventilated.
- Close the gas isolating equipment.

### 2.3.4 Refrigerators and freezers

**Risk of burns caused by refrigerants!**
- Wear protective gloves and goggles.

**Explosion hazard due to refrigerants!**
- Do not solder pipe connections, only use Lokring connections.
- Do not press any electrical switches.
- Keep clear of thermal appliances.
- Extinguish / keep clear of open flames.
- Ensure that room is well ventilated.

### 2.3.5 Dryer with heat pump

**Risk of burns caused by refrigerants!**
- Wear protective gloves and goggles.

**Explosion hazard due to refrigerants!**
- Do not solder pipe connections, only use Lokring connections.
- Do not press any electrical switches.
- Keep clear of thermal appliances.
- Extinguish / keep clear of open flames.
- Ensure that room is well ventilated.

## 2.4 Measures after each repair

If the appliance is functional:
- Check according to VDE 0701 or country-specific regulations.
- Check external appearance, function and tightness.
- Document repair work, measured values and functional reliability.

If the appliance is **not** functional:
- Identify the appliance as “not functionally reliable”.
- Warn customers of commissioning and notify them in writing .

# Design and function

## 3.1 Appliance overview

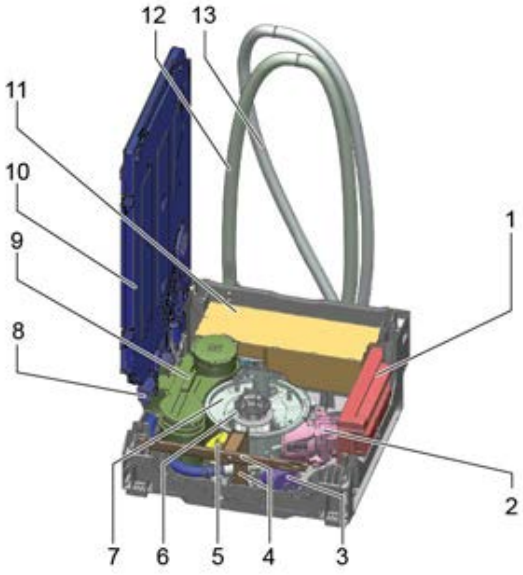



*Fig. 1: Structure*

1 Power module
2 Heat pump
3 Drain pump
4 Overflow channel
5 Safety switch
6 Filter system
7 Sump
8 Outlet valve
9 water-softening system
10 Heat exchanger
11 Counterweight
12 Inlet hose
13 Outlet hose

# Fault diagnosis

## 4.1 Malfunctions

Faults that are plainly due to incorrect operation or inadequate maintenance may not be dealt with under the guarantee. Appropriate instructions for use and maintenance may be found in the specified chapters of the instruction manual (IM) and brief description (BD).

Experience shows that, when recording a fault report it is important to establish not only the symptoms observed but also the circumstances in which the fault occurs.

- Is the problem present all the time, does it occur sporadically or at specific intervals?
- Were different programmes or detergents being used or tested?
- Does the problem date back to a specific event (new tableware, change of detergent, ...)?
- Does the problem affect only tableware in certain areas (only the top or bottom basket, only in the corners, ...)?

The functional test must be carried out in the customer service test programme using the “glass door”.

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| No display at end of programme | Appliance switches off automatically after the end of the programme | ► The customer settings can be modified to disable the “Auto Power Off” function. (See Changing customer settings)<br>► Advise customer:<br>*To save energy, the dishwasher is switched off 1 minute after the programme ends (factory setting).* |
| Water is not pumped out, not all pumped out | Drain check valve is blocked or leaking. | ► Check the drain check valve: fill water into the appliance. Pump the water out. Open the door. The body of the pump is practically empty. The water level in the body of the pump may not rise.<br>► Clean the drain check valve.<br>► Replacing the drain check valve. (Page 110) |
| | The water outlet of the appliance or the hose/siphon is blocked. | ► Check the hoses.<br>► Clean the hoses.<br>► Replace the hoses. |
| Door cannot be closed | The catch of the door lock is in the wrong position (engaged). | ► Firmly press the door closed until the catch corrects itself.<br>► Checking the door lock (Page 41) |
| | Faulty appliance installation. | ► Make sure that the rear wall of the appliance is not distorted by pressure from power sockets, hose clips or the like.<br>► The cabinet door may not touch any other furniture. Remove the obstruction.<br>► Checking the door lock. (Page 41) |
| | Door hinges are overstretched. The inner door is distorted near to the hinges. | ► Replace the inner door.<br>► Replacing the door hinges (Page 113) |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | The screws on the inner door are not fully screwed in. | ► Insert the screws straight and tighten them fully. |
| | Baskets badly loaded | ► Check the loading of the baskets. Items of tableware may not protrude from the basket. Leave the area around the handle of the basket clear.<br>  <br>► Advise customer:<br>*Explain to the customer how to correctly load the tableware (see instruction manual).* |
| | Door lock does not close with enough force. | ► Replace the upper trim.<br>► Replace the door lock. |
| | Door seal is not correctly mounted or has slipped. | ► Check the position of the door seal and correct it. The sealing lip faces inwards. Press the seal fully into place. |
| | Feed pipe or riser was installed incorrectly. | ► Check that the components are correctly seated.<br>► Replace defective components. |
| Time leaps in remaining time | Additional rinse cycle to clean the water storage tank. Only applies to appliances with a water storage tank | ► No troubleshooting required.<br>► Advise customer:<br>*The water storage tank is cleaned automatically every 15-20 washing cycles.* |
| | Additional regeneration cycle. Only applies to appliances with a water-softening system. | ► No troubleshooting required. |
| | Minimal deviations due to various factors such as loading, soiling, ambient temperature, ... etc. | ► No troubleshooting required. |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| The appliance always starts with the ECO programme<br>*from FD9205* | This is not a fault | 🄸 New software was introduced from FD9205.<br>► Advise customer:<br>*Under EU Directive 1275/2008 Conformity Index 011, the appliance must always start with the ECO 50 programme, regardless of which programme was used on the previous run.*<br>*The customer is free to deliberately select another programme before starting the appliance*<br>*In appliances with Capatouch controls this presetting can be switched off. (IM, chapter Getting to know your appliance)* |
| After carrying out the flash process the appliance will enter the test programme | The appliance has not carried out a mains reset after flashing. The appliance is in the factory test programme. | ► Carry out a mains reset.<br>► Loading/updating the software. (Page 121) |
| After the flashing process the symbol “H” is shown on the display | The appliance has not carried out a mains reset after flashing. The appliance is in the factory test programme. | ► Carry out a mains reset.<br>► Loading/updating the software. (Page 121) |
| Appliance not functioning / power supply is available<br>*Current available, but no function* | Poor plug connection | ► Checking the plug connection |
| | Cable harness defective. | ► Replace cable harness. |
| | Mains switch defective. | ► Replace mains switch. |
| | Power module defective. | ► Replace the defective power module. (Page 91) |
| | Control module defective. | ► Replace the defective control module. |
| Programme cannot be started or breaks off | Door sensor is defective | ► Replace the defective door sensor. (Page 146) |
| | Door cannot be closed. | ► See fault: Door cannot be closed. |
| | Appliance does not heat up. | ► Check the water supply.<br>► See the fault code table<br>► Check the heating pump. (Page 33) |
| | Activation of the Hall sensor is interrupted when the door moves even slightly. This interrupts the programme, for example, the heating switches off part way through (programme display “0:01”). | ► Advise customer:<br>*The appliance door must be properly closed.*<br>► Arrange the tableware correctly. Check the rear of the container and the cutlery baskets. The door should not be subjected to any pressure from inside. |
| sensor salt leck is permanently lit | No salt in the container for regeneration salt | ► Check the level in the salt container.<br>► Refill with special salt [ 311043] |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | Salt tabs were used | ► There is no fault with the appliance.<br>► Advise customer:<br>*Don't use salt tabs because the optical salt sensor cannot detect them.*<br>► Replacing the water-softening system<br>► Advise customer:<br>*A new water-softening system can be installed if the customer wishes it. The replacement has a new low salt sensor that can also detect tabs.*<br>water-softening system |
| | Faulty plug connection | ► Check the plug connection. |
| | The low salt sensor, power module and/or control module is defective. | ► Replace the defective part. |
| The tab does not drop into the basket handle<br>*(applies to 86 cm appliances)* | Manufacturing tolerances | Install a tab slide [ 614935]<br>i See the chapter Installing the basket system.<br>► Load the appliance correctly (Page 72) |

## 4.2 Result faults

Faults that are plainly due to incorrect operation or inadequate maintenance may not be dealt with under the guarantee. Appropriate instructions for use and maintenance may be found in the specified chapters of the instruction manual (IM) and brief description (BD).

Experience shows that, when recording a fault report it is important to establish not only the symptoms observed but also the circumstances in which the fault occurs.

- Is the problem present all the time, does it occur sporadically or at specific intervals?
- Were different programmes or detergents being used or tested?
- Does the problem date back to a specific event (new tableware, change of detergent, ...)?
- Does the problem affect only tableware in certain areas (only the top or bottom basket, only in the corners, ...)?

The functional test must be carried out in the customer service test programme using the “glass door”.

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| Residues on the utensils or in the appliance - gritty food remnants | Baskets badly loaded. Utensils placed too closely together | ► Check the loading of the baskets. (See IM, chapter Tableware and utensils)<br>► Observe instructions for loading the appliance correctly (Page 72) |
| | Spray arms clocked by tableware or the cutlery drawer | ► Arrange utensils so that the spray arm can rotate without obstruction. (See IM, Tableware and utensils)<br>► Loading the appliance correctly (Page 72) |
| | Utensils were precleaned too vigorously, causing the sensors to choose a gentler programme. Some stubborn dirt cannot be completely removed. | ► Don’t prewash the utensils; remove only large food remnants.<br>► Advise customer:<br>*Recommended programme Eco50°* |
| | Filter inserted incorrectly or not engaged in the body of the pump. | ► Position the filter correctly and latch it into place (see IM, Maintenance and care) |
| | The coarse, micro and fine filters are soiled | ► Clean the filters (see IM, Maintenance and care) |
| | Spray arm nozzles or top spray are blocked (e.g. lemon pips and such) | ► Advise customer:<br>*Clean the nozzles and top spray and correctly position and latch the filter. (See IM, Maintenance and care)* |
| | The spray arm bearing is stiff (soiling around the bearing) | ► Clean the parts<br>► Advise customer:<br>*Instruct the customer to use the correct filters* |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | Spray arm or feed pipe is distorted -> spray arm is hitting the basket, the docking site or the zeolite blower cap. | ► Checking the components<br>► Replace defective components |
| | The drain pump is jammed | ► Checking the drain pump (see IM, Resolving faults yourself) |
| | Dirty water runs back into the appliance --> tableware becomes dirty again | ► Check the action of the drain pump, check that the drain check valve is tight |
| | Tall narrow receptacles in corners don't get adequately rinsed. | ► Advise customer:<br>*Don't position tall narrow receptacles too obliquely, and don't put them in the corners.* |
| Residues on the utensils or in the appliance - undissolved detergent | Detergent dispenser cover is blocked by utensils (cover does not open fully) | ► Check the operation of the detergent dispenser, the dispenser cover must not be obstructed by utensils. Don't place utensils or fragrance dispensers in the DosageAssist unit<br>► Loading the appliance correctly (Page 72) |
| | Detergent dispenser cover is blocked by a tab | ► Advise customer:<br>*Explain to the customer how to correctly position tabs (crosswise, not upright)* |
| | Tabs were used in the Quick Wash or Short programme -> the detergent does not have time to dissolve in the selected short programme | ► Advise customer:<br>*Tabs take too long to dissolve; use a powder detergent or select a more intensive programme* |
| | Detergent residues in the rinse cycle; detergent transfer | ► Check the action of the drain pump, check that the drain check valve is tight |
| | Detergent is extremely lumpy, its cleaning effect and ability to dissolve are reduced after prolonged storage | ► Advise customer:<br>*Use fresh new detergent and discard the old* |
| Residues on the utensils or in the appliance - water stains | It is physically impossible to prevent droplets forming on plastic surfaces. Plastics do not retain heat. After drying, substances that were dissolved in the water become visible | ► Advise customer:<br>*Use a more powerful programme (change water more often) (see IM, Programme overview)*<br>*When loading utensils, arrange them in a sloping position*<br>*Use rinse aid, if necessary use more (see IM, Rinse aid)*<br>*If necessary, adjust the water-softening system to a higher setting (see IM, water-softening system)*<br>*Remind the customer about the Extra Dry programme. (*not available in all appliances)* |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| Residues on the utensils or in the appliance - coloured and easy to remove<br>*Yellow, orange, brown soapy residues inside the appliance* | Soapy film formed from food components and limescale. In view of the tolerances of multi-component detergents (3 in 1 or more), using them may make it necessary to use the water-softening system if the water's hardness rating is 16°dH or higher. | ► Advise customer:<br>*Contrary to the detergent manufacturer's instructions, also activate the water-softening system and use salt* |
| Residues on the utensils or in the appliance - extensible rails<br>*or residues on the cutlery drawer* | It is possible for detergent and food residues to be deposited, depending on the appliance design and how it is used | ► Clean it by hand<br>🔧 Use a modified set of extensible rails for the upper basket<br>🔧 For the cutlery drawer use a repair set |
| Deposits - water-soluble, wipeable<br>*in the tub or on the door* | Detergent substances are deposited. These deposits cannot usually be removed with chemicals (appliance cleaner). | ► Advise customer:<br>*Change to a different detergent. We recommend using separate products (branded detergent, salt, rinse aid)*<br>► Clean the appliance by hand with a cloth |
| | The water-softening system has been set to a marginal value; there is regularly a "white coating on the floor of the tub" | ► Establish the correct water hardness rating and check and adjust the softening setting.<br>► Changing customer settings - Set water hardness (Page 15) |
| | Regeneration salt on the utensils:<br>- Salt dispenser cover not tight<br>- Regeneration valve not tight | ► Advise customer:<br>*Eliminate the leak*<br>► Adjust the water-softening system.<br>► Check the regeneration valve and make sure it is properly seated (customer service programme) |
| | Detergent residues in the rinse cycle; detergent transfer | ► Check the operation of the detergent dispenser, the dispenser cover must not be obstructed by utensils.<br>► Check the non-return valve. |
| | Wrong programme selected (Quick Wash programme was selected) | ► Select a suitable programme (see IM, Programme overview) |
| | Glasses beginning to become cloudy --> can only apparently be wiped off | ⓘ See Damage to utensils --> **Clouding of glass** |
| Deposits - white, difficult to remove (limescale)<br>*Limescale on the utensils, the container or the door* | Detergent substances are deposited. These coatings cannot usually be removed with chemicals (appliance cleaner, ...). | ► Advise customer:<br>*Change to a different brand of detergent. We recommend using separate products (branded detergent, salt, rinse aid )*<br>► Clean the appliance by hand with a cloth |
| | Hardness range incorrectly set or total water hardness greater than 50°dH | ► Checking the residual hardness in the washing and rinsing cycle<br>► Set up the water-softening system as described in the instruction manual, replenish the salt (see IM, water-softening system) |
| | Water-softening system is not being regenerated | ► Use the customer service programme to test the operation of the regeneration valve |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | 3-in-1 detergent or bio/eco is detergent not effective enough | ► Advise customer:<br>*Change to a different brand of detergent. We recommend using separate products (branded detergent, salt, rinse aid )*<br>► Clean the appliance by hand with a cloth |
| | Detergent in the salt container | Mini-lab Mat. no. [ 340070]<br>i Confirm using the mini-lab.<br>► Replacing the water-softening system |
| Deposits - starch residues on the utensils. | Not enough detergent | Mini-lab Mat. no. [ 340070]<br>i Confirm using the mini-lab.<br>► Advise customer:<br>*Use more detergent or change the detergent* |
| | Wrong programme selected (programme was too gentle) | ► Advise customer:<br>*Select the right programme (see IM, Programme overview)* |
| Deposits - Tea or lipstick residues on the utensils | Washing temperature too low | ► Select a programme with a higher washing temperature (see IM, Resolving faults yourself) |
| | Not enough detergent | ► Advise customer:<br>*Use suitable detergent at correct dosage* |
| | Utensils were precleaned too vigorously; sensors therefore decide on a gentler programme. Some stubborn soiling cannot be completely removed. | ► Advise customer:<br>*Don't prewash the utensils; remove only large food remnants; recommended programme: Eco50°* |
| | Unsuitable detergent | ► Advise customer:<br>*Change detergent* |
| Deposits - difficult or impossible to remove<br>*Blue, yellow or brown deposits in the container or on the doors* | Films formed from components of vegetables (e.g. cabbage, celery, potatoes, noodles, ...) or from tap water (e.g. manganese) | Machine cleaner Mat. no. [ 311313]<br>i Can sometimes be removed with machine cleaner or by mechanical cleaning. Such deposits are harmless<br>► Roughly preclean the tableware |
| | Film formed from metallic components. This is known for silver or aluminium utensils | Silver care cartridge<br>► Advise customer:<br>*Use a silver care cartridge*<br>Machine cleaner Mat. no. [ 311313]<br>i Can sometimes be removed with machine cleaner or by mechanical cleaning. |
| Discolouration - iridescent, difficult or impossible to remove<br>*Blue, yellow or brown discolouration in the container or on the doors* | Films formed from components of vegetables (e.g. cabbage, celery, potatoes, noodles, ...) or from tap water (e.g. manganese) | Machine cleaner Mat. no. [ 311313]<br>"Wiener Kalk" Mat. no. [ 311136]<br>► Advise customer:<br>*Can sometimes be removed with machine cleaner or by mechanical cleaning. Can usually be removed mechanically with "Wiener Kalk". Such deposits are harmless* |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | Film formed from metallic components. This is known for silver or aluminium utensils | Machine cleaner Mat. no. [ 311313]<br>► Advise customer:<br>*Can sometimes be removed with machine cleaner or by mechanical cleaning.* |
| Discolouration - on plastic parts | Washing temperature too low | ► Advise customer:<br>*Select a programme with a higher washing temperature* |
| | Utensils were precleaned too vigorously; sensors therefore decide on a gentler programme. Some stubborn soiling cannot be completely removed. | ► Advise customer:<br>*Don't prewash the utensils; remove only large food remnants. Recommended programme Eco50°* |
| Streaks on glasses and cutlery<br>*Removable streaks on glasses and cutlery, glasses have a metallic appearance* | Too much rinse aid | ► Advise customer:<br>*Adjust the quantity of rinse aid to a lower setting (see IM, Rinse aid)* |
| | No rinse aid in the appliance or setting too low | ► Advise customer:<br>*Replenish the rinse aid and check the dosage (recommended level 4-5) (see IM, Rinse aid)* |
| | Detergent residue in the final rinse. Detergent dispenser cover is blocked by utensils (cover does not open fully) | ⓘ The dispenser cover must not be obstructed by utensils. Don't place utensils or fragrance dispensers in the DosageAssist unit<br>► Checking the detergent dispenser function |
| | The drain check valve is not tight | ► Checking the tightness of the drain check valve |
| | Utensils were precleaned too vigorously; sensors therefore decide on a gentler programme. Some stubborn soiling cannot be completely removed. | ► Advise customer:<br>*Don't prewash the utensils; remove only large food remnants. Recommended programme Eco50°* |
| Damage to tableware / insoluble residues<br>*Irreversible **clouding of glass*** | Glasses not sufficiently dishwasher-proof (most glasses are only suitable for dishwasher) | ► Advise customer:<br>*Reduce the main reasons for glass corrosion:*<br>*- Use dishwasher-proof glasses*<br>*- Avoid leaving them in steam for a long time (after the end of the wash cycle)*<br>*- Use a lower temperature programme*<br>*- Set up the water-softening system as appropriate for the hardness of the water (if necessary, one level lower, see IM, water-softening system)*<br>*- Use a detergent with glass protection component* |
| Signs of rust on the cutlery | Cutlery is not sufficiently rust-resistant. Knife blades are frequently more severely affected | ► Advise customer:<br>*Use rust-resistant cutlery.* |
| | Cutlery infected by rust from rusty objects (metal lids, damaged baskets, etc.) | ► Advise customer:<br>*Do not wash rusty objects* |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | The washing water is too salty, either because the salt dispenser is not properly closed or because salt was spilled while it was being refilled | ► Close the salt dispenser properly or remove any spilled salt (by means of a prewash) |
| Marks on the cutlery | Large areas of contact between cutlery items and insufficiently tilted e.g. spoons prevent water from running off and leads to marks | ► Advise customer:<br>*Load cutlery in such a way as to minimise its areas of contact.* |
| | The coarse, micro and fine filters are soiled | ► Clean the filters (see IM, chapter Maintenance and care) |
| | No rinse aid in the appliance or setting too low. (combination detergents have less rinsing effect than separate rinse aids) | ► Replenish the rinse aid and check the dosage (see IM, chapter Rinse aid) |
| | Hardness range incorrectly set or total water hardness greater than 50°dH | ► Checking the residual hardness in the washing and rinsing cycle<br>► Set up the water-softening system as described in the instruction manual (see IM, chapter water-softening system)<br>► Refill the salt |
| | Extremely small stains or residues at contact points are due to the laws of physics and therefore unavoidable. | ► Advise customer:<br>*They can be minimised by taking the steps described in this section.*<br>► Loading the appliance correctly (Page 72) |
| Poor drying result - general causes | Removing the tableware | ⓘ When removing tableware, always begin with the lower basket. Then empty the upper basket, and then, if present, remove the contents of the cutlery drawer.<br>ⓘ Water droplets on the lower edges of utensils and on the tableware or cutlery basket cannot be completely avoided.<br>► Leaving the appliance for a long period with the door closed after a completed wash cycle (e.g. overnight) should be avoided.<br>ⓘ Once the tableware has lost its residual heat, the drying effect is reversed. The moisture inside the appliance condenses back onto the cool tableware and forms droplets.<br>► Advise customer:<br>*Remove utensils about 30 min after the end of the programme.* |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | Combined detergents with rinse aid / “x-in-1” tabs | ► If adequate drying results cannot be achieved with combined detergents (“5-in-1”, “7-in-1”, etc.), we recommend using separate branded products. Rinse aid should be used in addition to the tabs.<br>► Advise customer:<br>*Appliances with zeolite drying systems get markedly better results with separate products than with combined detergents because the final rinse is at a lower temperature.*<br>► Advise customer:<br>*Activate the optional special drying (see IM, chapter Operating the appliance)* |
| | No rinse aid in the dispenser (LED lights up) or the dosage is set too low | ► Refill rinse aid.<br>► Activate the rinse aid dispenser or increase the dosage. |
| | Unsuitable programme or option selected | ► Select a programme with a drying phase (short programmes such as “Quick Wash” have only a brief drying phase or none at all).<br>ⓘ If the **“Vario Speed” function** is used in appliances **with** a zeolite drying system this will be deactivated and drying will be carried out conventionally (via heat exchanger). This is less effective and the tableware is considerably hotter at the end of the programme. Compared to programmes that use the zeolite drying system, this releases a great deal more steam when the door is opened.<br>ⓘ If the **“Vario Speed” function** is used in appliances **without** a zeolite drying system, the drying phase will be shortened considerably and the temperature of the final rinse will be increased. It is unavoidable that this slightly reduces the drying performance. |
| | Tableware was removed too early | ► Advise customer:<br>*Wait until the end of the programme to permit adequate drying. Recommended: briefly open the door at the end of the programme to allow steam to escape. Then close the door; remove the tableware about 30 minutes after the end of the programme.* |
| | Plastic utensils | ⓘ Because plastic dishes have a low heat storage capacity and a hydrophobic (water-repellent) surface, some drops of water may still be present after the drying phase.<br>► Some appliances offer a way of improving drying performance by activating an optional special drying mode (see instruction manual).<br>► Advise customer:<br>*Increase the dosage of rinse aid.* |
| | Use of rinse aid with poor drying properties | ► Advise customer:<br>*There are eco rinse aids on the market whose drying properties are less good than that of ordinary rinse aids.*<br>*Switch to conventional branded products* |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| Poor drying result - technical causes | Too little water inflow | ⓘf Is the angle valve furred up?<br>► Have the installation checked by an installation technician<br>ⓘf Is the supply hose kinked?<br>► When the appliance is installed, make sure the supply hose is laid correctly<br>ⓘf Aquastop / inlet valve - insufficient flow?<br>► Check the filter for dirt or blockage and clean it if necessary<br>► Check the throughput of the valve, replace it |
| | Drain valve of **heat exchanger** is leaky | ⓘ The **heat exchanger** empties itself between the washing cycle and the final rinse. There is then not enough water in the final rinse to heat up the tableware sufficiently to subsequently dry it. The heat exchanger needs to be filled even after standing for a considerable time. If the customers complains of “water inside the appliance / in the body of the pump”, this may indicate a leaky drain valve.<br>ⓘ Note: during the final rinse there is no run-out detection for the circulating pump, and therefore no detection of a low water level. |
| | No or insufficient rinse aid is added | ⓘ In the test programme you can check its activation (number of impulses = dosage setting). The magnet must move the appropriate number of times.<br>► If the impulses are correct, then the dispenser is defective. Replace the dispenser.<br>► If the impulses are not correct. Check the settings. Possibly replace the power module |
| | Low rinse-aid indicator never lights up | ► Plug of low rinse-aid sensor is not correctly plugged in. Check the connection.<br>ⓘ This has the effect that low rinse aid is never indicated. So the customer does not replenish it. When “3-in-1” products are used, the customer fails to set the rinse aid setting to “0” (because the display is not a nuisance). The programme is then not automatically optimised for “3-in-1” mode. |
| | The **heat exchanger** is not correctly installed. | ⓘ The **heat exchanger** is not sufficiently in contact with the container. This reduces cooling on the container side and reduces the condensation surface. This reduces the drying performance.<br>► Check the fixing and catches (3) |
| Poor drying result - other possible causes | Water in the bottoms of cups | Cup support clip Mat. no.:[ 618565]<br>ⓘ Depending on the tableware used and the way in which it is loaded, the cups may be insufficiently tilted. Water cannot drain away.<br>► Advise the customer, it is possible to retrofit a cup support clip at a number of locations in the upper basket to increase the angle of tilt. |
| | Drops on container / inner door | ⓘ The physics of the “condensation drying” principle means that water droplets can and should be expected to form on the container. The moisture in the air condenses on the inner walls of the dishwasher, runs down and is pumped out. |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | Customer expectations not fulfilled | ► Advise customer:<br>*Appliances without zeolite drying systems offer a drying performance comparable to that of previous generations of equipment. Appliances **with** zeolite drying systems achieve **better drying results**.* |

## 4.3 Noise

Faults that are plainly due to incorrect operation or inadequate maintenance may not be dealt with under the guarantee. Appropriate instructions for use and maintenance may be found in the specified chapters of the instruction manual (IM) and brief description (BD).

Experience shows that, when recording a fault report it is important to establish not only the symptoms observed but also the circumstances in which the fault occurs.

- Is the problem present all the time, does it occur sporadically or at specific intervals?
- Were different programmes or detergents being used or tested?
- Does the problem date back to a specific event (new tableware, change of detergent, ...)?

The functional test must be carried out in the customer service test programme using the “glass door”.

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| Noises during the draining process | Foreign object in pump. | ► Clean the drain pump. (See instruction manual) |
| | Drain pump cover is loose | ► Correctly latch the drain pump cover in the body of the pump (see instruction manual, Cleaning and maintenance) |
| | Drain pump is defective | ► Replace the drain pump. |
| Noises when water is running in | Domestic installation | ⓘ Rapid opening and closing of the valve can give rise to a water hammer in the water pipe (not a fault in the appliance). Engage a water installation technician to repair it. |
| | Flow noise from the water. | ► Advise customer:<br>*Flow noise is normal and depends on the installation. If necessary, have a water installation technician check it.* |
| Rattling noises while washing | Spray arm is striking dishes. | ⓘ Utensils are not correctly loaded.<br>► Advise customer:<br>*Arrange the utensils so that they do not block the spray arm (see instruction manual).* |
| | Light utensils move when they are sprayed. | ► Advise customer:<br>*Arrange the utensils correctly (see instruction manual).* |
| | The sprayed water hits the top of the container and (when partly loaded) sounds like rattling utensils. | ⓘ If the appliance is only partly loaded, arrange the utensils to cover the area.<br>► Lay some plates horizontally. The noise should stop. |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | When water sprayed from the lower basket encounters the upper spray arm it can (when partly loaded) make it rotate unevenly or hit the upper basket. | ⓘ If the appliance is only partly loaded, arrange the utensils to cover the area.<br>► Lay some plates horizontally in the lower basket. The noise should stop. |
| Scraping noises | When opening or closing the door, the shock absorber or gliders scrape against the bottom group. | ⓘ Position the gliders correctly in the bottom group. The shock absorber can be removed after transport.<br>► Replace the defective door spring. |

## 4.4 Odours

Faults that are plainly due to incorrect operation or inadequate maintenance may not be dealt with under the guarantee. Appropriate instructions for use and maintenance may be found in the specified chapters of the instruction manual (IM) and brief description (BD).

Experience shows that, when recording a fault report it is important to establish not only the symptoms observed but also the circumstances in which the fault occurs.

- Is the problem present all the time, does it occur sporadically or at specific intervals?
- Were different programmes or detergents being used or tested?
- Does the problem date back to a specific event (new tableware, change of detergent, ...)?

The functional test must be carried out in the customer service test programme using the “glass door”.

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| Foul smell, like sewage | Appliance is not or not correctly connected to a siphon. | ► Connect the appliance correctly to the sewer pipe via a siphon.<br>🄸 The installation instructions describe the construction of a siphon (using the hose support).<br>► Advise customer:<br>*A siphon serves as an odour trap. If an appliance is connected to the sewer pipe without a siphon this can give rise to unpleasant smells.* |
| | Washing temperature is always too low. | ► Descale the appliance.<br>🔧 Descalers [ 460038]<br>► Advise customer:<br>*If the appliance is continually operated at too low a temperature, residues may be deposited in the appliance and accumulated dirt may damage it.*<br>*We recommend:*<br>*- Frequently use programmes with a higher water temperature*<br>*- Use a machine cleaner that contains bleach (eliminates deposits)*<br>*- Use water-softening additives (powder or tabs)*<br>*- Descale the appliance regularly.* |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| | Frequently, too little detergent is used. | ► Descale the appliance.<br>🔧 Descalers [ 460038]<br>► Advise customer:<br>*If too little detergent is used, deposits may form that will smell.*<br>*We recommend:*<br>*- Use the quantity of detergent that is recommended.*<br>*- Use salt*<br>*- Descale the appliance regularly.*<br>*- Change to a different machine cleaner.*<br>*- Use a fragrance dispenser for dishwashers.*<br>🔧 Fragrance dispenser[ 460742] |
| | The filter system is soiled. | ► Clean the filter system (see instruction manual).<br>► Advise customer:<br>*Remove large food remnants before loading the dishwasher.*<br>*The filter system should be cleaned regularly.* |
| | Detergents containing bleach are never used. | ► Advise customer:<br>*Some detergents contain no bleach. Without bleach, residues can be deposited in the appliance.*<br>*We recommend:*<br>*- Occasionally using detergent that contains bleach*<br>*- Using programmes with a higher water temperature.*<br>*- Not using liquid detergents.*<br>► Deposits - difficult or impossible to remove (Page 16) |
| | Tableware with damaged glaze: when this is exposed to the necessarily high temperatures in the appliance over a long period of time, detergent solution can be deposited underneath the glaze, where it breaks down. | ► Advise customer:<br>*Wash such tableware by hand or replace it.*<br>*Wash tableware at a higher temperature*<br>*Use tableware that is suitable for a dishwasher* |
| Chemical odour | Additional components of the detergent or rinse aid | ⓘ To eliminate any unpleasant odour you can use a detergent or rinse aid from a different manufacturer, or choose additive-free products<br>► Advise customer:<br>*The customer decides what chemicals are used; you can recommend changing to a different product (with citrus aroma) or using a fragrance dispenser*<br>🔧 Fragrance dispenser [ 460742] |

# Fault diagnosis

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| Smell of burning<br>*The reason for this must always be established!* | Incorrect connection, or damage to cables or multiway power sockets (external). Appliances that are connected to multiway power sockets must immediately be taken out of service! | ⓘ The reason must always be established! Only approved extension cables may be used (see installation instructions)<br>► Replace the power cable<br>ⓘ Observe the safety instructions given in the instruction manual. |
| | Faulty plug connections inside the appliance | ► Check the cable of the power supply unit and the plug connection to the power module.<br>► Check the power module for any faulty components.<br>► Replace the defective part. |
| | Defective housings or damaged cables on components inside the appliance | ► Measure the component's values and check them against the circuit diagram.<br>► Check the plug connection.<br>► Replace the defective part. |
| New smell | This comes from the bonding material in the sound insulation (non-woven fabric, insulation mats) | ► Advise customer:<br>*The smell is more intensive when the appliance is new. It will disappear with time. If necessary recommend a fragrance dispenser. There is **no** health risk!*<br>🔧 Fragrance dispenser [ 460742] |

## 4.5 Leaks

Faults that are plainly due to incorrect operation or inadequate maintenance may not be dealt with under the guarantee. Appropriate instructions for use and maintenance may be found in the specified chapters of the instruction manual (IM) and brief description (BD).

Experience shows that, when recording a fault report it is important to establish not only the symptoms observed but also the circumstances in which the fault occurs.

- Is the problem present all the time, does it occur sporadically or at specific intervals?
- Does its occurrence date back to a specific event (change of detergent, ...)?

To avoid repeated repairs it is important to establish the actual cause.

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| Steam escaping | Door is not properly closed. | ► Check the installation.<br>► See fault: Door cannot be closed.<br>► **For 60 cm appliances:** install the Condensation repair kit as described in item 0199.<br>i The attached general technical approval gives additional information |
| Leaky water storage tank<br>*Only relevant for appliances with a **water storage tank**.* | Nuts inside the inner container not properly fastened | ► Check the screw connection. (Perform the individual steps in the order given!). |
| | The water storage tank is damaged | ► Replace the water storage tank. (Perform the individual steps in the order given!). |
| | The actuator valve is leaky | ► Check the actuator valve and clean it.<br>► Replace the defective actuator valve. |
| Leak in heat exchanger | Expansion opening not correctly screwed together | ► Check the screw connection. Perform the individual steps in the order given. See the chapter Replacing the heat exchanger |
| | Drain valve is leaking | ► Replace the drain valve. |
| | Heat exchanger is damaged | ► Replace the heat exchanger. Perform the individual steps in the order given. See the chapter Replacing the heat exchanger |
| Leak underneath the water-softening system | After a number of wash cycles, minimal leaks in the water-softening system can lead to serious leaks. | ► Tighten the threaded ring inside the container.<br>► Check that the water-softening system is correctly installed.<br>► Replace the water-softening system. |
| | The regeneration valve leaks | ► Check the regeneration valve and clean it.<br>► Replace the regeneration valve. |
| | Housing of water-softening system is cracked | ► Replace the water-softening system. |

## 4.6 Other faults

Faults that are plainly due to incorrect operation or inadequate maintenance may not be dealt with under the guarantee. Appropriate instructions for use and maintenance may be found in the specified chapters of the instruction manual (IM) and brief description (BD).

Experience shows that, when recording a fault report it is important to establish not only the symptoms observed but also the circumstances in which the fault occurs.

- Is the problem present all the time, does it occur sporadically or at specific intervals?
- Were different programmes or detergents being used or tested?
- Does the problem date back to a specific event (new tableware, change of detergent, ...)?

| Fault | Possible cause | Troubleshooting |
|---|---|---|
| Housing paint is discoloured | Effects of detergent and rinse aid. | ⓘ Concentrated detergent and rinse aid can damage the paint of housing parts. The painted housing parts are designed to be sufficiently durable to remain undamaged by up to 48 h contact with concentrated detergent or rinse aid under normal room conditions. After 48 h it is to be expected that the painted surface will be discoloured or otherwise affected.<br>► Advise customer:<br>*Immediately remove detergent from painted surfaces. When cleaning the appliance, use only dishwasher detergent solution and then rub it dry with a soft cloth.* |
| Corrosion<br>*on corrosion-resistant or stainless steel surfaces* | Using sponge cloths for cleaning | ► Avoid using sponge cloths, or rinse them thoroughly several times before using them for the first time. |

## 5.1 Checking the Aquastop valve

### 5.1.1 Checking the function and tightness of the Aquastop valve

1. Checking for correct installation (correct connection, hoses not kinked)
2. Visually inspect the connection for water droplets
3. Measure the flow rate. (2.5 l/min)
4. ⓘf If a flow rate of 2.5 l/min is not reached
   1) check the flow limiter and filter in the AquaStop valve for dirt or blockage.
   2) Tap is furred up.
5. ⓘf If the flow rate of 2.5 l/min is exceeded
   ► the flow limiter is defective --> replace the valve
6. ⓘf If you cannot find any reason for the fault
   ► check the component electrically.

### 5.1.2 Checking the Aquastop valve electrically

| | |
|---|---|
|  | For measurements, see the circuit diagrams. |

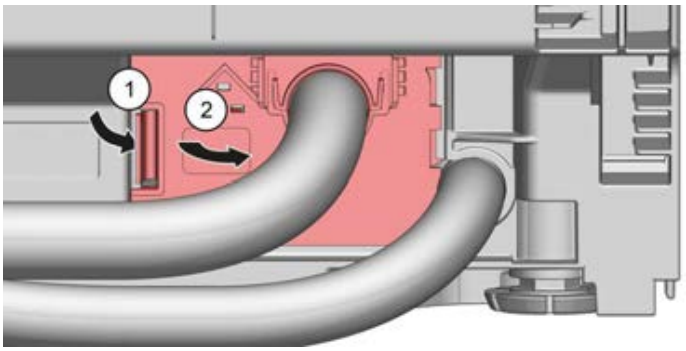
Prerequisite:
- Appliance is disconnected from the power supply.
- The water tap is closed.
- Appliance is freely accessible.
- The rear of the appliance is accessible.

**NOTICE**

**Plug contacts may be damaged!**

► Check the plug contact. (Page 40)

1. Release the stop tab (1). Fold out the cover with the inlet hose (2).




2. Release the electrical connector to the Aquastop valve and unplug it.
3. Measure the resistance of the Aquastop valve coil.
4. ⓘf If the measured resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective Aquastop valve.
5. ⓘf If the measured resistance does agree with the value given in the circuit diagram
   ► check the line resistance R at the plug-in connections.
6. ⓘf If the line or plug-in connection is interrupted (R > 0)
   ► replace the defective cable harness.
7. ⓘf If the line is intact (R = 0)
   ► replace the defective power module. (Page 91)

## 5.2 Checking the ventilation valve

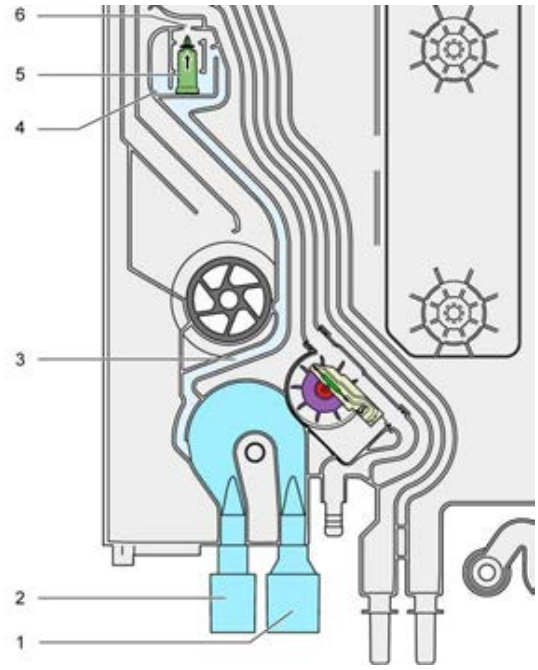



*Fig. 2: Ventilation valve*

| | | | |
|---|---|---|---|
| 1 | Input to water outlet | 4 | Float chamber |
| 2 | Output from water outlet | 5 | Float |
| 3 | Air duct | 6 | Ventilation opening |

When emptying, water is pumped via the water outlet from the heat exchanger / water inlet system to the outlet hose.

This produces a continuous flow of water. If the drain is lower than the appliance, water will be siphoned out of the appliance even when the drain pump is no longer actuated.

The chamber contains enough water to keep the float afloat so that it closes the ventilation opening.

As soon as the flow of water in the outlet tails off, the float moves away from the ventilation opening. The appliance cannot be drained while the drain pump is activated because air can enter via the ventilation opening.

If there is a problem with the outlet hose (kinked or blocked) then pressure will build up. The electronics detects the fault via the drain pump. A fault code is recorded in the electronics

Prerequisite:
- The appliance is filled with water.
- Left side panel has been removed. (Page 115)

The ventilation valve has the task of interrupting the siphon. The valve is important for appliances that are installed at a height, and in the event the siphon outlet lies below the water level inside the appliance.

1. Start any programme and wait until it has finished filling (i.e. until one of the spray arms moves).
2. Perform a reset (press and hold down the “Start” button for a period of 3 seconds).
3. Once a continuous flow of water has been established, open the appliance door to interrupt the emptying process.
4. ⓘf If the flow of water does not stop and the appliance is pumped empty,
   ► tilt the appliance to free the ventilation valve and allow air to enter the system.
5. ⓘf If the ventilation valve fails to open when the pump is turned off
   ► replace the water inlet system or heat exchanger.

## 5.3 Checking the inlet valve

### 5.3.1 Checking the function and tightness of the inlet valve

1. Checking for correct installation (correct connection, hoses not kinked)
2. Visually inspect the connection for water droplets.
3. Measure the flow rate (2.5 l/min)
4. ⓘf If a flow rate of 2.5 l/min is not reached
   1) check the filter in the inlet valve for dirt or blockage.
   2) Tap is furred up.
5. ⓘf If the flow rate of 2.5 l/min is exceeded
   ► the flow limiter is defective --> replace the valve.
6. ⓘf If you cannot find any reason for the fault
   ► test the component electronically.

### 5.3.2 Checking the inlet valve electrically

| | |
|---|---|
|  | For measurements, see the circuit diagrams. |

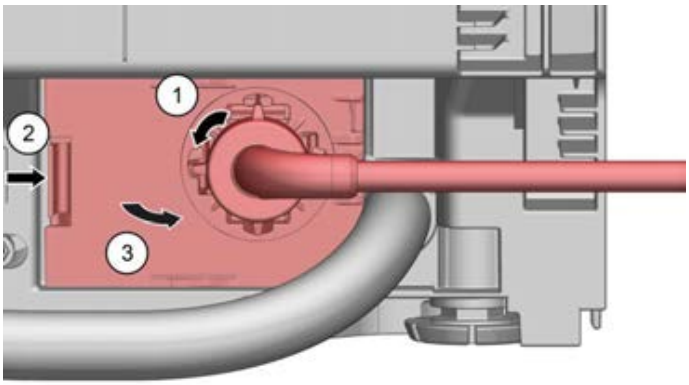
Prerequisite:
- Appliance is disconnected from the power supply.
- The water tap is closed.
- Appliance is freely accessible.
- The rear of the appliance is accessible.

**NOTICE**

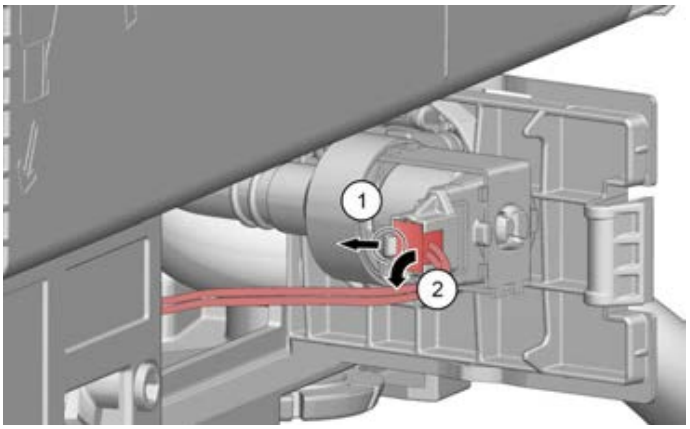
**Plug contacts may be damaged**

► Check the plug contact. (Page 40)

1. Unscrew the inlet hose (1). Release catch element (2) and open out the retainer plate (3).



2. Release the electrical connector to the inlet valve (1) and unplug it (2).




3. Measure the resistance of the inlet valve coil.
4. ⓘf If the resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective inlet valve. (Page 68)
5. ⓘf If the resistance does agree with the value given in the circuit diagram
   ► check the line resistance R at the plug-in connections.
6. ⓘf If the line or plug-in connection is interrupted (R > 0)
   ► replace the defective cable harness.
7. ⓘf If the line is intact (R = 0)
   ► replace the defective power module. (Page 91)

## 5.4 Check the heating pump (removed)

The customer service test programme is used to check the heating pump for all possible faults. Incorrect measurements are displayed as error codes.

| | |
|---|---|
|  | For measurements, see the circuit diagrams. |

Prerequisite:
Heating pump has been removed. (Page 74)

**NOTICE**

**Plug contacts may be damaged!**

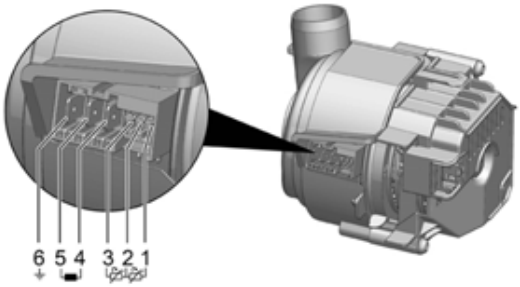
► Check the plug contact. (Page 40)

### 5.4.1 General procedure

1. ⓘ If the resistance **does not** agree with the value given in the circuit diagram
   ► Replace the defective part.
2. ⓘ If the resistance does agree with the value given in the circuit diagram
   ► check the line resistance R at the plug-in connections.
3. ⓘ If the line or plug-in connection is interrupted (R > 0)
   ► replace the defective cable harness.
4. ⓘ If the line is intact (R = 0)
   ► replace the defective power module. (Page 91)

### 5.4.2 Checking the heating pump heater electrically

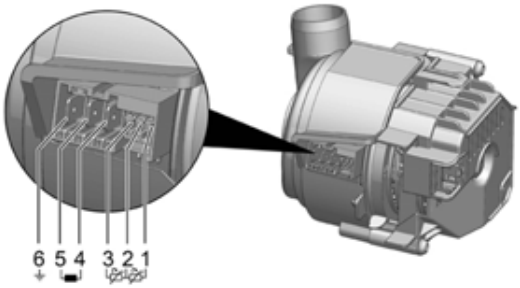
1. Measure the resistance of the heating at contact 4 - 5.




2. ⓘ If the resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective heating pump (Page 74)

### 5.4.3 Checking the heating pump's NTC sensor electrically

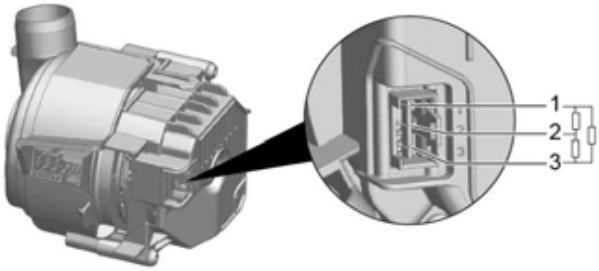
1. Measure the resistance of the NTC sensor at contacts 2 - 1 and 2 - 3 (the measurements should be equal).




2. ⓘ If the resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective heating pump. (Page 74)

### 5.4.4 Checking the heating pump's BLDC motor electrically

1. Measure the resistance of the BLDC motor at contacts 2 - 1, 2 - 3 and 1 - 3 (the measurements should be equal).




2. ⓘ If the resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective heating pump. (Page 74)

## 5.5 Checking the drain pump

### 5.5.1 Checking the function and tightness of the drain pump

1. Check the drain pump using the customer service test programme.
2. ⓘf If fault codes are displayed
   ► perform the subsequent steps specified in the fault code table.
3. ⓘf If the drain pump makes any unusual (loud) noises
   1) check it for foreign objects. Remove any foreign objects from the pump.
   2) Check that the service hatch is correctly seated.
   3) Replace the drain pump.

### 5.5.2 Checking the drain pump electrically

For measurements, see the circuit diagrams.

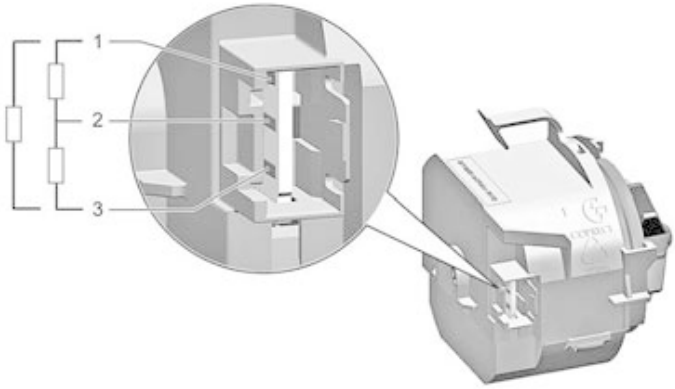
Prerequisite:
- Appliance is disconnected from the power supply.
- Base socket plate has been removed.
- Toe panel has been removed (optional).
- The connection to the drain pump is accessible.

**NOTICE**

**Plug contacts may be damaged!**

► Check the plug contact. (Page 40)

1. Measure the winding resistance.




2. ⓘf If the resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective drain pump. (Page 90)
3. ⓘf If the measured resistance does agree with the value given in the circuit diagram
   ► check the line resistance R at the plug-in connections.
4. ⓘf If the line or plug-in connection is interrupted (R > 0)
   ► replace the defective cable harness.
5. ⓘf If the line is intact (R = 0)
   ► replace the defective power module. (Page 91)

## 5.6 Checking the power module

The power module can be examined only visually.

Damage to components on the power module indicate defective components in the appliance. If there is such damage then replace these components as well.

**NOTICE**

**Touching electrostatically sensitive components may destroy them!**

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

**NOTICE**

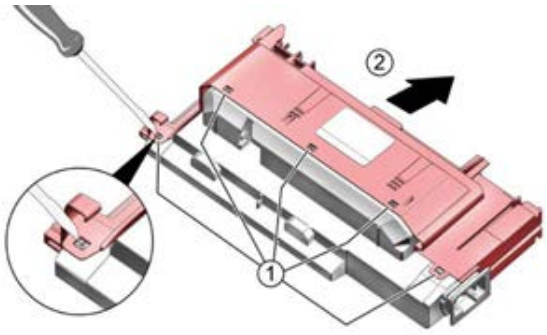
**Plug contacts may be damaged!**

- ► Check the plug contact. (Page 40)

### 5.6.1 Disassembling the power module

Prerequisite:
Power module has been removed. (Page 91)

1. Release the catches on the housing (1) and pull the parts of the housing apart (2).




2. Lift the power module out of the upper housing section.

### 5.6.2 Check the power module visually

A visual inspection of the power module serves to detect any damage to it in the event of a complete failure of the appliance and when an error code is displayed. This can prevent consequential faults in other components.

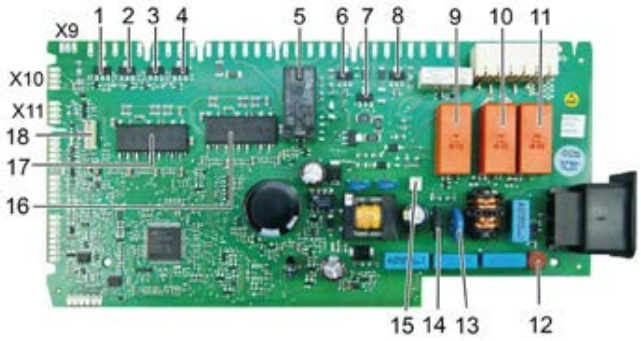


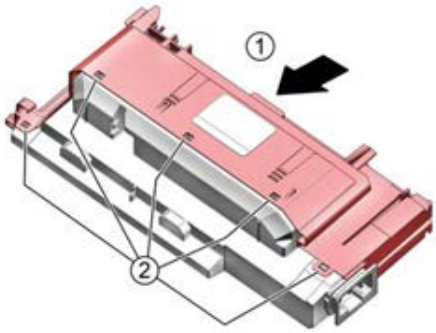

*Fig. 3: Position of the components on the power module*

1 TH401 = Water switch
2 TH402 = Actuator valve of water storage tank
3 TH403 = Filling valve / Aquastop valve
4 TH405 = Regeneration valve
5 Switchover relay LP / Zeolite ventilator
6 T324 = Drain valve of heat exchanger
7 T325 = Drain valve of heat exchanger, dispenser
8 T326 = Dispenser
9 K302 = Zeolite heating (operating relay)
10 K301 = Zeolite heating (safety relay)
11 K303 = Heating (operating relay)
12 F100 = Safety fuse
13 R119 = Varistor with thermal fuse
14 R101 = NTC (intermediate circuit)
15 Terminal strip for add-on module
16 V700 = BLDC motor control (UP/fan or UP/LP)
17 V200 = BLDC motor control (UP, optional)
18 Terminal strip for add-on module
19 Add-on module with galvanic separation (optional)

1. Perform a **visual** check for any damage to the components on the power module.
2. ⓘf If any of the components on the power module are damaged,
   1) check the corresponding parts of the appliance and replace any that are defective.
   2) Replace the power module. (Page 91)
3. ⓘf If **none** of the components on the power module is damaged,
   1) reassemble the power module. (Page 37)
   2) Continue diagnosing the fault.

### 5.6.3 Reassembling the power module

1. Slide the power module into the upper housing section (1).
2. Push the housing sections together and latch them evenly (2).



## 5.7 Checking the regeneration valve

### 5.7.1 Checking the function and tightness of the regeneration valve

1. If there is salt on the cover of the water-softening system, check that it is not leaking.

   Use the customer service test programme to check the regeneration valve.

2. Examine the component visually for leaks.

### 5.7.2 Checking the regeneration valve electrically

For measurements, see the circuit diagrams.

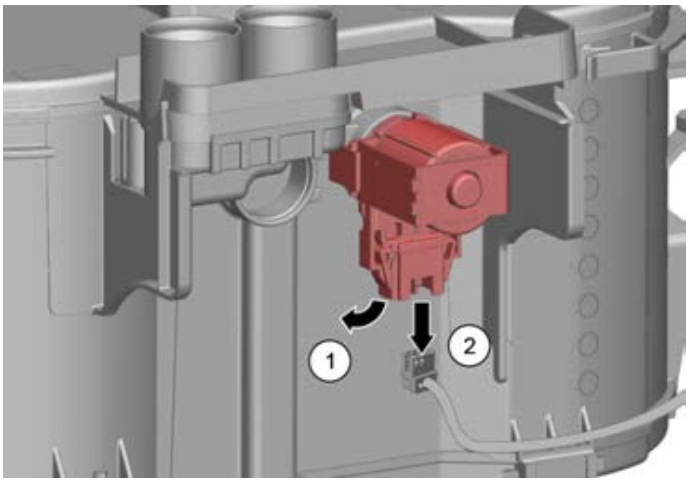
Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance is freely accessible.
- Left-hand side panel has been removed. (Page 115)

**NOTICE**

**Plug contacts may be damaged!**

► Check the plug contact. (Page 40)

1. Release the electrical connector to the regeneration valve (1) and unplug it (2).




2. Measure the resistance of the regeneration valve.
3. ⓘf If the resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective regeneration valve. (Page 107)
4. ⓘf If the resistance does agree with the value given in the circuit diagram
   ► check the line resistance R at the plug-in connections
5. ⓘf If the line is defective (R > 0)
   ► replace the defective cable harness.
6. ⓘf If the line is intact (R = 0)
   ► replace the defective power module. (Page 91)

## 5.8 Checking the spray arm system

Prerequisite:
- The appliance is connected to the power supply.
- The viewing door has been mounted.

### 5.8.1 Checking the spray arm system for malfunctions

1. Check the fault memory for water switch faults.
2. Start the customer service test programme and wait until the water switch is actuated.
3. Clean or replace the spray arms.

.

If the spray arms are obstructed by tableware, explain to the customer how to avoid this. (For correct loading, see IM)

### 5.8.2 Checking the installation

You should always make sure that the spray arm is installed horizontally.

1. Make sure that the position of the two suspension hooks is horizontal relative to the bottom of the upper basket.
2. Make sure that the upper basket is mounted horizontally. This could be a reason for the spray arms being at an angle.

## 5.9 Checking the plug contact

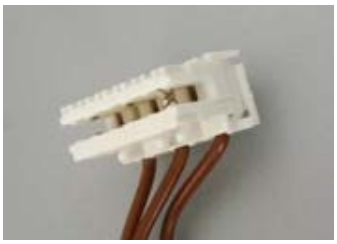
The plug contact can be checked both visually and electrically.

Prerequisite:
- Component is disconnected from the power supply.

### 5.9.1 Checking the plug contact visually

1. The cables must be pushed in as far as possible.

2. The ends of the contacts in the plugs must not be bent or broken



### 5.9.2 Check the plug contact electrically.

**NOTICE**

**Damage to the plug contacts**

► Apply the probes without any pressure. The contacts must not be deformed.

► Check the function of the plug contacts by measuring the resistance of the cable. Do this by carefully applying the probes.

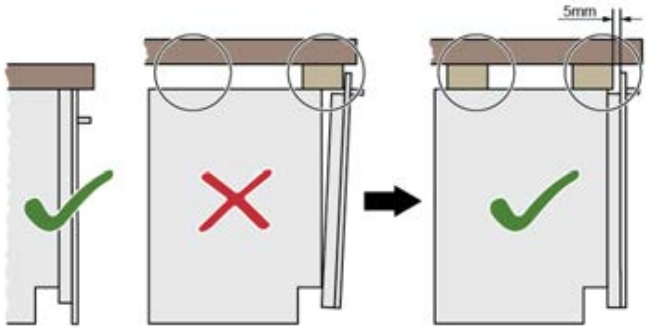
## 5.10 Checking the door lock

There are a number of faults that can be caused by an incorrectly closed door. These include steam escaping, programmes breaking off, leaking. Program interruption, ...

### 5.10.1 Checking the installation

If the installation is faulty it can happen that the Hall sensor is not correctly positioned above the magnet. In this case the electronics recognises that the door is open and does not start the programe.

1. Make sure that the rear wall of the appliance is not distorted by pressure from power sockets, hose clips or the like.
2. In the case of integrated appliances, make sure the cabinet door does not touch any other part of the cabinet. Take particular care to ensure that the distance holder is correctly positioned and does not prevent the door from fully closing.



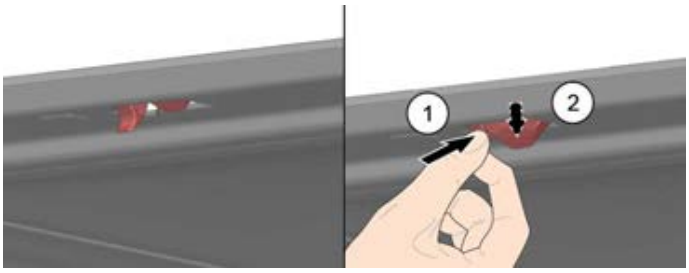

3. Make sure that the top and/or side of the appliance is correctly fastened inside the installation cabinet. It sometimes happens that the mounting bracket collides with the door.
4. Loose screws on the door or the bracket prevent the door from moving. Tighten the screws firmly.

.

| | |
|---|---|
| | The cabinet door may warp no more than the permissible distortion of 1.2 mm (as described in the installation instructions). |

### 5.10.2 Checking the self-correction function of the door lock

1. Open the door. The illustration shows the door lock in the open position.




2. Press down the activating lever in the lock (1) until it clicks over (2).

3. Then forcefully press the door closed (activating the self-correction function requires the door panel to be forced 1.2 mm too far).

4. The lock's self-correction was successful if step 6 can be repeated.

## 5.11 Checking the door sensor

For measurements, see the circuit diagrams.

Prerequisite:
- Appliance is disconnected from the power supply.
- Cabinet panel has been removed (optional).
- Outer door has been removed.
- Control panel has been removed. (Page 64)
- Right-hand side panel has been removed. (Page 115)

**DANGER**

**Risk of electric shock due to live parts when performing tests on an energised system!**

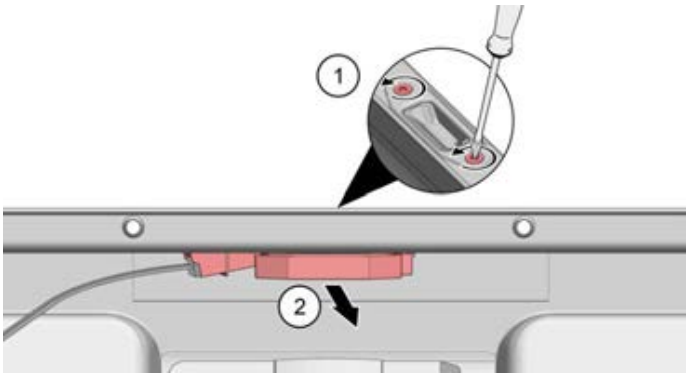
► For tests on an energised system, use a residual current circuit breaker.
► Do not touch the housing, frame, components and cables.

**NOTICE**

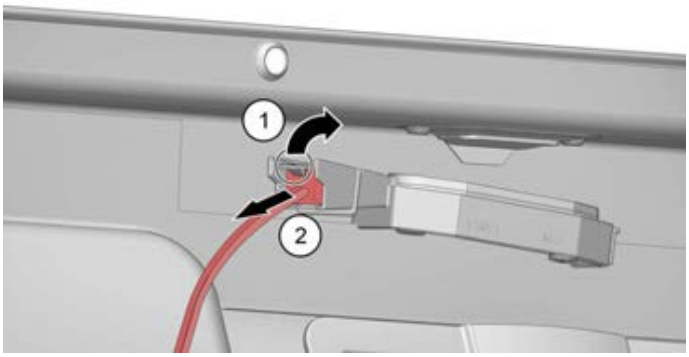
**Plug contacts may be damaged!**

► Check the plug contact. (Page 40)

1. Remove the screws (1). Remove the door sensor and keep (2).




2. Release the electrical connector to the door sensor (1) and unplug it (2).




3. Measure the resistance at the door sensor.

4. ⓘ If the resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective door sensor (Page 44)
5. ⓘ If the resistance does agree with the value given in the circuit diagram
   ► check the line resistance R at the plug-in connections.
6. ⓘ If the line or plug-in connection is interrupted (R > 0 to infinity)
   ► replace the defective cable harness.
7. ⓘ If the line is intact (R = 0)
   ► replace the defective power module. (Page 44)

## 5.12 Checking the door opening module (optional)

**For measurements, see the circuit diagrams**

Prerequisite:
- Top of the appliance is accessible.
- Desk top has been removed (optional).

**NOTICE**

**Plug contacts may be damaged!**

► Check the plug contact.

### 5.12.1 Types of door opening modules

There are different types of door opening modules.

| Type | Components | Function |
|---|---|---|
| 1 | With bus connection, with integrated electronics (D-BUS connection) | Door opening assistant (with and without Eco drying) |
| 2 | With bus connection, with integrated electronics (D-BUS connection) | Eco drying (1) |
| 3 | Without bus connection, without integrated electronics (2-pin connection) | Eco drying (2) |

*Table 4: Overview of various types of door opening modules*

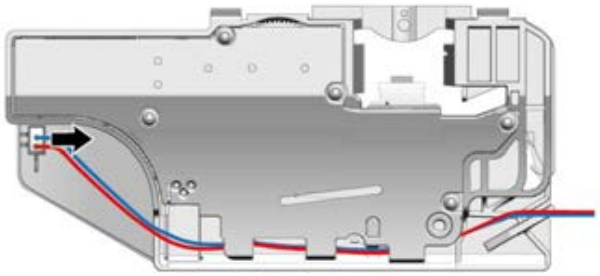
►

### 5.12.2 Checking door opening modules types 1 and 2

1. Start the customer service test programme.
2. Perform the steps of the customer service test programme up to the final step: open door.
3. Measure the supply voltage at the (bus) connector of the cable connection.
4. ⓘf If the supply voltage agrees with the value given in the circuit diagram
   ► replace the defective door opening model. (Page 140)
5. ⓘf If the supply voltage **does not** agree with the value given in the circuit diagram
   ► check the line resistance R at the plug-in connections.
6. ⓘf If the line or plug-in connection is interrupted (R > 0 to infinity)
   ► replace the defective cable harness.
7. ⓘf If the line is intact (R = 0)
   ► replace the defective power module (Page 91)

### 5.12.3 Checking door opening modules of type 3

1. Start the customer service test programme.
2. Perform the steps of the customer service test programme up to the final step: open door.
3. Measure the supply voltage at the plug of the cable connection (at the moment it is being electrically actuated).



4. ⓘ If the supply voltage agrees with the value given in the circuit diagram
   ► Replacing the defective door opening model (Page 140)
5. ⓘ If the supply voltage **does not** agree with the value given in the circuit diagram
   ► check the line resistance R at the plug-in connections.
6. ⓘ If the line or plug-in connection is interrupted (R > 0 to infinity)
   ► replace the defective cable harness.
7. ⓘ If the line is intact (R = 0)
   ► replace the defective power module (Page 91)

## 5.13 Checking the water hardness in the appliance

Required tools:
Water hardness test [ 340069]

Prerequisite:
- Water softening system has been activated.
- There is salt in the appliance.
- At least one programme has been run since it was refilled (e.g. pre-rinse)

### 5.13.1 Measuring the water hardness

1. Start the test programme.
2. Run through the test programme as far as the visual check of ‘water level in appliance’ (the body of the pump is full of water).
3. Take a sample of the washing water and perform the hardness test.
4. ⓘf If the hardness of the washing water is between 1 °dH and 6 °dH,
   ► make no adjustment.
5. ⓘf If the hardness of the washing water is higher than 6 °dH,
   1) check the activation of the water softening system.
   2) Check that the correct hardness is specified (See Changing customer settings).
   3) Use fresh detergent or tab.

### 5.13.2 Measuring the water hardness while the water softening system is turned off

Salt substitutes in detergents can bind calcium and magnesium ions in the water up to 21 °dH.

Observe the information given by the detergent manufacturer.

1. Take a sample of tap water and perform the hardness test.
2. ⓘf If the hardness of the tap water is less than 21 °dH,
   ► use a suitable detergent with salt function.
3. ⓘf If the hardness of the tap water is higher than 21 °dH,
   1) activate the water-softening system.
   2) Check that the correct hardness is set up.
   3) Check the level in the regeneration container.
   4) Use fresh detergent or tab.

## 5.14 Checking the water switch

For measurements, see the circuit diagrams.

### 5.14.1 Visually check the operation of the water switch

Prerequisite:
- The appliance is connected to the power supply.
- The viewing door has been mounted.

1. Start the customer service test programme. (Don't use an ordinary programme, because the length of time until the water switch is activated varies with each programme!) Wait until the water switch is activated.
2. ⓘf If the upper and lower spray arms **do not** rotate alternately,
   ► replace the defective water switch. (Page 149)

### 5.14.2 Checking the water switch electrically

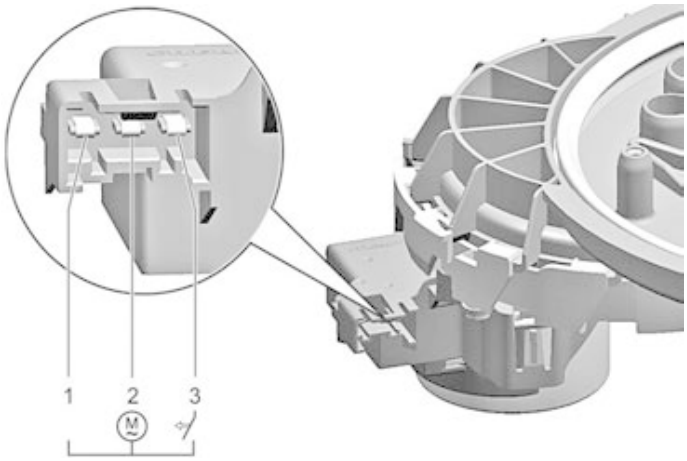
Prerequisite:
- Appliance is disconnected from the power supply
- The dishwashing container has been tilted down.

**NOTICE**

**Plug contacts may be damaged!**

► Check the plug contact.

1. Release the electrical connector to the water switch and unplug it.
2. Measure the resistance of the motor winding in the water switch.




3. ⓘf If the resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective water switch. (Page 149)

## 5.15 Checking the water inflow

Prerequisite:
Left side panel has been removed.

1. Check the fault memory for filling faults.
2. 

   The customer service test programme measures the inlet water flow. See Testing / Measures - Testing the inlet water flow. (0.5 bar;8 l/min)

   Start the customer service test programme.
3. When the programme reaches the point ‘water level in the unit’, perform a visual inspection of the water inlet system and check that water is flowing correctly into the water inlet system / heat exchanger.
4. ⓘf If the water inlet system or heat exchanger is damaged or leaks
   ► replace the water inlet system or heat exchanger.

## 5.16 Checking the dispenser

The customer service test programme can be used to check the dispenser system. The first dispenser impulse opens the dispenser cover, subsequent impulses control the dispensing of rinse aid (1 ml rinse aid each time).

If the doors are not opened sufficiently it may happen that no rinse aid gets into the appliance because the measuring chamber is not filled.

If the appliance door is opened the trigger mechanism will be reset. This has the effect that next time the coil is addressed the detergent cover will be opened first.

### 5.16.1 Checking the dispenser electrically

**For measurements, see the circuit diagrams**

The dispenser can be replaced only as a unit.

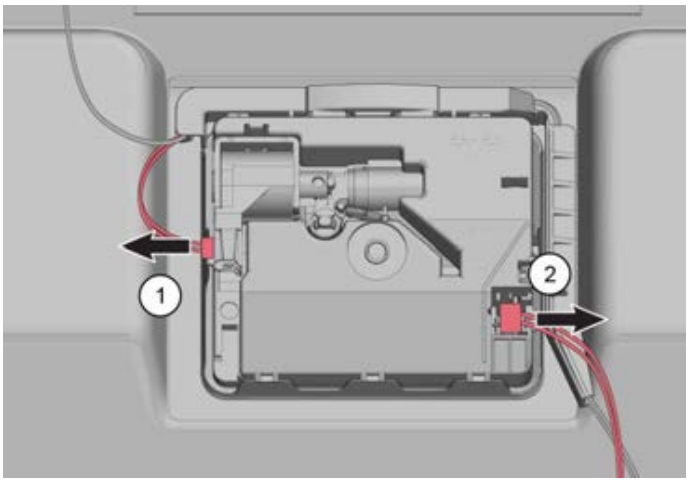
Prerequisite:
- Appliance is disconnected from the power supply.
- Cabinet panel has been removed (optional).
- Outer door has been removed.

**NOTICE**

**Plug contacts may be damaged!**

► Check the plug contact. (Page 40)

1. Release the electrical connector to the coil and unplug it (1).




2. Release the electrical connector to the low rinse aid sensor and unplug it (2).
3. Measure the resistance of the dispenser.
4. ⓘf If the resistance **does not** agree with the value given in the circuit diagram
   ► replace the defective dispenser. (Page 155)
5. ⓘf If the resistance does agree with the value given in the circuit diagram
   ► check the line resistance R at the plug-in connections.
6. ⓘf If the line is defective (R > 0)
   ► replace the defective cable harness.
7. ⓘf If the line is intact (R = 0)
   ► replace the defective power module. (Page 91)

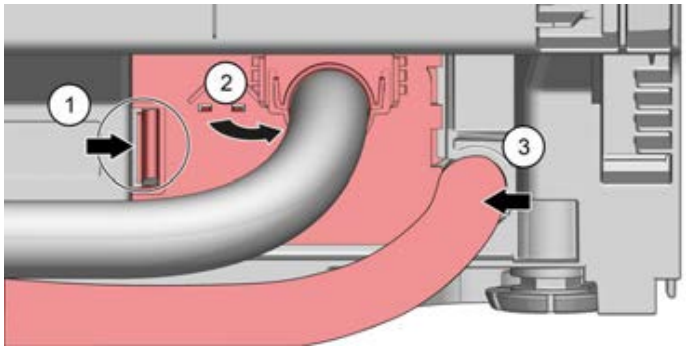
## 6.1 Replacing the drain hose

| | |
|---|---|
| | The drain hose is installed in the lower area at the back of the appliance. |

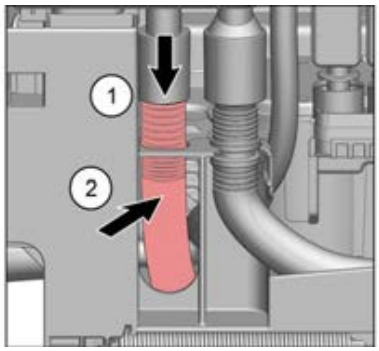
Prerequisite:
- Appliance is freely accessible.
- Appliance is disconnected from the power supply.
- Appliance has been emptied.
- Left side panel has been removed.

### 6.1.1 Removing the drainage hose (appliance with AquaStop)

1. Release the retainer plate (1). Fold down the retaining flap (2). Press the drainage hose out of the holder (3).




2. Pull the drain hose out of the connection to the water inlet system / heat exchanger (1). Then press the drain hose into the inside of the appliance (2).

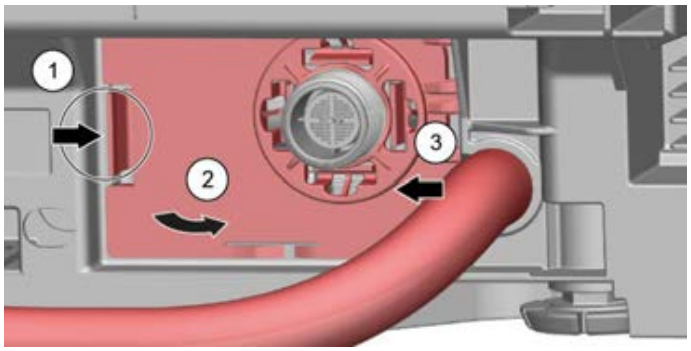



3. Pull the drain hose out towards the back of the appliance.

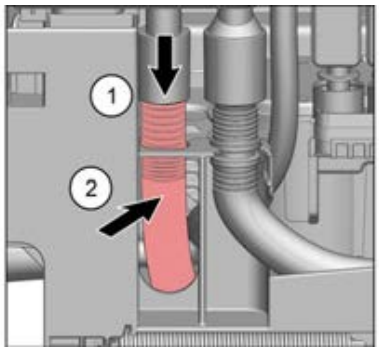
### 6.1.2 Removing the drain hose (appliance with inlet valve)

Prerequisite:
Inlet hose has been removed.

1. Release the retainer plate (1). Fold down the retaining flap (2). Press the drainage hose out of the holder (3).




2. Pull the drain hose out of the connection to the water inlet system / heat exchanger (1). Then press the drain hose into the inside of the appliance (2).




3. Pull the drain hose out towards the back of the appliance.

### 6.1.3 Installing the drain hose

**NOTICE**

**Leakage due to incorrect installation!**

► Ensure that the drain hose does not twist during installation.

1. Install the drainage hose in reverse order.
2. Check the tightness.

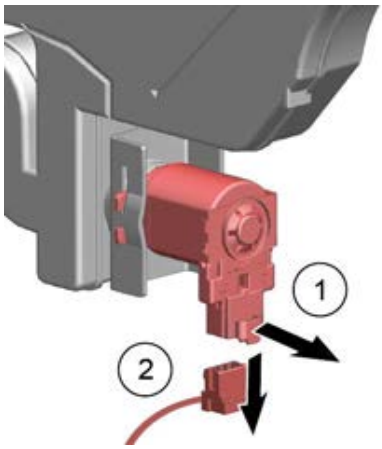
## 6.2 Replacing the outlet valve

| | |
|---|---|
|  | The outlet valve is situated in the lower area of the heat exchanger. |

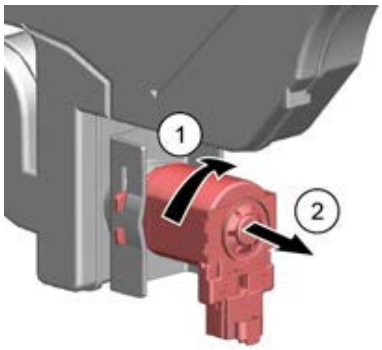
Prerequisite:
- Appliance is freely accessible.
- Appliance is disconnected from the power supply.
- Appliance has been emptied.
- Left side panel has been removed.

### 6.2.1 Removing the outlet valve

1. Release the electrical connection (1) and unplug it (2).




2. Turn the outlet valve to the right (1). Disconnect the outlet valve from the heat exchanger (2).




### 6.2.2 Installing the outlet valve

1. Install the outlet valve in reverse order.
2. Check that the heat exchanger is not leaking following installation of the outlet valve.

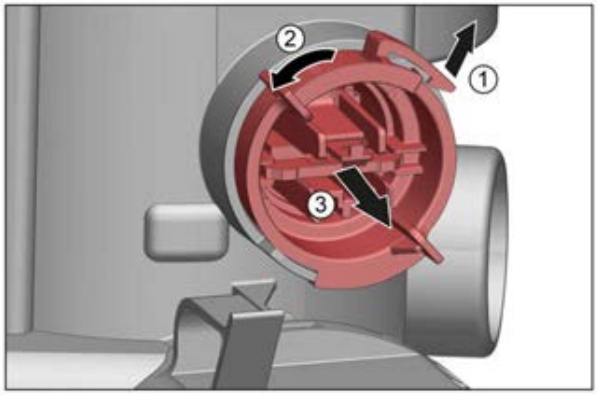
## 6.3 Replacing the AquaSensor (optional)

The AquaSensor is situated on the sump

Prerequisite:
- The appliance is freely accessible.
- Appliance has been emptied.
- Appliance is disconnected from the power supply.
- Base socket plate has been removed.
- furniture panel has been removed (optional).
- Toe panel has been removed (optional).
- Plug on the AquaSensor has been removed.

### 6.3.1 Removing the AquaSensor

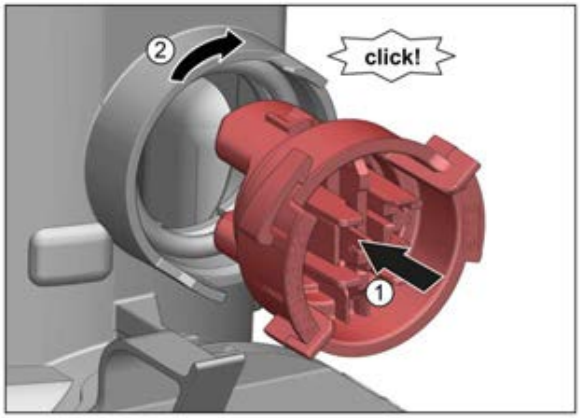
► Unlock the AquaSensor (1) and turn it90° to the left (2). Remove the AquaSensor from the sump (3).




### 6.3.2 Installing the AquaSensor

Brush the seal of the AquaSensor with rinse aid to facilitate installation.

► Insert the AquaSensor with the vertically positioned PCB into the sump (1). Turn the AquaSensor 90° to the right until the catch element locks (2).

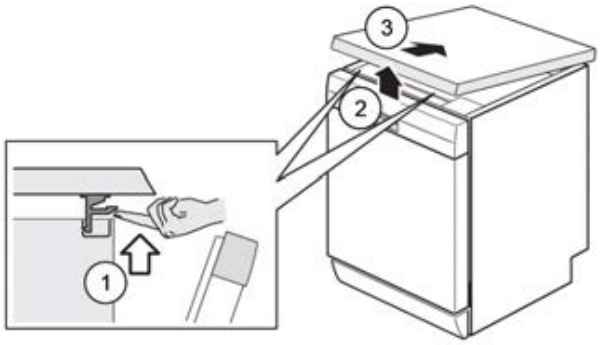


## 6.4 Replacing the desk top (optional)

Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance is freely accessible.

### 6.4.1 Removing the desk top

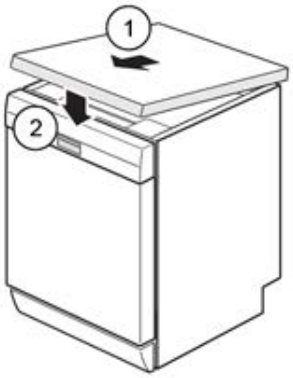
1. Press both catch levers under the worktop upwards (1).




2. Lift the worktop slightly at the front (2). Push toward the rear (3) and remove.

### 6.4.2 Installing the desk top

1. Lock the desk top into place in the guides at the back with the retaining collars.




2. Push the worktop forwards (1). Press the front of the desk top downwards until both lock levers click audibly into place (2).

## 6.5 Replacing the pull-out rail

Prerequisite:
The basket has been removed.

### 6.5.1 Replacing the pull-out rail of the cutlery drawer

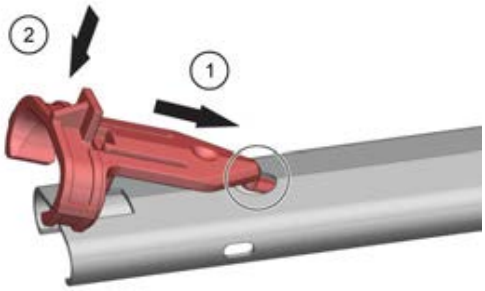
1. Bend both wings of the plastic holder outwards (1). Press the plastic holder outwards in a downwards direction (2).


2. Remove the plastic holder from the rail (3).

3. Remove the pull-out rail to the front (1).


### 6.5.2 Installing the pull-out rail of the cutlery drawer

1. Insert the tip of the plastic holder into the opening of the pull-out rail (1) and press the holder into the pull-out rail (2).

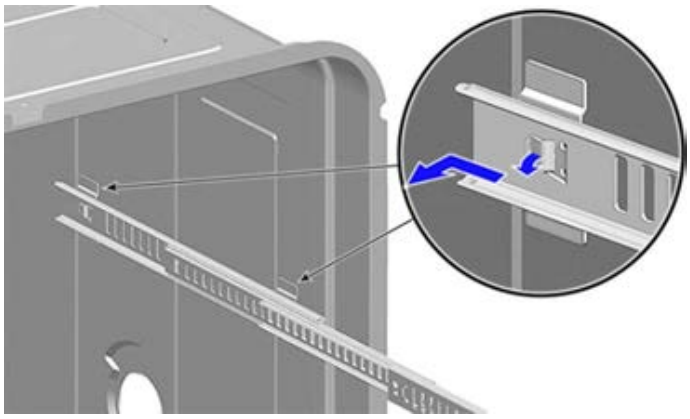


2. Push the pull-out rails into the roles of the container (1).


### 6.5.3 Removing the smooth running pull-out rails

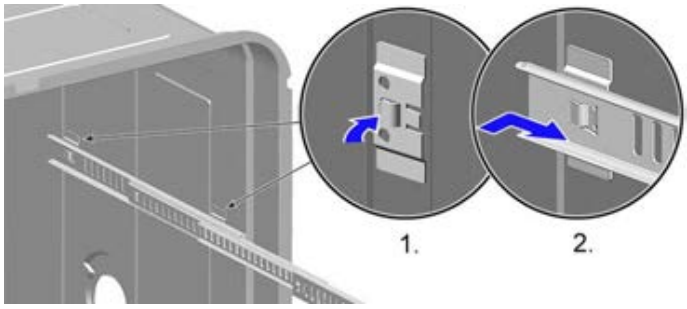
| | |
|---|---|
|  | Retaining tabs can break off! Bend the retaining tabs carefully. If the retaining tabs break, the appliance is no longer repairable. |

1. Bend both retaining tabs open a little with a screwdriver.
2. Press the pull-out rails back and remove inwards.



### 6.5.4 Installing the smooth running pull-out rails

1. Bend back the retaining tabs.
2. Insert the pull-out rail and press it forwards until it clicks into place.



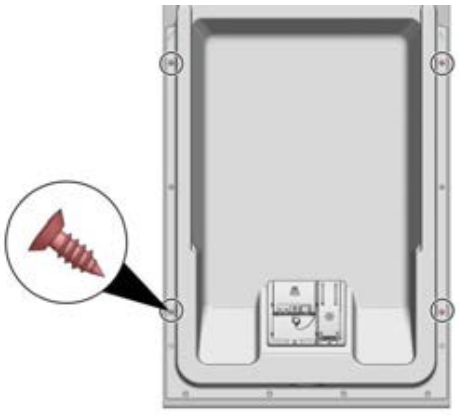
## 6.6 Replacing the outer door

The door of fully integrated appliances is fixed with four additional screws.

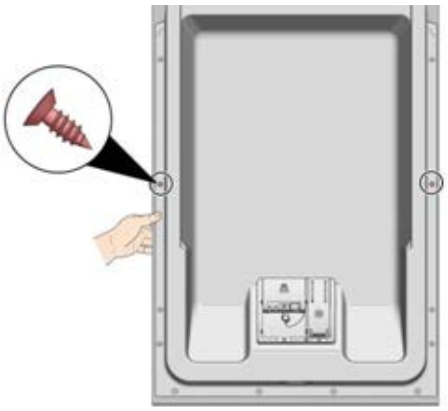
Prerequisite:
- Appliance is disconnected from the power supply.
- furniture panel has been removed (optional).
- Door strips have been removed (optional).
- Strip set has been removed (optional).

### 6.6.1 Removing the outer door

1. Open the door.
2. Remove the first 4 screws on the back of the door.



3. Secure the outer door against falling down (hold at one side). Remove 2 screws.



4. Remove the outer door.

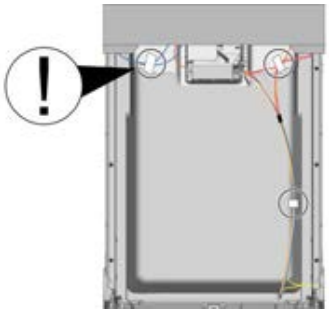
### 6.6.2 Installing the outer door

Prerequisite:
- Insulating non-woven has been correctly positioned and fixed on the inside of the outer door.

**NOTICE**

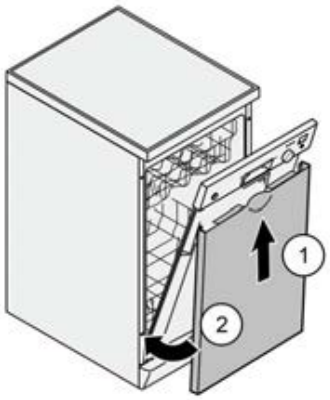
**Damage due to cables that have been wrongly installed and not secured!**

► Install cables and secure them with adhesive tape as in the following illustration.



1. Close the inner door without snapping it shut.

2. Push the outer door upwards under the fascia panel (1). Press the outer door to the inner door and hold firm (2).



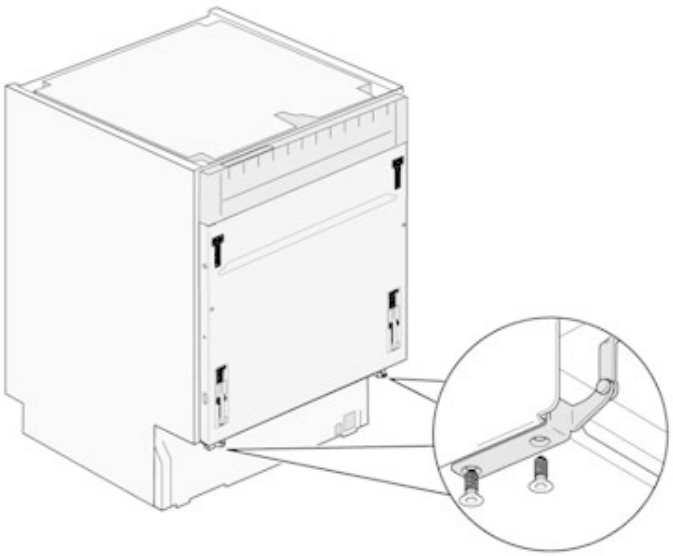

3. Press the outer doors on to the door. Secure with 6 screws from the inside.

## 6.7 Replacing the outer door (fully/integrated)

Prerequisite:
- Appliance is disconnected from the power supply.
- furniture panel has been removed (optional).
- Door strips have been removed (optional).
- Strip set has been removed (optional).

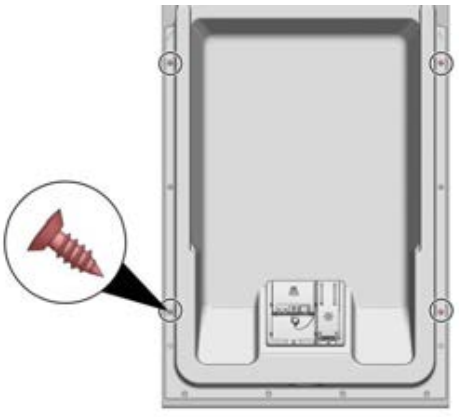
### 6.7.1 Removing the outer door

1. Remove 4 screws.



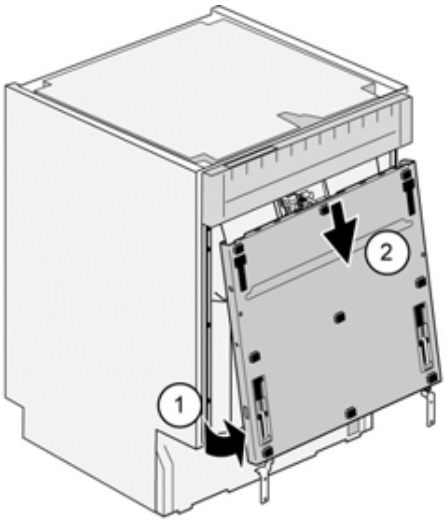
2. Open the door.

3. Remove the 4 screws on the back of the door.



4. Secure the outer door against falling down (hold at one side). Remove two screws.

5. Pull the underside of the outer door forwards (1) and push it downwards out of the control panel (2).



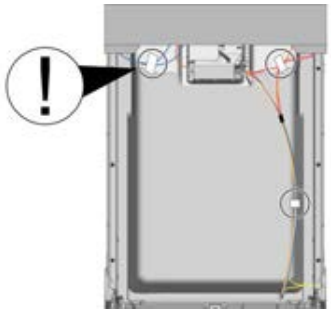

### 6.7.2 Installing the outer door

Prerequisite:
- Insulating non-woven has been correctly positioned and fixed on the inside of the outer door.
- Hinges are hooked into the outer doors.

**NOTICE**

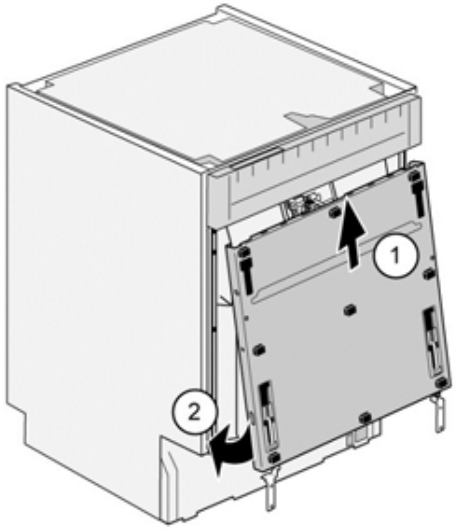
**Damage due to cables that have been wrongly installed and not secured!**

► Install cables and secure them with adhesive tape as in the following illustration.



1. Close the inner door without snapping it shut.

2. Push the outer door upwards under the fascia panel (1). Press the outer door to the inner door and hold firm (2).




3. Press the outer doors on to the door and secure with 4 screws on the back of the door.
4. Secure with four screws on the lower area of the door.

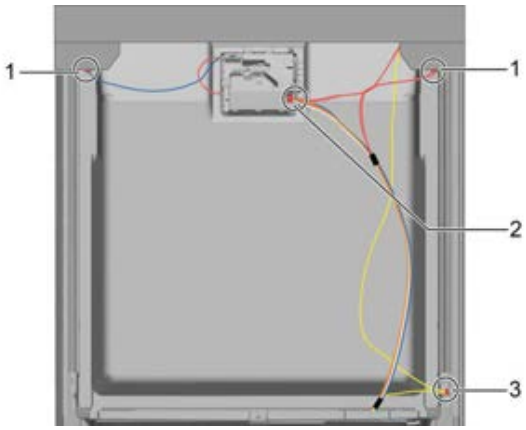
## 6.8 Replacing the fascia panel

If the control module is defective the entire fascial panel must be replaced.

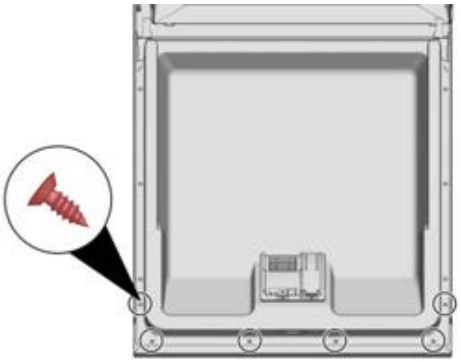
Prerequisite:
- Appliance is disconnected from the power supply.
- furniture panel has been removed (optional).
- Outer door has been removed.

### 6.8.1 Installing the fascia panel

1. Disconnect electrical connections on the fascia panel and the low rinse aid sensor (1, 2).




2. Disconnect the ground cable (3) (optional).
3. Open the appliance door.
4. Secure the fascia panel against falling down (hold on to it).
5. Remove six screws.



6. Remove the fascia panel.

### 6.8.2 Installing the fascia panel

► Install the fascia in reverse order.

## 6.9 Replacing the operating electronics

The operating electronics on appliances with operating units at the front of the appliance can only be changed by replacing the fascia panel.

If the appliance includes the Piezo or the KapaTouch modules, these modules are the ones replaced. In this case, the fascia panel is not replaced.

Prerequisite:
- Appliance is disconnected from the power supply.
- furniture panel has been removed (optional).
- Outer door has been removed.

►

## 6.10 Replacing the flow-through sensor

The flow meter consists of an impeller and a Reed contact switch. It is situated on the heat exchanger / water inlet system.
•
A defective impeller can only be replaced as a unit (for example, a blockage) with a water inlet system / heat exchanger. The Reed contact switch can be replaced individually.

### 6.10.1 Removing the Reed contact switch

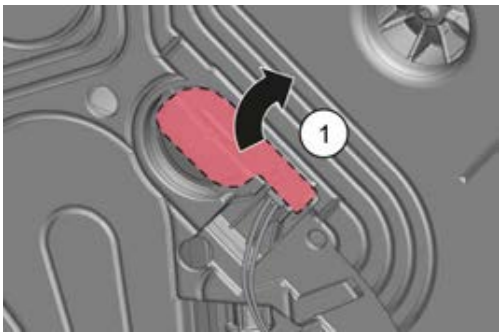
Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance is freely accessible.
- Left side panel has been removed.

**NOTICE**

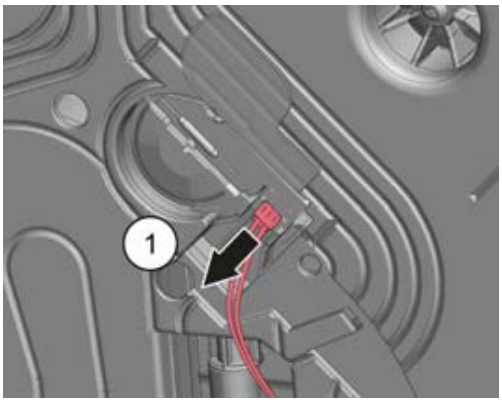
**Destruction of the Reed contact switch (glass flask) because of too much force!**

► Do not bend or kink the PCB of the Reed contact switch.

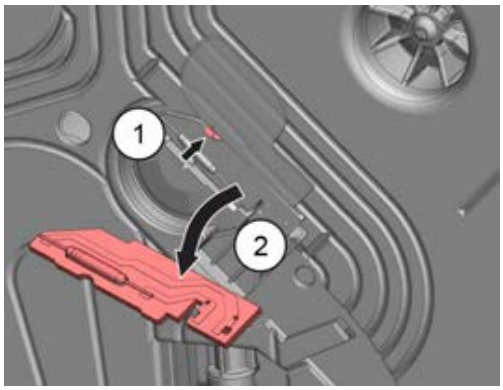
1. Bend the protective cover of the Reed contact switch outwards (1).




2. Disconnect the Reed contact switch (1).



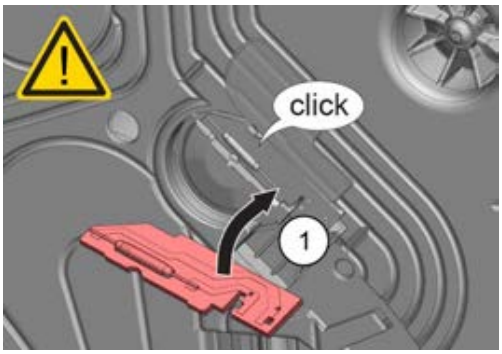
3. Disengage the PCB with the Reed contact switch (1) and remove (2).




### 6.10.2 Installing the Reed contact switch

The Reed contact switch of the impeller counter must audibly click into place.

► Install the Reed contact switch in reverse order (1).



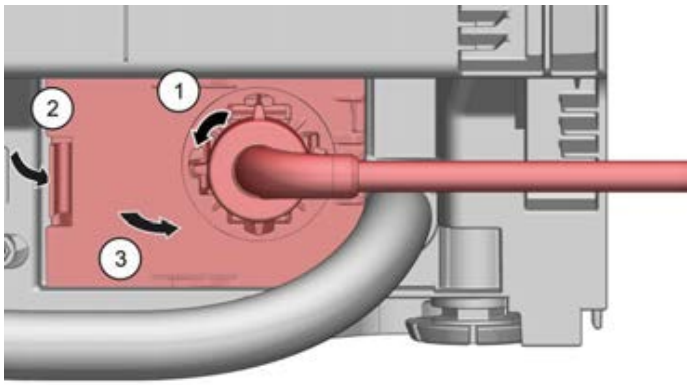
## 6.11 Replacing the inlet valve (optional)

| | |
|---|---|
|  | The inlet valve is situated in the lower area at the rear of the appliance. |

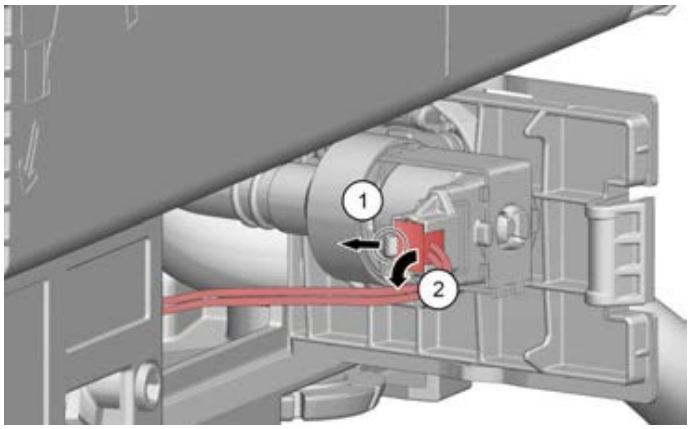
Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance is freely accessible.
- The water tap is closed.
- The rear of the appliance is accessible.

### 6.11.1 Removing the inlet valve

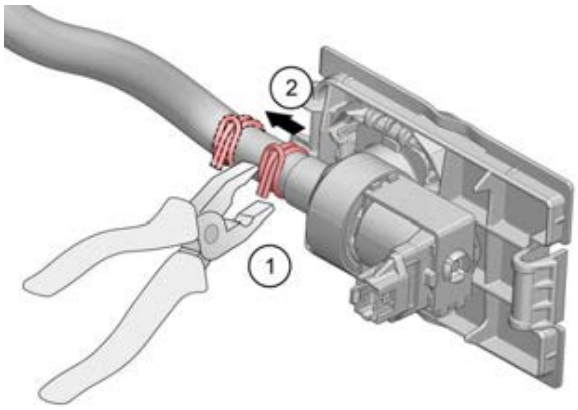
1. Unscrew the inlet hose (1). Release the retainer plate (2) and open out (3).



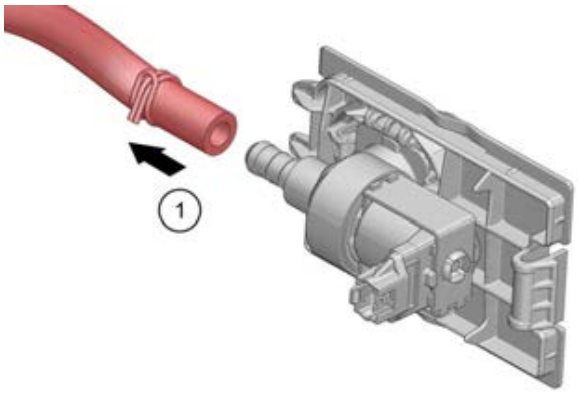

2. Release the electrical connection (1) and unplug it (2).



3. Press together the hose clamp (1) and push to the side (2).




4. Pull the hose from the support of the inlet valve (1).




5. Remove the inlet valve together with the retainer plate.

### 6.11.2 Installing the inlet valve

| | |
|---|---|
| | The inlet valve is delivered complete with retaining flap. |

1. Install the inlet valve with the retainer plate in reverse order.
2. Check the tightness.

## 6.12 Replacing the water-softening system

The water-softening system is situated in the base support.
AU models
- For production reasons, Australian models sometimes have a "dummy" water-softening system without granules. The valve is replaced by a blind plug. The lid must always be screwed on to the water-softening system.

Required tools:
Special tool [ 342189]

Prerequisite:
- Tub has been folded down.
- Appliance has been emptied.
- Regeneration valve has been removed
- Low salt sensor has been removed.

**CAUTION**

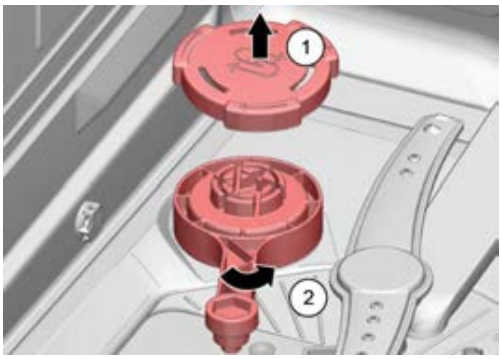
**Sharp edges!**

Cut injuries.

► Wear protective gloves.

### 6.12.1 Removing the water-softening system

1. Remove the salt dispenser cover (1) and the salt dispenser nut (2) with a special tool.




2. Remove the water-softening system under the washing tank.

### 6.12.2 Installing the water-softening system

1. Install the water-softening system in reverse order.
2. ⓘf If salt or brine gets into the appliance from the water-softening system
   1) Start the rinse programme immediately after finishing maintenance to avoid rust streaks.
   2) Check the tightness.

## 6.13 Emptying the appliance

The appliance must be emptied before certain repair work can be carried out.

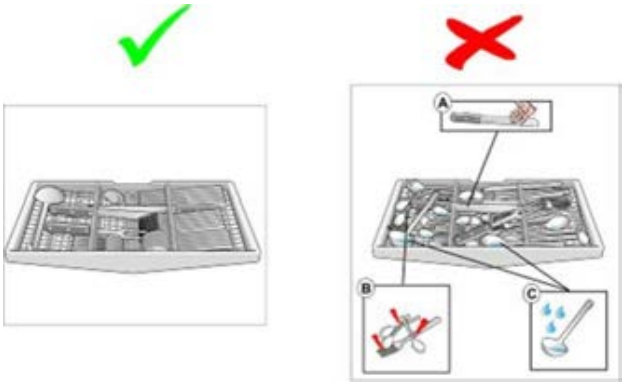
A note informs when the relevant repair work requires the appliance to be emptied.

1. Switch on the appliance.
2. Start any rinse programme.
3. After having checked the flow meter (audible from the brief water inlet) turn off the tap.
4. Wait for five minutes.
   Result:
   Water inlet system / heat exchanger and fleet reservoir (optional) have been emptied.
5. Press start for3 sto reset.
   Result:
   Residual water is pumped out of the appliance.
6. Empty the sump with a suction syringe.
7. Suck the water out of the salt dispenser with a suction syringe.
8. Screw off the inlet and outlet hose on the connections and empty.

## 6.14 Loading the appliance correctly

### 6.14.1 Loading the cutlery drawer

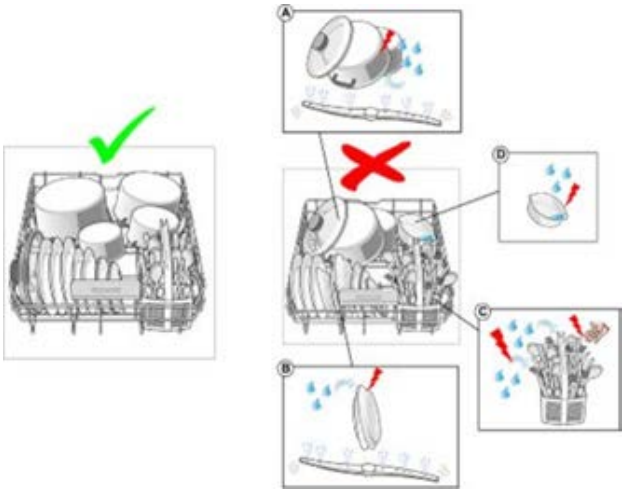
1.




2. Arrange knives and other sharp-edged or pointed cutlery with the blades face down to prevent any injury.
3. Do not place items of cutlery on top of each other.
   Result:
   Correct arrangement favours stain-free cutlery.
4. Arrange spoons and ladles at a slight angle.
   Result:
   This will prevent accumulation of water and stains.

### 6.14.2 Loading the lower basket

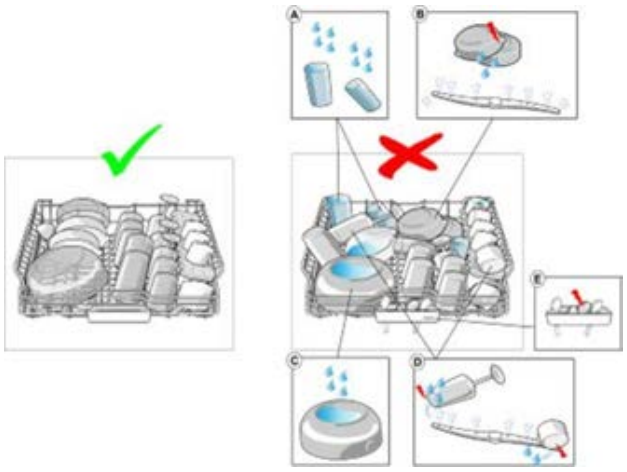
1.




2. Place all tableware next to each other so that they can all be sprayed with water from below.
3. Avoid large contact points between the tableware.
   Result:
   This prevents food remnants and stains on the tableware.
4. Do not overload the cutlery basket. Avoid large contact points between pieces of cutlery.
   Result:
   Correct arrangement favours stain-free cutlery.
5. Load hollow receptacles in such a way that water cannot collect inside.
6. Do not allow any tableware to project through the top basket.
   Result:
   This ensures that the spray arm is not blocked.

### 6.14.3 Loading the upper basket

1.



2. Load hollow receptacles in such a way that water cannot collect inside.
3. Place all tableware next to each other so that they can all be sprayed with water from below.
4. Load cups and bowls at a slight angle.
   Result:
   This will prevent accumulation of water in the bottom area.
5. Do not load hollow receptacles at too great an angle or in the corners.
   Result:
   This ensures correct rinsing.
6. Do not load the tab collecting tray with tableware or aroma dispensers to avoid obstruction of the detergent dispenser.
7. Do not allow any tableware to project through the top basket.
   Result:
   This ensures that the spray arm is not blocked.

## 6.15 Replacing the heating pump

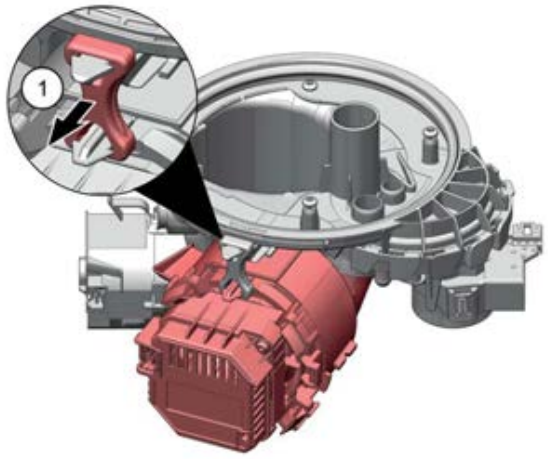
- The heat pump is situated on the sump.
- The heat pump may **not** be opened for cleaning or checking.

Required tools:
Hose clamp [ 172272]

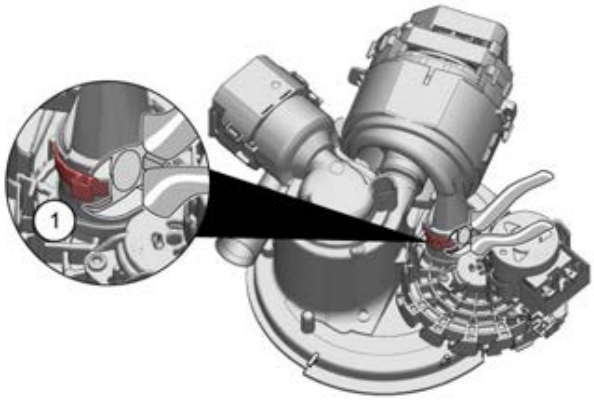
Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance is freely accessible.
- Tub has been folded down

### 6.15.1 Removing the heat pump

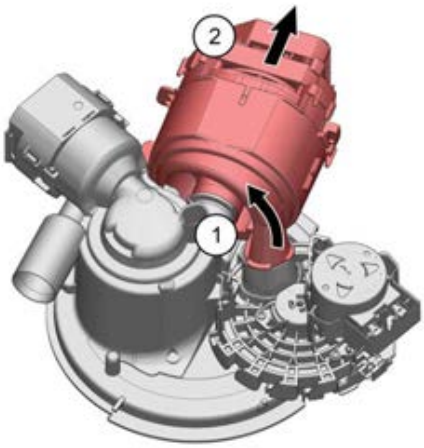
1. Disconnect the plug on the heat pump.
2. Unhinge the rubber holder between the heat pump and the sump.



3. Remove the hose clamp between the heat pump and the alternative water distributor with diagonal pliers (1).




4. Turn the heat pump out of the connection of the alternative water distributor (1) and remove the heat pump from the sump (2).




### 6.15.2 Installing the heat pump

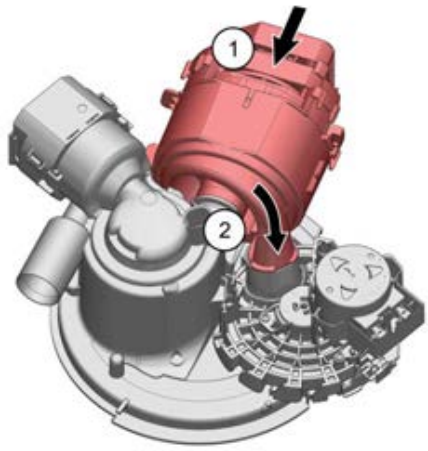
1. Brush the heat pump with rinse aid.

2.

NOTICE

**Avoid leaks due to improper installation!**

► Push the heat pump up to the stop position on the supports of the sump (1).

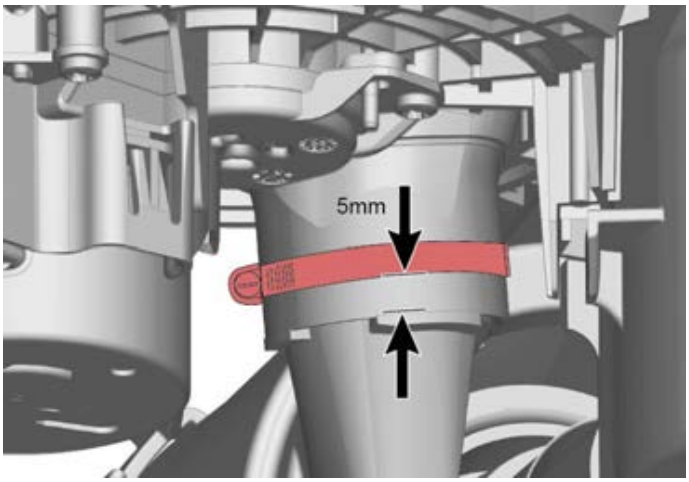



3. Turn the heat pump to the stop position in the connection of the water switch (2).

4.

During installation always use the new hose clamp included in the delivery.

Secure the new hose clamp on the connection to the alternative water distributor.




5. Check the tightness.

## 6.16 Replacing the child safety lock (optional)

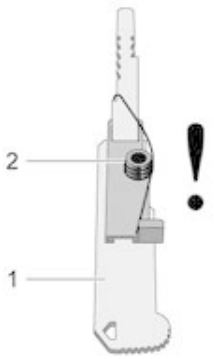


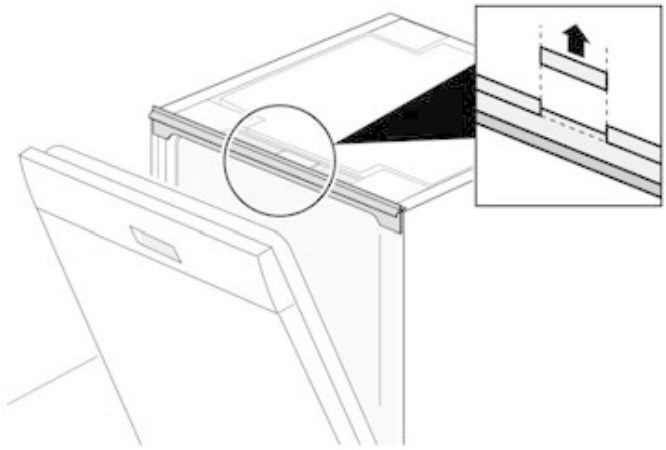

*Fig. 4: Components of the child safety lock*

1 Lever 2 Spring

Prerequisite:
- The appliance is disconnected from the power supply.
- For free-standing appliances: desk top has been removed.
- For fully-integrated appliances: pull out the appliance as far as the tub frame.

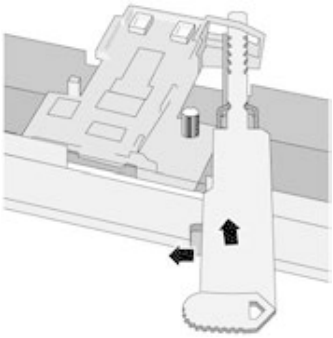
### 6.16.1 Installing the child safety lock

1. Fix the spring to the lever.
2. Open the appliance door and cut an approx. 2 cm wide piece out of the strip on the upper edge of the appliance next to the door lock (see diagram).



.

4. Insert the child safety lock at a slight angle into the door lock and push it on to the door lock.



5. Pull the child safety lock forwards until the spring clicks audibly into place.
6. Press the child safety lock downwards until the spring clicks audibly into place.

### 6.16.2 Removing the child safety lock

| | |
|---|---|
| | The 2 cm wide recess does not impair the function of the strip. Strip does not have to the replaced. |

► Remove the child safety lock in reverse order.

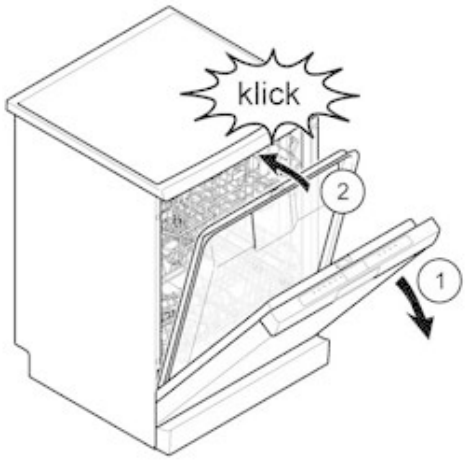
## 6.17 Installing / removing the transparent door

Required tools:
- Inner door made of plexiglass 81 x 45 cm with permanent magnet [ 341987]
- Inner door made of plexiglass 81 x 60 cm with permanent magnet [ 341333]
- Inner door made of plexiglass 86 x 60 cm with permanent magnet[ 341334]
- Permanent magnet[ 341332]

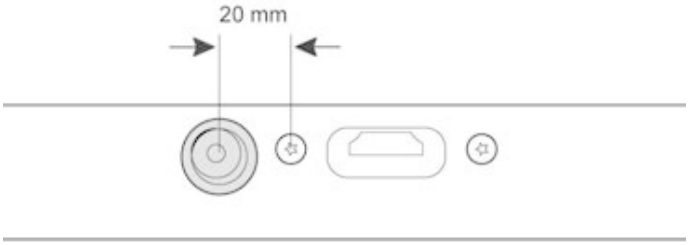
### 6.17.1 Installing a transparent door

| | |
|---|---|
| | If a transparent door is used, a permanent magnet must be positioned on the inner door. In order for the appliance to start the checking programmes despite the opened door. The door contact switch reacts to the direction of the magnetic field. |

1. Open the appliance door.
2. Place the transparent door into the appliance and engage in the door lock at the top.




3. Secure the suction knob with magnets on the top edge of the inner door.




4. Turn the permanent magnet in such a way that the appliance recognises the magnetic field correctly.

### 6.17.2 Removing the transparent door

.

In order to unlock the door lock again after manual locking, a high level of mechanical resistance must be overcome.

2. Close the transparent door firmly to unlock the door lock.
3. Remove the transparent door.
4. Remove the permanent magnet on the inner door.

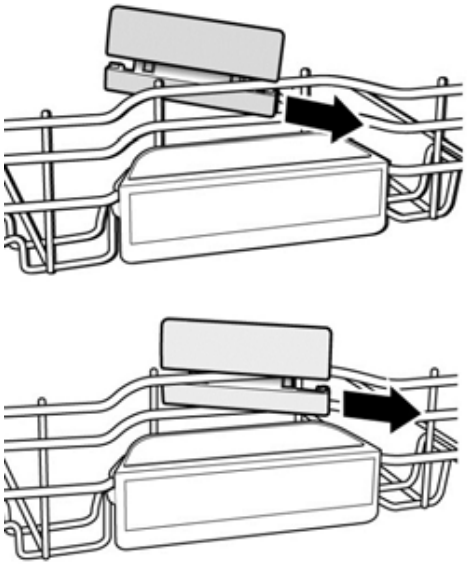
## 6.18 Installing the basket system (optional)

Prerequisite:
Remove the relevant basket from the appliance.

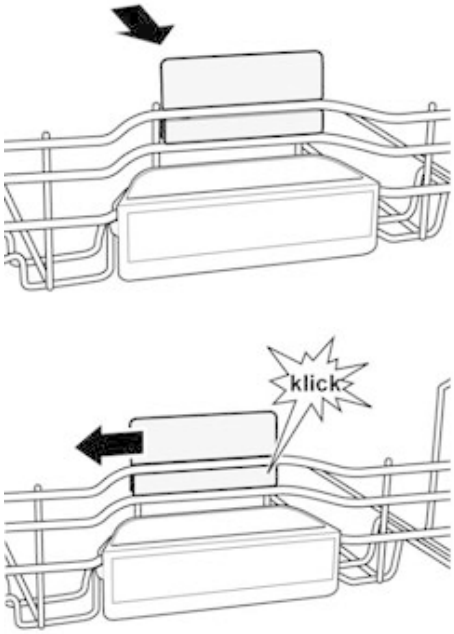
### 6.18.1 Installing a tab slide for the 86 cm model

Required tools:
- Tab slide 614935

1. Insert the tab slide diagonally on to the front of the basket.



2. Centre and click the tab slide into place.

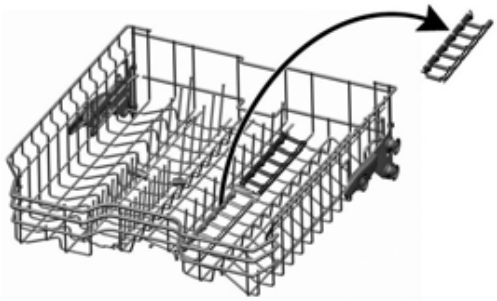



### 6.18.2 Installing the cup support clip

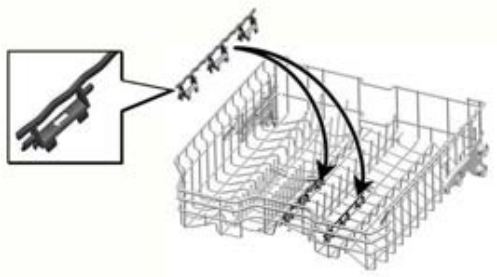
Required tools:
- Cup support clip 618565

| | |
|---|---|
| | When washing cups, the cup support clip can be folded up. The additional angle reduces the collection of water on the bottom of cups. In the case of tall glasses we recommended folding down the cup support clip.<br>If upper baskets have an optional plastic insert, these must be first removed. |

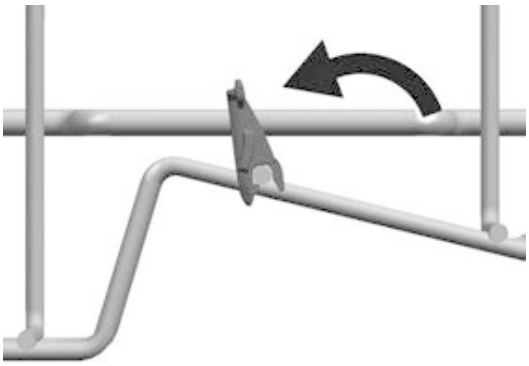
1. Removing the plastic insert.



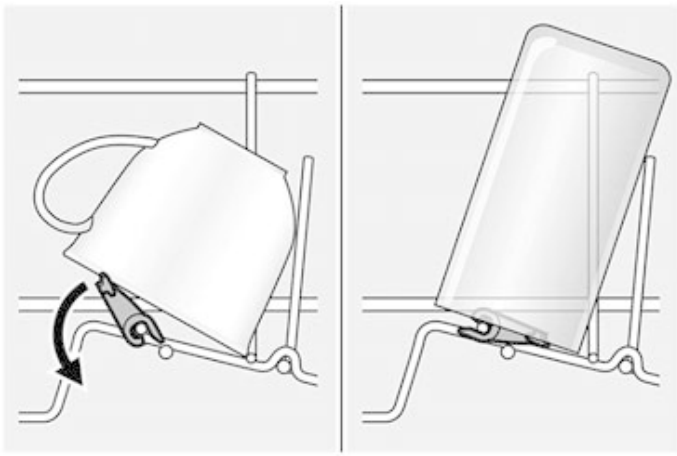
2. Click the cup support clip into place.



3. Fold up the clips.

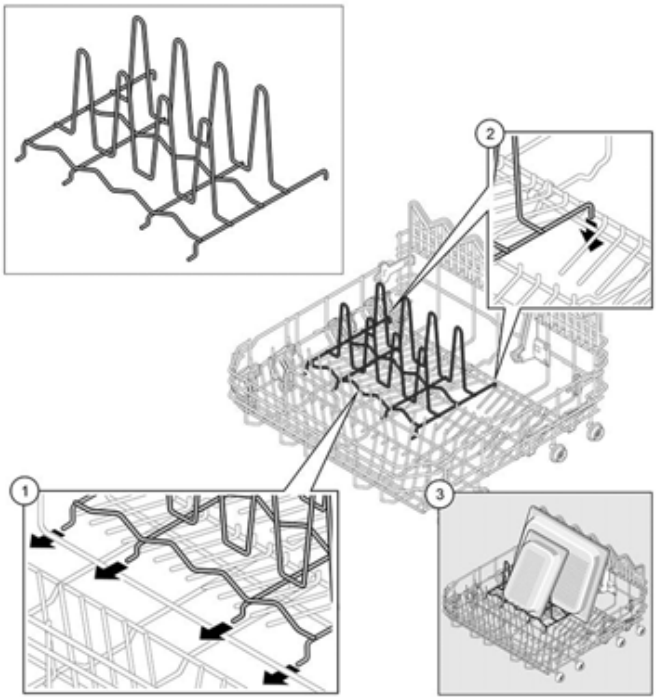


4. Position the items to be washed.



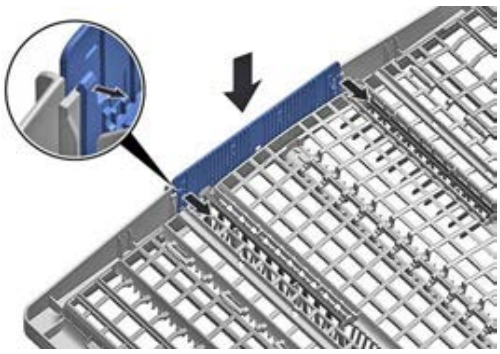
### 6.18.3 Installing the steamer insert

► Clip the steamer insert with the end pieces under the basket system.

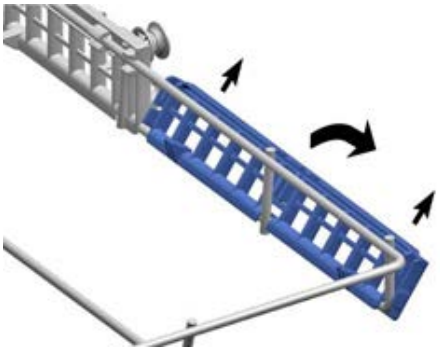



### 6.18.4 Remove the varioDrawer Plus

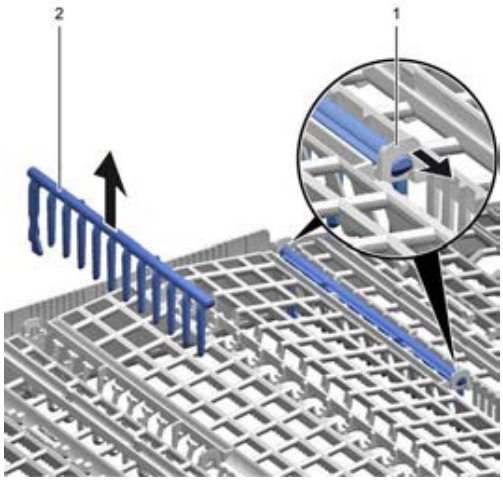
1. Bend the flaps inwards and pull the handle up.



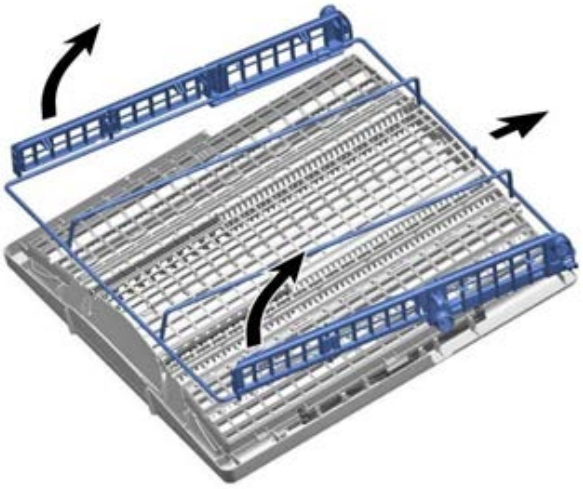
2. Press the plastic inserts at the side outwards and pull it up out of the frame.



3. Bend the guiding tabs carefully outwards and pull the folding spikes out of the tabs.




4. Press the metal frame out of the holders at the front and push it back out of the guide.



### 6.18.5 Installing the varioDrawer Plus

► Assembly can be made in reverse order. To do this, click the plastic parts equally into place and check that they are firmly positioned.

## 6.19 Changing customer setting - Key layout with display (optional)

The panels and setting options differ depending on the appliance model.

| recruitment | Display | Value range | Factory settings |
|---|---|---|---|
| Water hardness | H:00 - H:07 | 8 ranges | H:04 |
| Intensive drying | d:00 - d:01 | Switching on and off | d:00 |
| Rinsing | r:00 – r:06 | Switching on and off | r:05 |
| Auto Power Off | P:01 - P:02 | P:00 (off)<br>P:01<br>(off after 1 min)<br>P:02<br>(off after 120 min) | P:01 |

*Table 5: Overview of customer settings*

Prerequisite:
- Appliance is switched on.
- No program has been started. No timer programming is activated (Perform reset + press "Off/On" button).
- Appliance door is closed.

### 6.19.1 Key layout with display

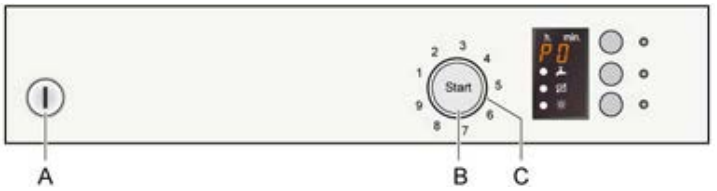



*Fig. 5: Control panel - vertical display*

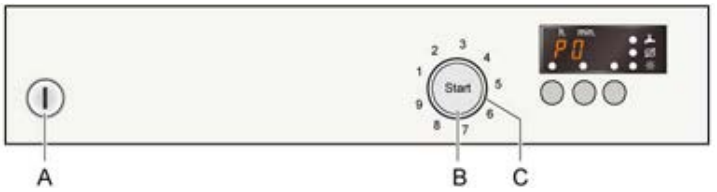



*Fig. 6: Control panel - horizontal display*

1. Press and hold down the "Start" button **B**.
2. Turn the rotary selector switch **C** until the required setting is shown in the display.
3. Release the Start" button **B**.
4. Turn the rotary selector switch **C** until the required value is shown in the display.

### 6.19.2 Storing the settings

► The settings are stored by pressing the "Start" button **B**.

### 6.19.3 Storing the settings

The settings are stored by pressing the "Start" button **B**.

## 6.20 Changing customer setting - Key layout without display (optional)

The panels and setting options differ depending on the appliance model.

Prerequisite:
- Appliance is switched on.
- No program has been started. No timer programming is activated (Perform reset + press "Off/On" button).
- Appliance door is closed.

### 6.20.1 Key layout without display


*Fig. 7: Control panel - vertical key layout*


*Fig. 8: Control panel - horizontal key layout*

►

### 6.20.2 Adjust rinsing volume

1. Hold down the "Start" button **B**.
2. Turn the programme selector **C** until the Low rinsing product indicator flashes.
3. Release the Start" button **B**. (The current setting is displayed, see Table 7)
4. To change the settings, turn the program selector until the required value is shown in the display.

### 6.20.3 Selecting intensive drying

1. Hold down the "Start" button **B**.
2. Turn the program selector **C** until the "Water inflow" indicator flashes.
3. Release the "Start" button **B** (The current setting is displayed (On/Off).
4. To change the settings, turn the program selector **C**until the required value is displayed.

.

"Auto Power Off" is an optional appliance function and cannot be changed. The factory setting is 1 minute.

### 6.20.4 Storing the settings

► The settings are stored by pressing the "Start" button **B**.

### 6.20.5 Setting the water hardness

1. Hold down the button **B**.
2. Additionally press the "Start" button **D** until the display and the Low salt indicator flash.
3. Release the buttons. (The Low salt indicator flashes and the current setting is displayed).
4. To change the setting, press the button **B** until the required value is displayed.

### 6.20.6

| °dH | Hardness category | mmol/l | Rinsing product volume | ○ | ○ End | ○ |
|---|---|---|---|---|---|---|
| 0 - 6 | Soft | 0 - 1.1 | **0 (off)** | ○ | ○ | ○ |
| 7 - 16 | Medium | 1.2 - 2.9 | **1** | ● | ○ | ○ |
| 17 - 21 | Hard | 3 - 3.7 | **2** | ● | ● | ○ |
| 22 - 35 | Hard | 3.8 - 6.2 | **3** | ● | ● | ● |

*Table 6: Selection options*

▶

## 6.21 Changing customer setting - Key layout fully integrated without display (optional)

| recruitment | Display | Value range | Factory settings |
|---|---|---|---|
| Water hardness | H:00 - H:07 | 8 ranges | H:04 |
| Intensive drying | d:00 - d:01 | Switching on and off | d:00 |
| Rinsing | r:00 – r:06 | Switching on and off | r:05 |
| Auto Power Off | P:01 - P:02 | P:00 (off)<br>P:01<br>(off after 1 min)<br>P:02<br>(off after 120 min) | P:01 |

*Table 7: Overview of customer settings*

Prerequisite:
- Appliance is switched on.
- No program has been started. No timer programming is activated (Perform reset + press "Off/On" button).
- Door has been opened.

### 6.21.1 Key layout fully integrated without display

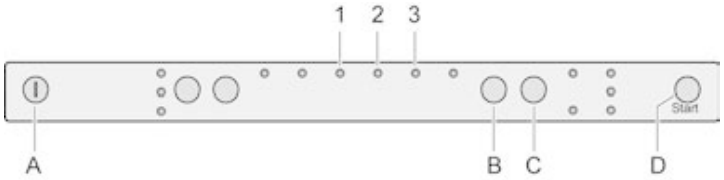



*Fig. 9: Control panel without display on fully integrated models*

►

### 6.21.2 Setting the water hardness

1. Hold down the button **B**.
2. Additionally press the "Start" button **D** until the display and the Low salt indicator flash.
3. Release the buttons. (The Low salt indicator flashes and the current setting is displayed).
4. To change the setting, press the button **B** until the required value is displayed.

### 6.21.3

| °dH | Hardness category | mmol/l | Level | Button 1 | Button 2 | Button 3 |
|---|---|---|---|---|---|---|
| 0 - 6 | Soft | 0 - 1.1 | **0 (off)** | ○ | ○ | ○ |
| 7 - 16 | Medium | 1.2 - 2.9 | **1** | ● | ○ | ○ |
| 17 - 21 | Hard | 3 - 3.7 | **2** | ● | ● | ○ |
| 22 - 35 | Hard | 3.8 - 6.2 | **3** | ● | ● | ● |

*Table 8: Selection options*

►

### 6.21.4 Storing the settings

► The settings are stored by pressing the "Start" button **D**.

## 6.22 Replacing the drain pump

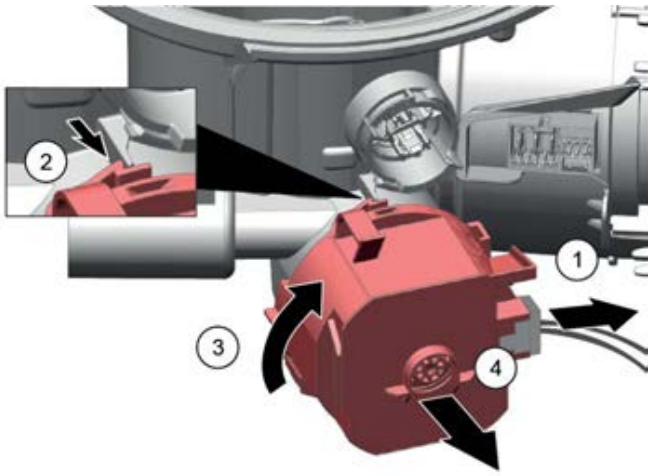
| | |
|---|---|
| | The drain pump is installed on the sump. |

Prerequisite:
- Appliance is disconnected from the power supply
- Appliance has been emptied.
- Base socket plate has been removed.
- Toe panel has been removed (optional).

### 6.22.1 Removing the drain pump

| | |
|---|---|
| | Depending on the design of the basis carrier, greater force is required to remove the drain pump. |

1. Unlock and disconnect electrical connection (1).




2. Pull the catch element forwards (2).
3. Turn the drain pump anticlockwise (3) and remove from the sump (4).

### 6.22.2 Installing the drain pump

1. Install the drain pump in reverse order.
2. **Check the tightness.**

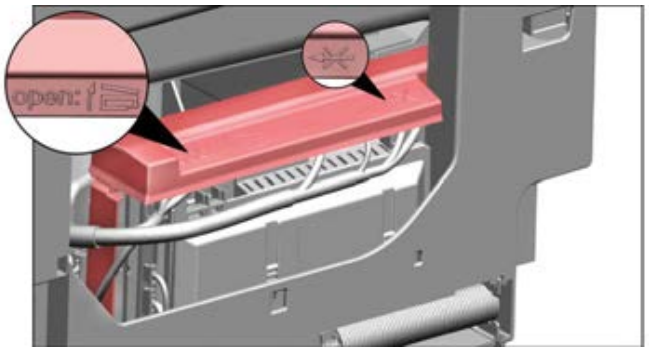
## 6.23 Replacing the power module

| | |
|---|---|
| | The power module is situated on the lower right-hand side of the tub in the basis carrier. |

Prerequisite:
- Appliance is disconnected from the power supply.
- Mains cable has been removed
- The right-hand side panel has been removed
- The insulating mat has been removed
- Fleet reservoir has been removed (optional).
- Appliance has been emptied (only relevant for appliances with a fleet reservoir).

### 6.23.1 Removing the power module

1. Press the splash water guard upwards at the top left-hand side and remove.

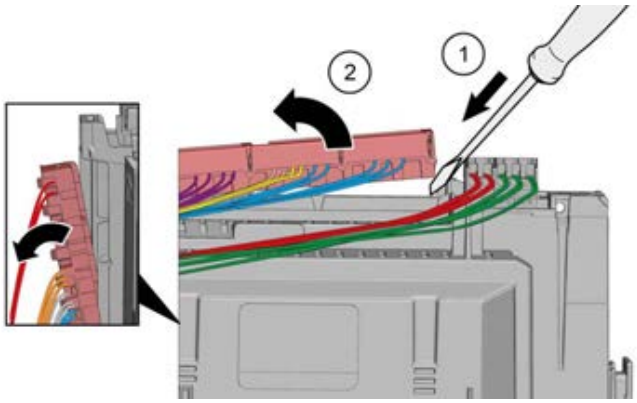



2. Loosen the catch tappets at the top side of the splash water guard (optional) and tilt it away to the left.

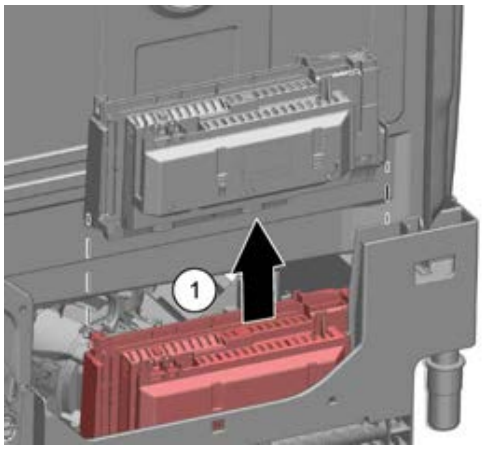
3.

| | |
|---|---|
| | Do not open the coding frames. The coding frames are part of the cable harness and are removed with the plugs. |

Using a screwdriver, remove both coding frames from the contact strip together with the plugs.

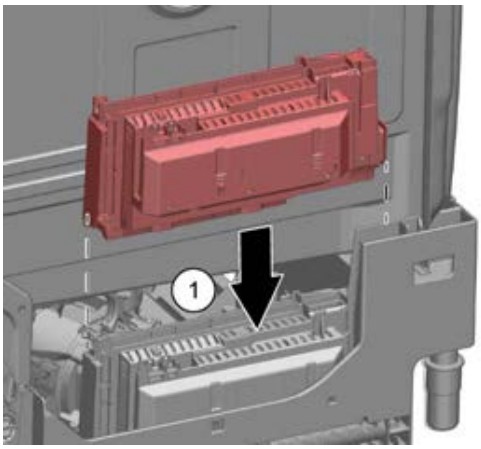


4. Disengage the power module (1) and remove it upwards out of the appliance.




### 6.23.2 Installing the power module

1. Insert the power module into the basis carrier along the rear panel wall and lock into position.



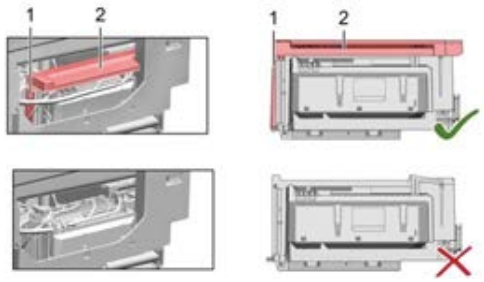

2. Insert the coding frames into the guide and press downwards until you hear the catch mechanism lock into position. Ensure that the plug contacts are firmly positioned in the coding frame.
3. Route the cables.

4.

**NOTICE**

**Avoid any damage to the power module due to incorrect installation!**

► Attach the splash water guard. There are two splash water guards on Zeolite appliances. All other appliances only have the cover at the top.



## 6.24 Replacing the furniture panel (standard) (fully/ integrated)

Prerequisite:
- Appliance is disconnected from the power supply.
- Toe panel has been removed (optional).

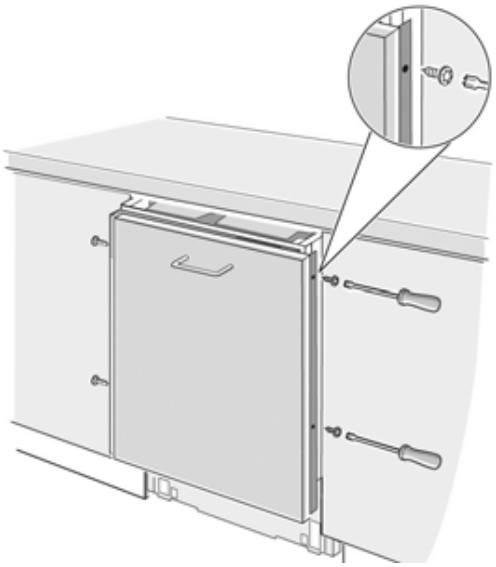
NOTICE

**Damage to the furniture panel during repair work!**

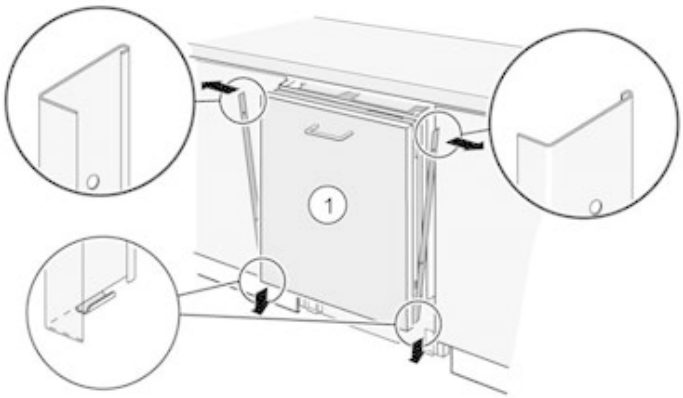
► Remove the furniture panel before starting any relevant repair work.furniture panel

### 6.24.1 Remove the furniture panel (fixed furniture front)

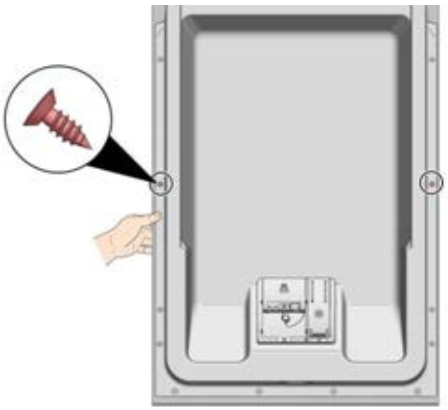
1. Pull the appliance out of the built-in niche.
2. Remove 4 screws.



3. Remove both door strips (optional).




4. Remove 2 retaining screws on the back of the door.

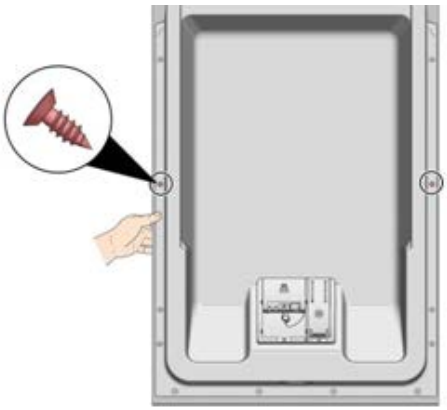


5. Loosen the furniture panel in the top area by pulling it strongly from the Velcro fastening.
6. Remove the door upwards and pull it out of the bottom holders.

### 6.24.2 Installing a furniture panel (fixed furniture panel)

1. Position the Velcro holders on the inner wall and on the furniture panel.
2. Insert the furniture panel into the lower holder.
3. Align the furniture panel and position correctly with the Velcro holder.

4. Fix 2 retaining screws on to the back of the door.



## 6.25 Replacing the furniture panel with variable hinges (fully/integrated)

Prerequisite:
- Appliance is disconnected from the power supply.
- Toe panel has been removed (optional).

NOTICE

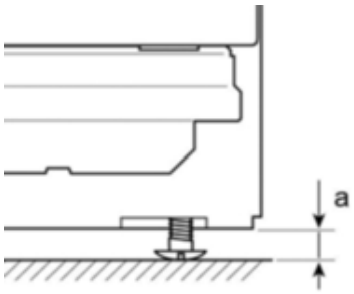
**Damage to the furniture panel during repair work!**

► Remove the furniture panel before starting any relevant repair work.furniture panel

### 6.25.1 Installation preparation

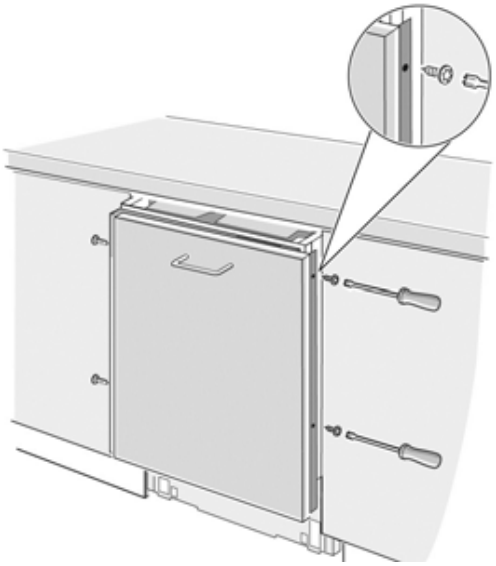
The appliance must be again aligned at the mounting height before installation of the furniture panel.

► Before removing the appliance, mark the mounting height (distance from the floor to the lower edge of the appliance).

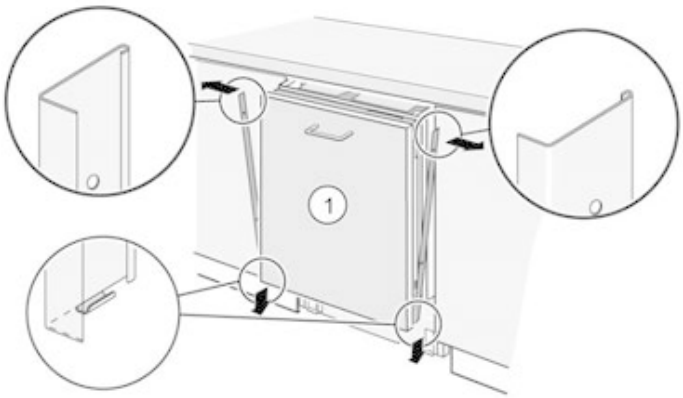



### 6.25.2 Removing the furniture panel (with variable hinges)

1. Pull the appliance out of the built-in niche.
2. Remove 4 screws.



3. Remove both door strips (optional).




4. Remove 2 safety screws (with manual screwdriver) (1). Pull the furniture panel out slightly at the bottom (2) and push it upwards until the upper guide is unhinged (3). Remove furniture panel. (Picture)

### 6.25.3 Installing the retaining elements on the furniture panel

| | |
|---|---|
|  | The retaining elements only need to be attached during initial installation of the furniture panel. |

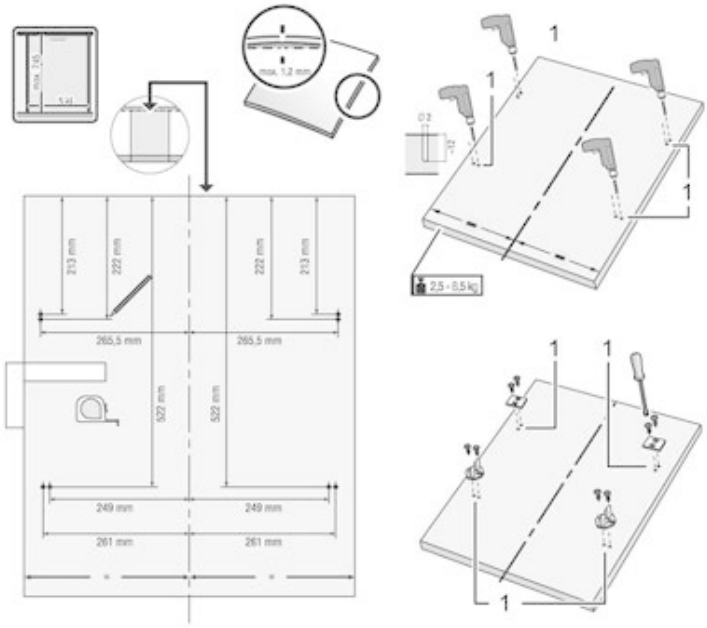



*Fig. 10: Drawing for 60 cm appliances (86 and 81 cm)*

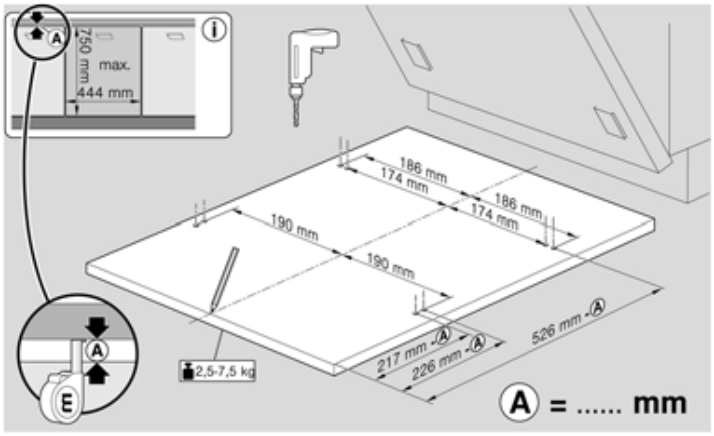



*Fig. 11: Drawing for 45 cm appliances (86 and 81 cm)*

1. **NOTICE**

   **Faulty marking and securing of the furniture panel!**

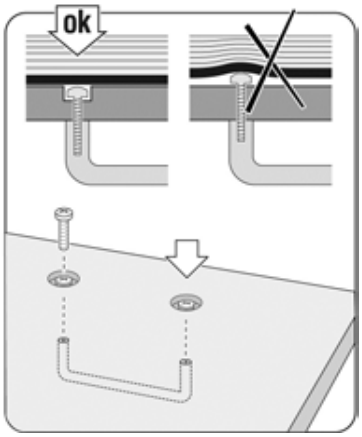
   Destruction of the furniture panel due to tilting during opening and closing

   ► Ensure exact marking and securing.
   ► Countersink the screw connections of the handles carefully.

   Mark the installation point with a drill (2 mm).

2. Secure the retaining elements.

3. Countersink the screw connections of the handles.




### 6.25.4 Ensuring the correct position of the retaining elements

In order to ensure the correct installation height, the measurements (b) and (c) must match.

If the measurements do not match, adjust the height of the retaining elements accordingly.

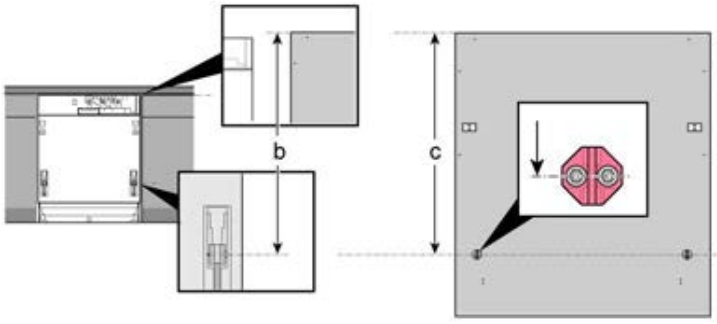



*Fig. 12: Distance for installation of the furniture panel*

b Distance from the top edge of the adjacent front to the clamping screw of the sliding element

c Distance from the top edge of the furniture panel to the middle of the retaining element

1. Align the appliance correctly to the mounting height.
2. Ensure that the measurements b and c match.

### 6.25.5 Installing the cabinet panel (with variable hinges)

| | |
|---|---|
|  | From the FD 9205, there is a new system for securing the sliding elements. |

.

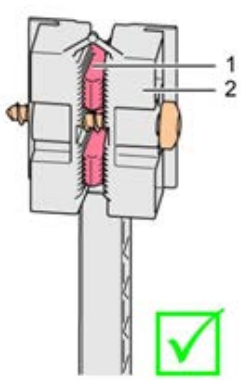
**NOTICE**

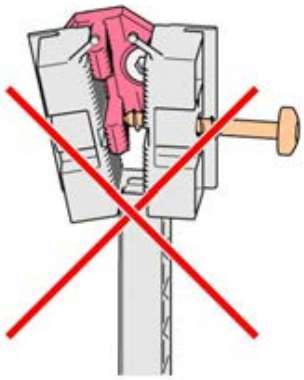
**Wrong position of the fastening screws!**

Destruction of the retaining or sliding elements on the joints

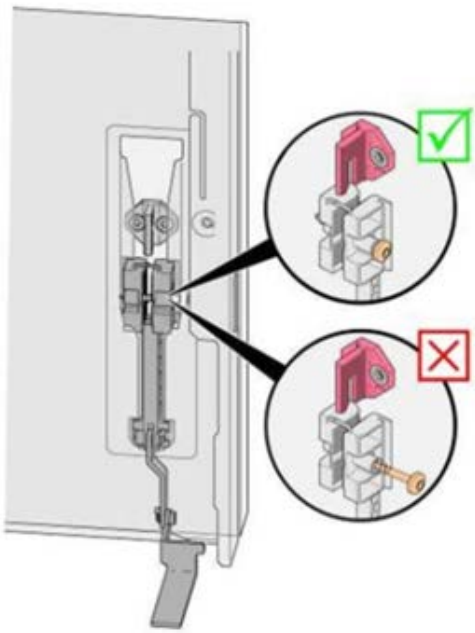
► Before attaching the furniture panel, fix the screw so far out of the sliding element so that the gap in the sliding element is free.

2. Secure the furniture panel together with the variable hinges with two screws to the outer door.
3. Position the retaining element (2) in the sliding element (1) so that the screw is in the middle of the recess. Do not tighten the screw.

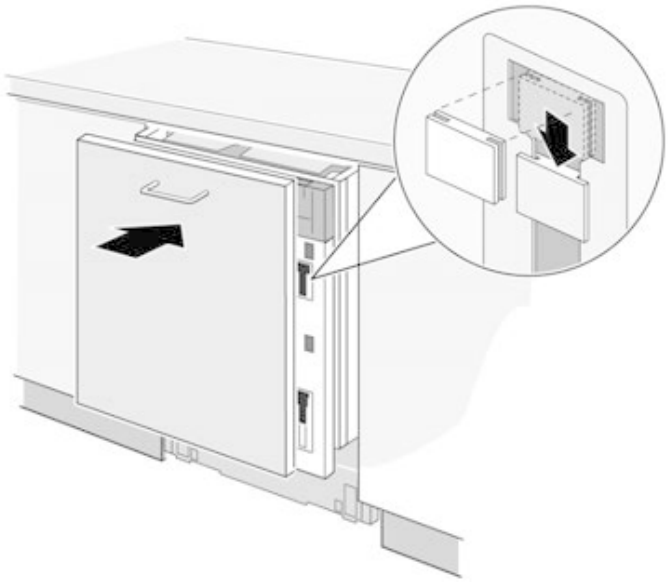


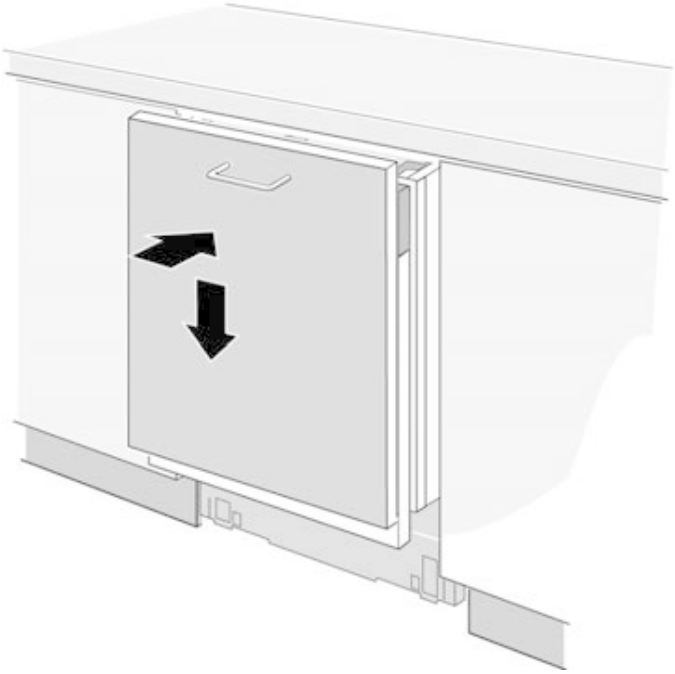
4. **As from FD 9205 (modified system):** The screw must be screwed in but not tightened.



5. Push the sliding elements on the furniture panel correctly into the guides of the outer door.



6. Press the furniture panel on to the outer door and lower the furniture front carefully to the stop position.



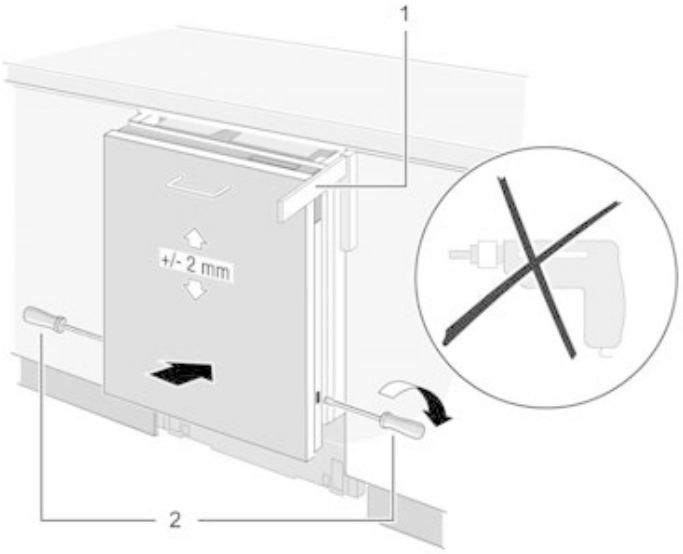
.

**NOTICE**

**Rigid securing of the movable system.**

► Do **not** secure the movable system with long fastening screws on the back of the door!

8. Align the furniture panel in the middle and secure with locking screws by hand at the side. (Picture)



9. Insert the door strips and secure with 4 screws.

## 6.26 Replacing the power cable

**Extension cables**

Only approved cables may be used (see installation instructions).

EU variant: [ 644533]  GB variant: [ 644534]  length: 3m

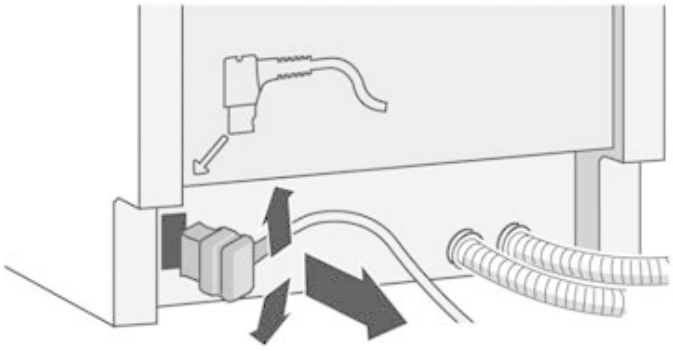
**NOTICE**

**Destruction of the appliance caused by false mains voltage/mains frequency!**

► Before replacing a power feedline with a power feedline with a different plug, first check whether the connection values of the appliance match to the voltage and frequency values of the corresponding country.

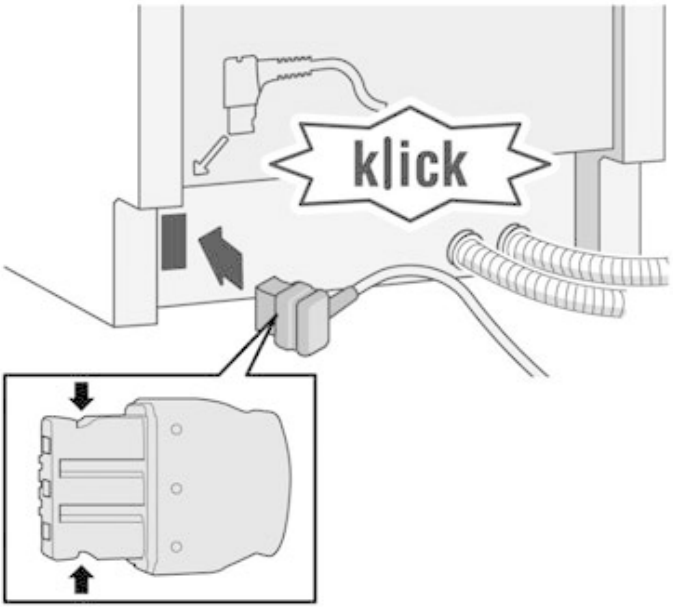
### 6.26.1 Unplug the power cable

► Move the plug of the power cable carefully up and down and pull it out of the mains socket.



### 6.26.2 Connect the power cord

► Insert the plug of the power cable into the mains socket until the plug clicks audibly into place.



## 6.27 Replacing the sump

The sump is screwed centrally into the the bottom of the tub. It extends into the basis carrier

Prerequisite:
- Appliance is disconnected from the power supply.
- Baskets have been removed.
- Tub and basis carrier have been tilted down.
- Heating pump has been removed.
- Drain pump has been removed.
- Water switch has been removed.
- AquaSensor has been removed (optional).

### 6.27.1 Removing the sump

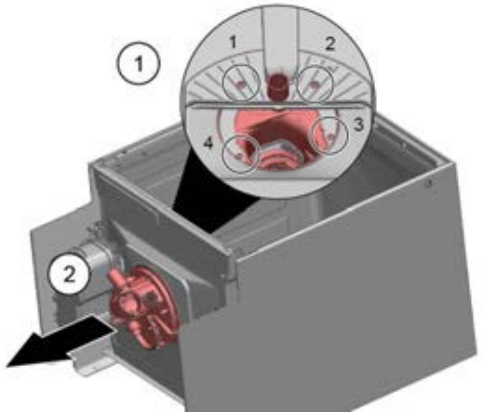
CAUTION

**Sharp edges on the sump!**

Cut injuries.

► Wear protective gloves.

1. Remove the four screws on the sump in the container (1).

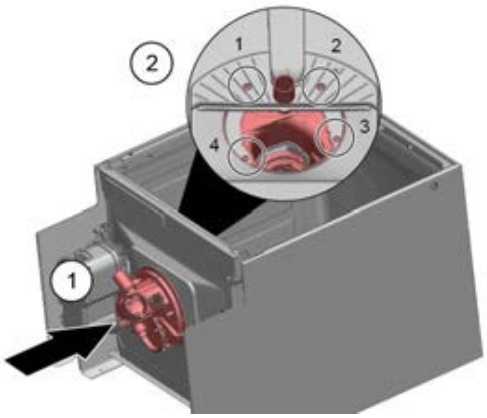



2. Remove the sump from the underside of the washing tank (2).

### 6.27.2 Installing the sump

1. Brush the seal with rinse aid.

2. Put the sump on to the underside of the tub (1).




3. **NOTICE**

   **Leakage due to incorrect installation!**

   ► Comply with the order of the screws (1-4).

   Insert and tighten the screws (2).

4. Install the components (heat pump, drain pump, water switch, AquaSensor and feed pipe) in reverse order.

5. Attach the tub (Page 126)

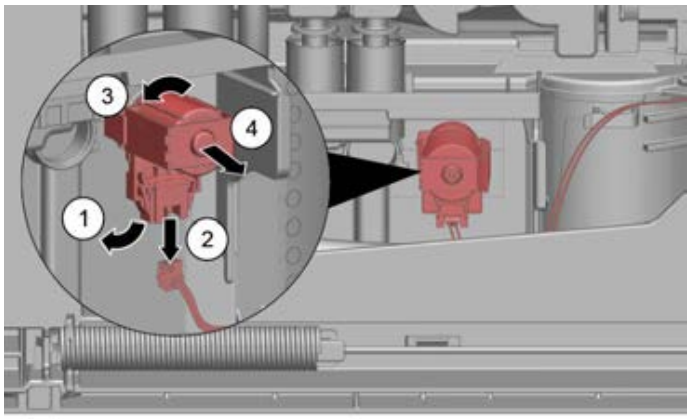
## 6.28 Replacing the regeneration valve

| | |
|---|---|
|  | The regeneration valve is connected to the water-softening system (on the left lower side of the appliance). |

Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance is freely accessible.
- Left side panel has been removed.
- Water has been emptied from the salt dispenser.

### 6.28.1 Installing the regeneration valve

1. Release the electrical connection (1) and unplug it (2).

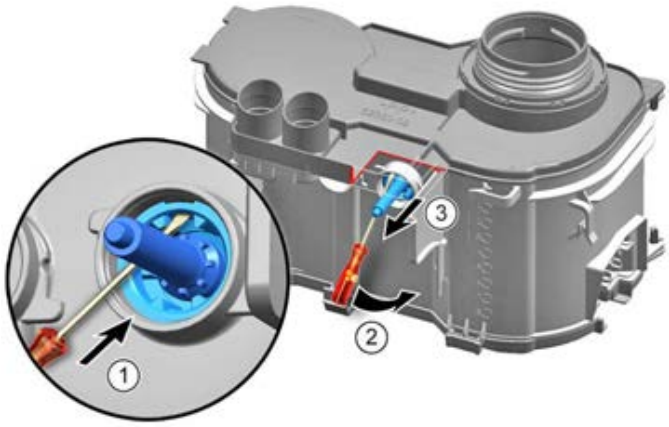



2. Turn the coil to the left (3) and remove it forwards out of the water-softening system (4).

### 6.28.2 Loosening the valve insert

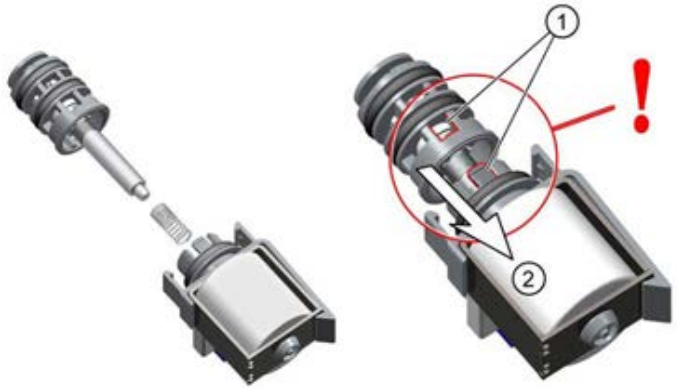
In the event that the valve insert gets stuck in the water-softening system during removal.

► Lever the valve insert loose (1) with a small screwdriver and turn (2). Remove the valve insert from the water-softening system (3).



### 6.28.3 Installing the regeneration valve

1. Click the valve insert with spring into place in the coil (1). Align the catch elements of the valve insert and coil (2).




2. Insert the regeneration valve with the valve insert first into the water-softening system.
3. Insert the regeneration valve carefully.
4. Check that the water-softening system is not leaking.

## 6.29 Replacing the dispenser cover

| | |
|---|---|
| | A small screwdriver can be used as a levering tool. |

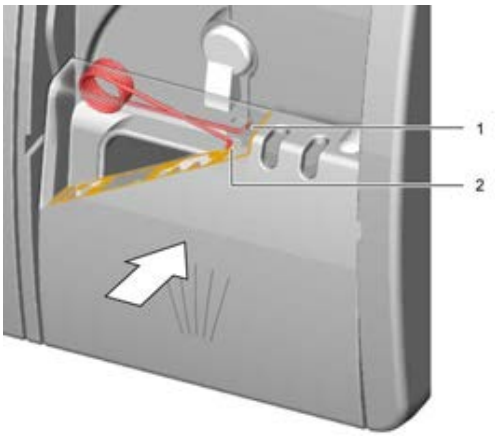
Prerequisite:
- Door has been opened.
- Dispenser cover has been opened.

### 6.29.1 Removing the dispenser cover

1. Slide the dispenser cover in 5 mm.
2. Lever the dispenser cover out of the guide rails on the underside and remove the dispenser cover from the guide rails at the top.
3. Remove the spring.

### 6.29.2 Inserting the spring

1. Insert the spring with the short end into the mounting hole of the dispenser cover (2).
2. Insert the spring with the long end into the mounting hole of the dispenser (1).




### 6.29.3 Installing the dispenser cover

1. Insert the dispenser cover 5 mm before the completely open position on to one side of the guide rails. Press the opposite side gently into the guide rails.
2. Check the function of the dispenser cover.

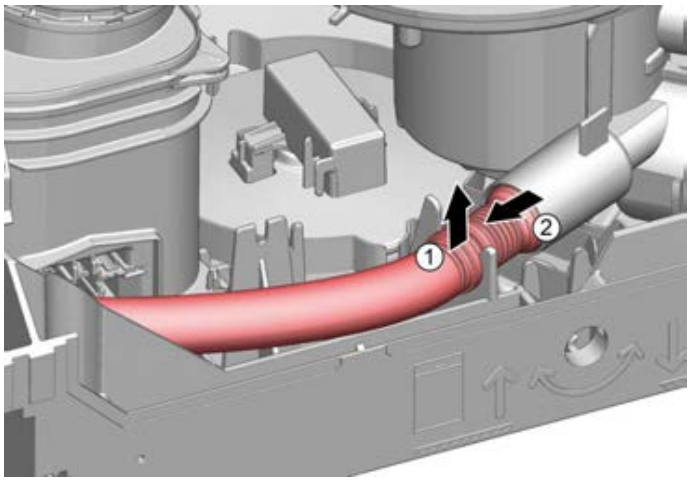
## 6.30 Replacing the drain check valve

| | |
|---|---|
| | Drain check valve is situated in the lower area of the sump. |

Prerequisite:
- Appliance is disconnected from the power supply.
- Sump has been emptied.
- furniture panel has been removed (optional).
- Toe panel has been removed (optional).
- Base socket plate has been removed.

### 6.30.1 Removing the drain check valve

1. Press the connecting hose out of the holder (1) and pull out of the connecting pieces of the sump (2).



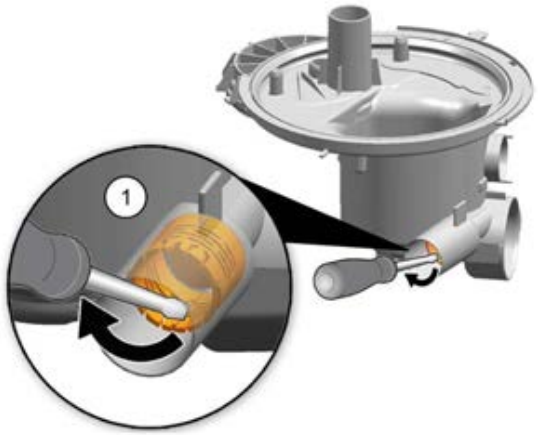

2.

**NOTICE**

**Leaks on the connecting pieces due to improper removal!**

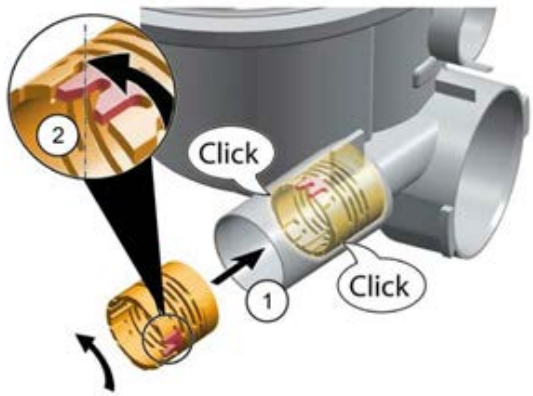
- ► Do not use any sharp-edged tools.
- ► Do not scratch the inside of the connecting pieces.

Turn the drain check valve to the right or the left (< 45°) and remove the drain check valve from the connecting pieces.



### 6.30.2 Installing the drain check valve

1. Push the drain check valve with the marking pointing upwards (2) into the connecting pieces (1) until they audibly click into place twice.




2. Push the connection hose into the connecting pieces of the sump.
3. Press the connection hose into the holder.

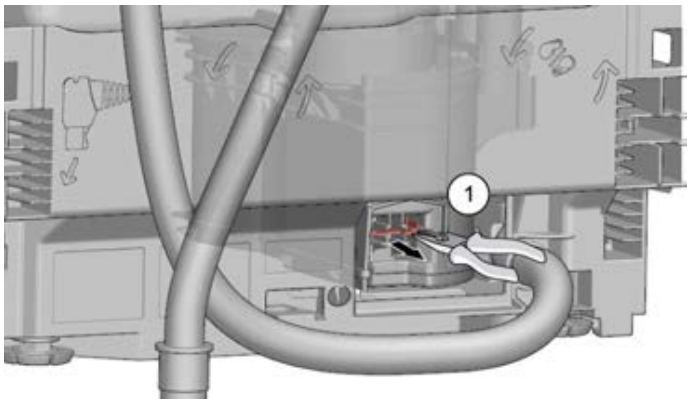
## 6.31 Replacing the low salt sensor (optional)

| | |
|---|---|
| | The low salt sensor is situated in the lower area of the water-softening system. |

Prerequisite:
Retaining flap on the back wall has been opened.

### 6.31.1 Removing the low salt sensor

1. Disconnect plug connection of the sensor.
2. Remove the PCB of the low salt sensor from the holder in the water-softening system with a nipper pliers (1).




### 6.31.2 Installing the low salt sensor

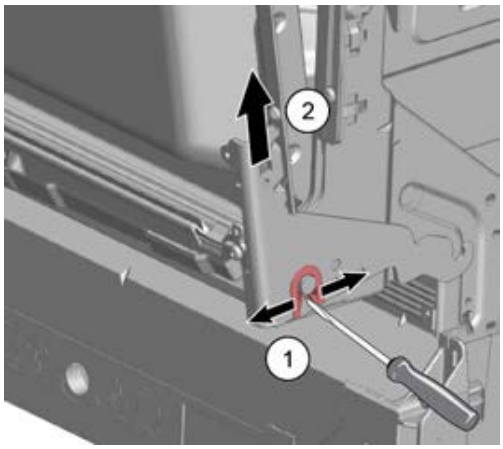
► Install the low salt sensor in reverse order.

## 6.32 Replacing hinges

Prerequisite:
- Appliance is disconnected from the power supply.
- Outer door has been removed.
- Base socket plate has been removed.
- Toe panel has been removed (optional).
- Door springs have been removed.
- Fascia panel has been removed.
- Cable harness holder in the lower right area has been removed.
- Overflow conduit has been loosened.

### 6.32.1 Removing hinges

1. Loosen the catch tappets with a screwdriver (1) and pull out the door upwards together with the hinges (2).



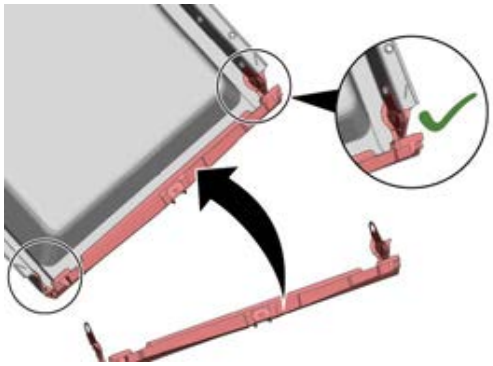

.

| | |
|---|---|
|  | The lower door seal is also removed. |

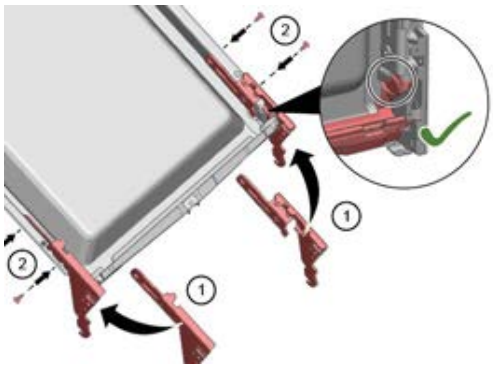
3. On the dismantled door, remove 2 screws from each hinge to take it off.

### 6.32.2 Installing hinges

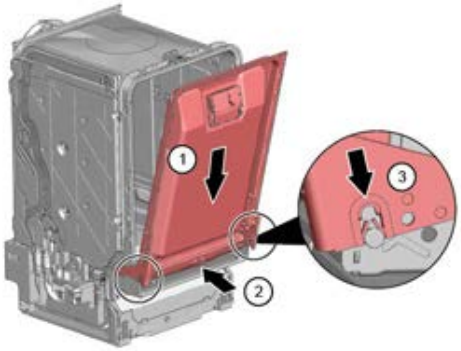
1. Push the door seal on to the lower edge of the inner door.



2. Attach hinges to each side (1). Secure the hinges and the plastic holder of the door seal to the inner door (2) with 2 screws for each.




3. Hook in the hinges together with the inner door (1). Place the lower door seal carefully over the overflow gutters of the container (2) and check that they are correctly positioned. Hook in the hinges (3).



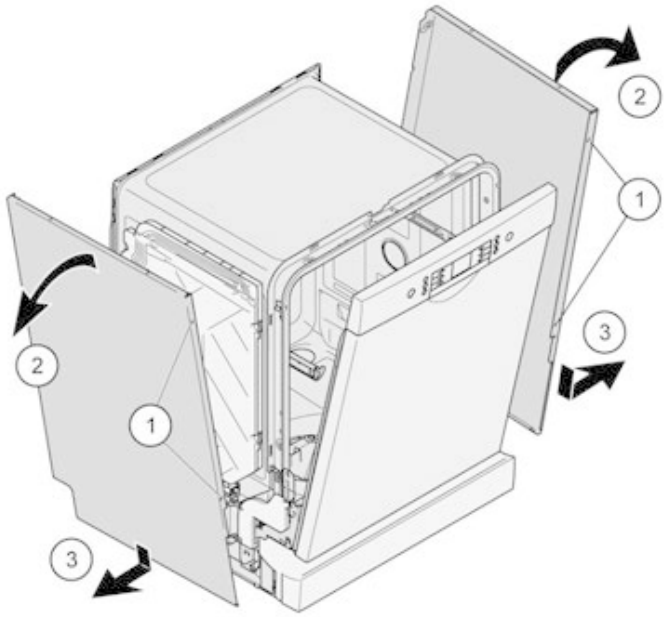

4. Install two retaining clips to the lower door seal.

## 6.33 Replacing the side panel

Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance is freely accessible.
- Desk top has been removed (optional).

### 6.33.1 Removing the side panel

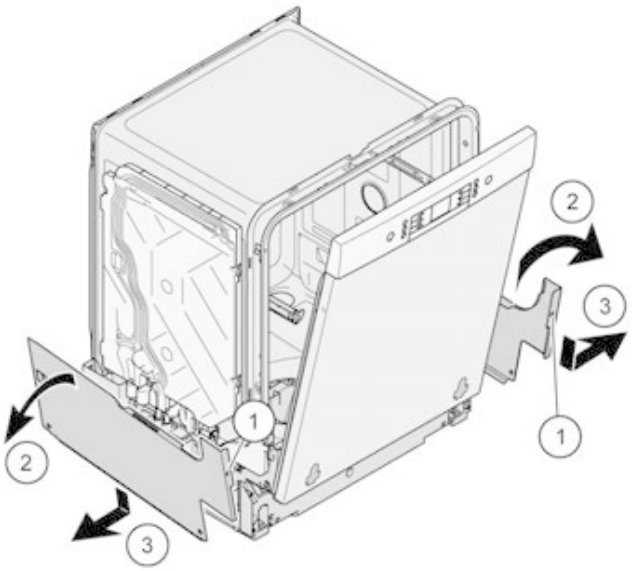
1. Remove screws from the side panel (1).




2. Tilt the upper side panel slightly outwards (2).
3. Lower the side panel and unhinge it from the basis carrier (3).

### 6.33.2 Removing the side panel (fully integrated appliance)

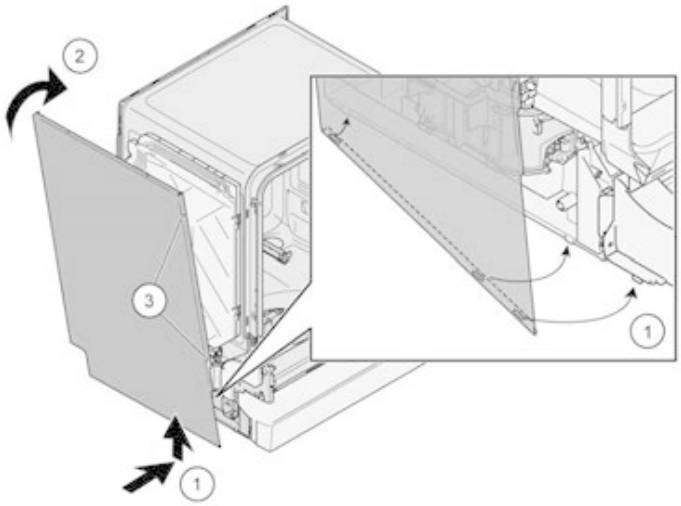
1. Remove screws from the side panel (1).




2. Tilt the upper side panel slightly outwards (2).
3. Lower the side panel and unhinge it from the basis carrier (3).

### 6.33.3 Installing the side panel

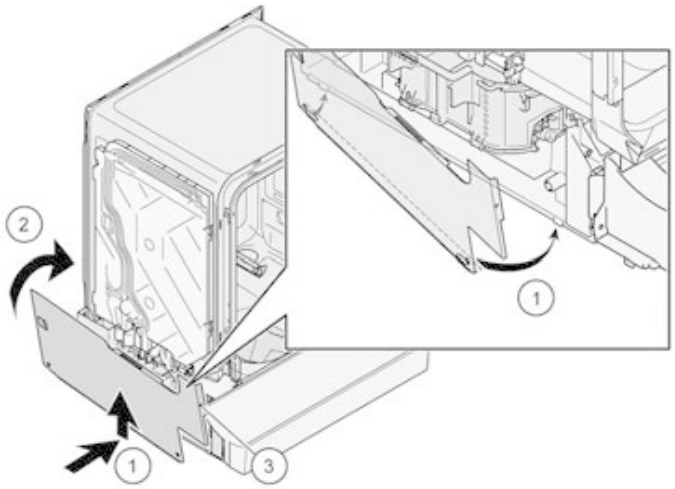
1. Insert the side panel into the basis carrier (1).




2. Press the side panel on to the appliance (2).
3. Secure the side panel with screws (3).

### 6.33.4 Installing the side panel (fully integrated appliance)

1. Insert the side panel into the basis carrier (1).




2. Press the side panel on to the appliance (2).
3. Secure the side panel with screws (3).

## 6.34 Replacing the float switch

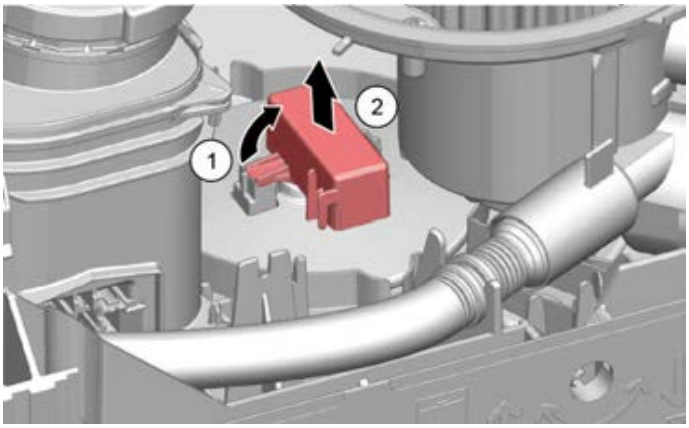
| | |
|---|---|
| | The float switch is centred in the bottom of the base support. |

Required tools:
- Nipper pliers
- Long screwdriver

Prerequisite:
- Base socket plate has been removed.
- Toe panel has been removed (optional).

### 6.34.1 Float switch has been removed

1. Release the catch mechanism (1).




2. Remove the float switch (2).

.

| | |
|---|---|
| | Use a nipper pliers and a long screwdriver as a lever to remove the safety switch without first loosening the catch mechanism. |

### 6.34.2 Installing the float switch

► Press the float switch from the top into the float and lock into position.

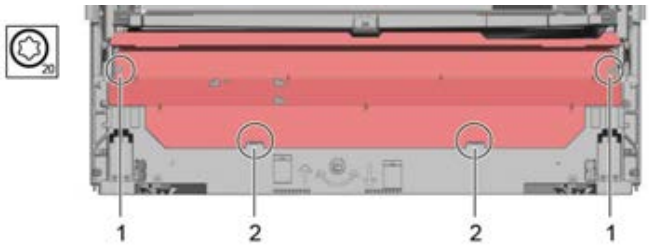
## 6.35 Replacing the base socket plate

| | |
|---|---|
| | The base socket plate is situated in the lower area at the front. |

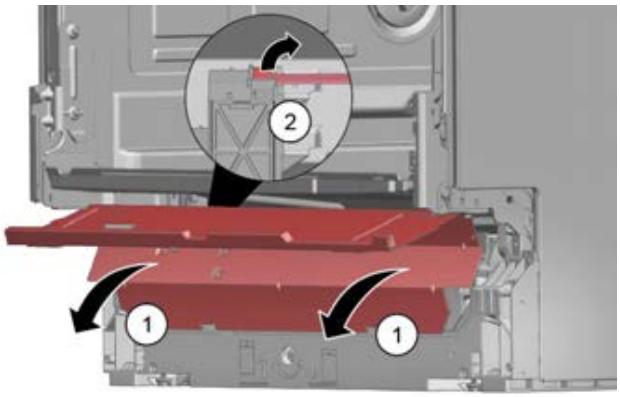
Prerequisite:
- Appliance is disconnected from the power supply.
- Furniture panel has been removed (optional).
- Toe panel (optional) has been removed.

### 6.35.1 Removing the base socket plate

1. Remove two screws (1). Disengage the catch elements (2).




2. Tilt the base socket plate carefully forwards (1).




.

| NOTICE |
|---|
| **Depending on the model series, the connector to the EmotionLight is still secured to the base.** |
| ► Unlock the plug on the catch tappets and pull to the rear (2 - optional). |

### 6.35.2 Installing the base socket plate

► Mount the base socket plate in reverse order.

## 6.36 Replacing the toe panel (optional)

| | |
|---|---|
| | Both retaining elements are identical and can replace each other. |

Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance is freely accessible.
- Outer door has been removed.

### 6.36.1 Removing the toe panel

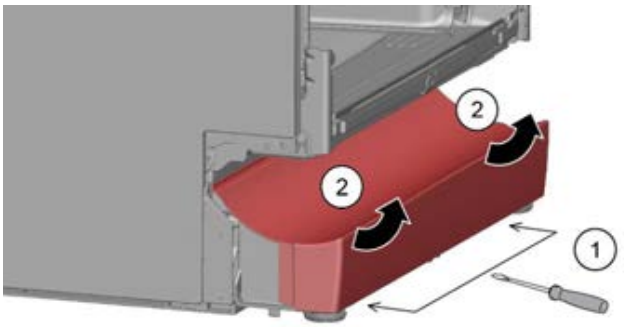
.

**NOTICE**

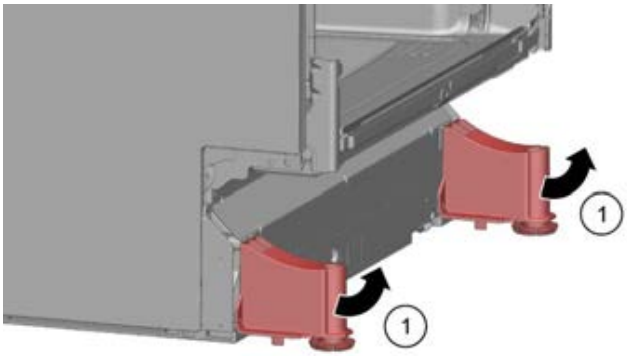
**Destruction of the retaining elements caused by applying too much force!**

► Relieve the feet of the appliance by placing something underneath it at the side.
► Remove the toe panel carefully.

2. Release the catch elements downwards with a suitable tool (1) and remove the toe panel upwards (2).

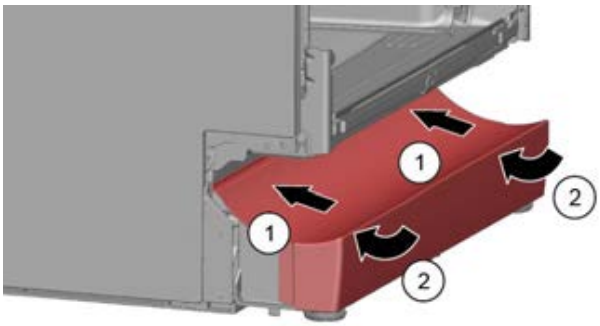



3. Remove the retaining element upwards (1).



### 6.36.2 Installing the toe panel

1. Insert the retaining element.
2. Attach the toe panel at the top (1) and press it down until it audibly clicks into place (2).



## 6.37 Loading/updating the software

Required tools:
- UDA with cables and adapters
- Computer
- I-Service Software

Prerequisite:
- Appliance has been disconnected from the mains.
- Power module integrated in the appliance or connected in the logistics programming station.
- Outer door (operating electronics) or the right-hand side panel (power module) have been removed.

**DANGER**

**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.

**NOTICE**

**Risk of short circuit**

Death by electrocution

- ► Connect the UDA only with the plugged in coding frame [ 15000166] to the upper side of the module.

**NOTICE**

**Mains voltage on the ground cable of the bus system!**

Destruction of the operating module or the power module

- ► Disconnect the appliance from the mains before disconnecting / connecting plug contacts.
- ► Do **not** connect the Y cable to the power module.

### 6.37.1 Procedure for installing the software:

1. Disconnect the appliance from the mains.
2. Connect the UDA to the appliance (either on the operating module or on the power module).
3. Connect the UDA to the computer.
4. Connect the appliance to the power supply.
5. Connect the appliance.
6. Ensure that no program starts.
7. Start the iService on the computer and install the software in the specified order (Page 123) until notification appears of successful installation.
8. Perform **hardware reset**. The appliance must be disconnected from the mains for at least 10 seconds first (all LEDs on the operating module are off).
9. Disconnect the UDA from the appliance.
10. Connect the appliance to the power supply.
11. Perform a **software reset** (press and hold down the Start button for a period of 3 seconds).
12. Switch off the appliance at the power switch.

### 6.37.2 Connect the UDA to the power module

NOTICE

**Improper handling!**

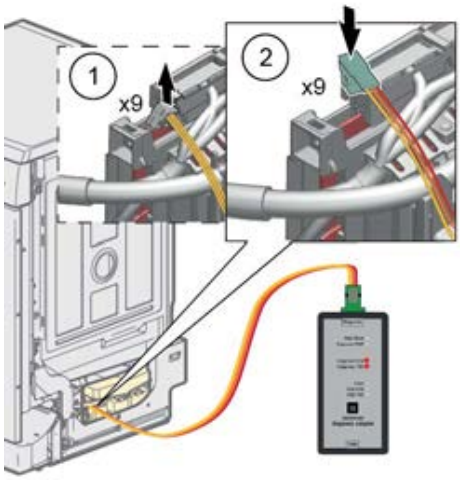
Risk of short circuit. Destruction of the power module.

- ► Connect the UDA plug only to the connection described.
- ► Connect the UDA only with the plugged in coding frame to the upper side of the module.

The Y cable must **not** be used for this connection.

If the iService connection x9 is occupied by another consumer, unplug (1).

1. Connect the UDA connection cable in the marked iService /D-2 bus connection x9 to the upper connector strip (2).




2. Establish a connection to the UDA.

.

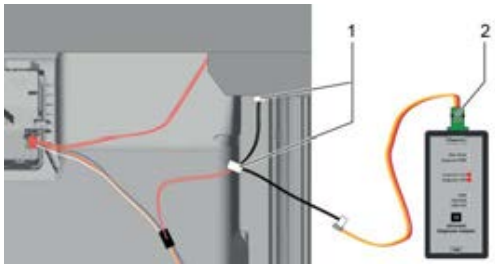
If the UDA is operated on another connection, this can lead to damage to the power module and to the UDA.

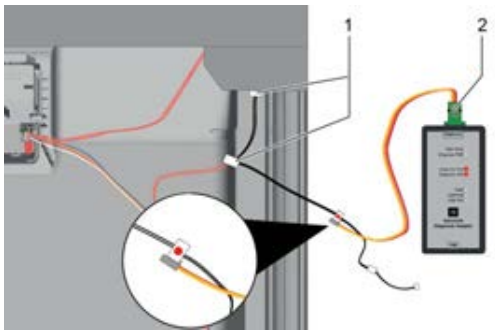
Connect the UDA connection only with the plugged in coding frame to the upper side of the module. Otherwise, there is a **risk of short circuit!**

### 6.37.3 Connect UDA connection to the operating module

| | |
|---|---|
| | Depending on the model, use a 3-pole or 4-pole adapter cable connection [ 341248] .<br>**Two connections always stay free.** |

1. Connect the Y cable on the connection to the operating module (Fig. 1 3-pole, Fig. 2 4-pole connector cable).




2. Connect the UDA connection cable to the Y cable (connection to the Y cable is marked with a red dot).

### 6.37.4 Installing the software

1. Ensure that no program has started.
2. Start the iService on the computer.


3. Enter the e-number.
4. Click Continue.

5. Continue with Flash.


6. In the "flash procedure" field, select the assembly to be flashed.


7. Click Continue.
8. Start installing the software with Flash.
9. Wait for notification that installation was successful.

.

| | |
|---|---|
|  | If the doors were closed, the display shows S:00 and the plant testing program (not the CS testing program) starts.<br>If the doors were opened, all LEDS are lit up. |

.

After installation of the software, the appliance starts in a testing program.

To exit the testing program, press Start 3 s (software set).

12. Switch off the appliance at the power switch.

## 6.38 Folding down and attaching the tub

Folding down the tub makes it easier to access and replace various components, for example, for the:
- water-softening system
- Sump
- Water switch

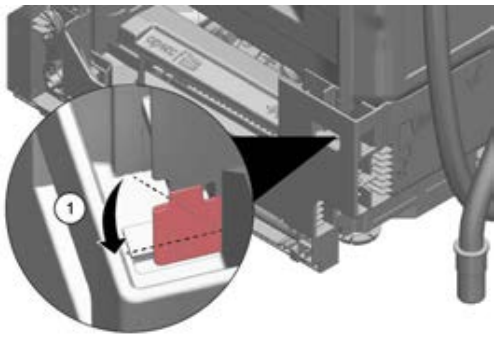
Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance is freely accessible.
- Appliance has been emptied
  (Heat exchanger, fleet reservoir, sump, water-softening system).
- Side panels have been removed.
- Door springs have been removed.
- Inlet hose on the heat exchanger (or on the water inlet system) has been removed.
- Cable from the flow-meter has been unplugged.
- Base socket plate has been removed.
- Float switch has been unplugged.
- Power module has been completely removed or the cables have been unplugged.
- Toe panel has been removed (optional).
- Cable from InfoLight and TimeLight have been unplugged (optional).
- Inlet hose on the fleet reservoir has been removed (optional).

### 6.38.1 Folding down the tub

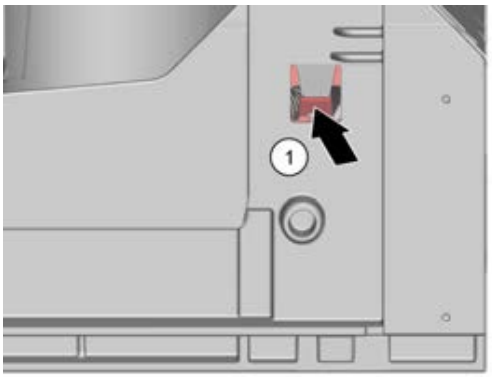
Prevent any discharge of the salt solution! Check that the lid of the salt dispenser is correctly closed. Close the salt dispenser.

Protect support surface for the tub from being scratched. In the case of **free-standing appliances**, ensure that the weight does not fall out of the basis carrier.

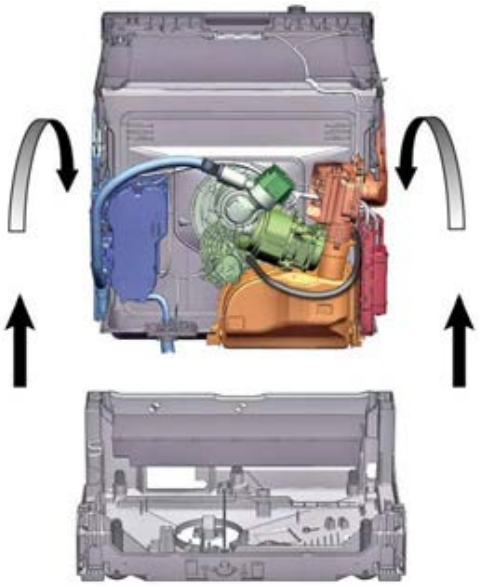
1. Bend the metal plates of the tub catch straight using a screw driver.




2. From above, release the plate hinges on the front side from the catch mechanism with a screwdriver. To do this, bend the catch mechanism of the plate hinge inwards.



3. Lift the container out of the guides and place it to the rear on the back wall.



### 6.38.2 Attaching the tub

.

**NOTICE**

**There is a risk of damaging the components when attaching!**

- ► Please pay attention to hoses and other components in the basis carrier when attaching the container.
- ► In the case of Zeolite devices, position the heat shield before attaching the tub.

2. Lift the tub and place it in the four guides.

3. 

| | |
|---|---|
| | When attaching, pay particular attention to the correct position of the inlet and outlet hose, the water-softening system and the overflow conduit. |

Check whether all points are evenly positioned. Then, use some gentle force to press the container down into the initial position and recheck the position (e.g. with a water level).

4. Bend back the metal plates at the rear.
5. Reinsert all the other components (see requirements).

## 6.39 Opening the door in case of emergency

| | |
|---|---|
| | If the "automatic door opening" fails, the door can only be opened by using the "opening aids".<br>The "opening aids" are included in the delivery of the appliance. |

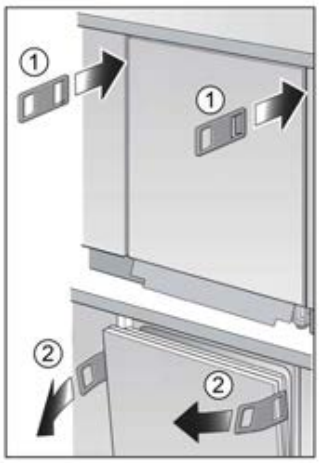
Required tools:
[ 00630630] “Opening aids”

**NOTICE**

**Damage to the furniture panel caused by not using the "opening aids"!**

► To open in an emergency, only use the "opening aids" .

1. Slide the opening aids into the side (1).




2. Disengage the door with the opening aids and open (2).

## 6.40 Replacing the (upper) door seal

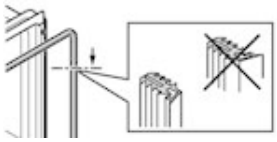
### 6.40.1 Removing the door seal

► Remove the door seal from the inner frame.

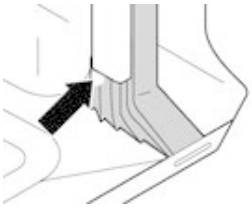
### 6.40.2 Installing the door seal

The door seal must be cut to the correct length before installation. This is 1750 mm for appliances of 81 cm in height and 1850 mm for appliances of 86 cm in height.

1. Prepare the appropriate door seal.
2. Ensure the correct installation position of the sealing profile.



3. The white must be at the height of the sealing bed strip.



4.

| | |
|---|---|
| | Sealing must not be warped or stretched in the corner area. Sealing is slanted at the ends and runs down at the front into the bottom of the container |

Position the sealing end straight to the front under the inside door. Sealing should rest against the container side as far as possible.

### 6.40.3 Graphic to compare:

► Correctly installed door seal:

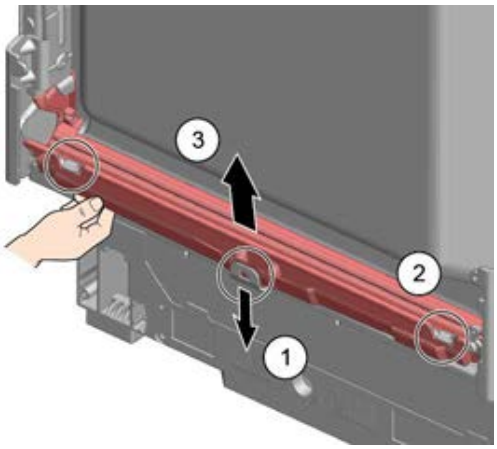
## 6.41 Replacing the door seal (lower)

The door seal can be easily changed on the 45 cm appliances.

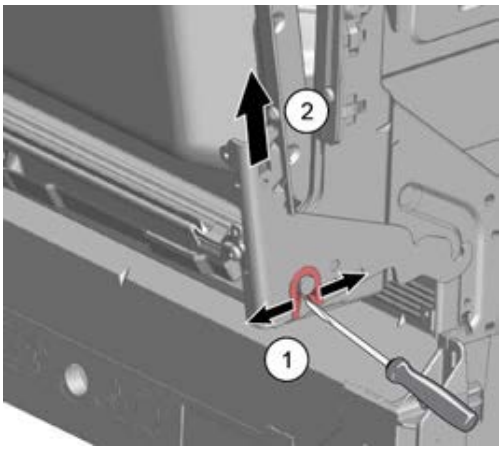
Prerequisite:
- Appliance is disconnected from the power supply.
- Outer door has been removed.
- Base socket plate has been removed.
- Toe panel has been removed (optional).
- Door springs have been removed.
- Fascia panel has been removed.
- Cable harness holder in the lower right area has been removed.

### 6.41.1 Removing the door seal

1. Remove the 2 retaining clips on the lower door seal (1). Unhinge the overflow channel (2) and remove the overflow gutter upwards.




2. Loosen the catch tappets with a screwdriver (1) and pull both the door and the hinge upwards (2).




3. On the dismantled door, remove 2 screws from each hinge to take it off.
4. Remove the lower door seal from the inner door.

### 6.41.2 Installing the door seal

►

## 6.42 Replacing door springs with the door opening module

| | |
|---|---|
| | • Replace door springs in pairs only!<br>• Only install door springs with the same colour coding! Permitted door springs are indicated by coloured dots on the back of the appliance. |

Prerequisite:
- Side panels have been removed.

### 6.42.1 Spring systems for the 45 cm model

The springs indicated here must **not** be used for the 60 cm wide model!

| System 2 | Spring colour | Weights of the furniture door |
|---|---|---|
|  | | |
| 611336 | Red | 3.0 - 10.0 kg |
| 632422 | Purple | 3.0 - 10.0 kg |
| 632421 | Brown | - |

*Table 9: Spring table*

- In their original condition, all fully integrated dishwashers can support door fronts weighing 2.5 - 7.5 kg.
- In their original condition, all integrated dishwashers can support door fronts weighing 2.5 - 6.5 kg.

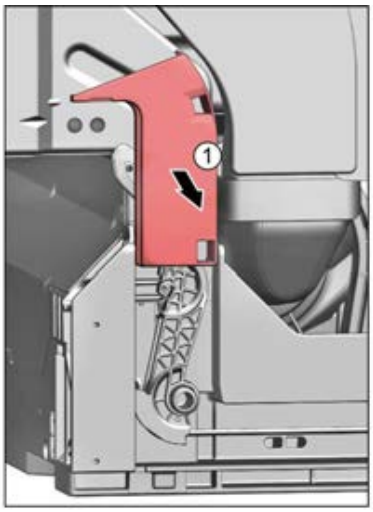
►

### 6.42.2 Procedure for using a furniture panel weighing 7.5 - 11.5 kg

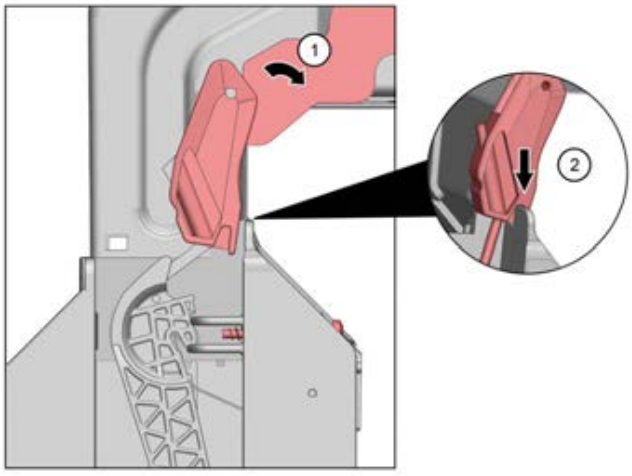
1. Establish the series spring according to the Quickfinder.
2. Select and use springs that are two levels stronger.
3. If there is only one stronger level, select this one and use.
4. Otherwise, no further increase in the spring force is possible.

### 6.42.3 Removing door springs

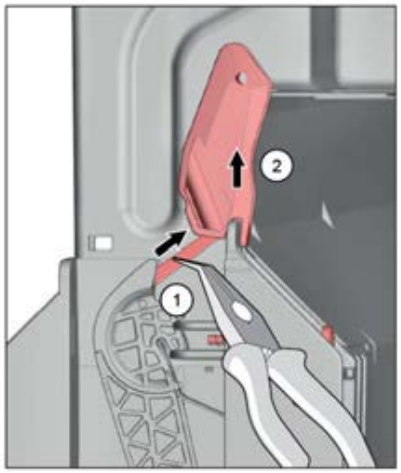
1. Remove the cover of the cord guide.



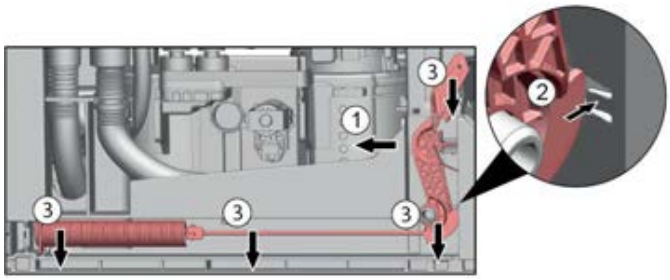
2. Loosen the adjusting screws.
3. Open the appliance door slightly (1). Lock the retainer in the basis carrier (2). Close the door. The door hinge unhinges itself from the tension cord holder.




4. Grip the cord with a flat-nosed pliers (1) and remove the holder from the retaining element (2).

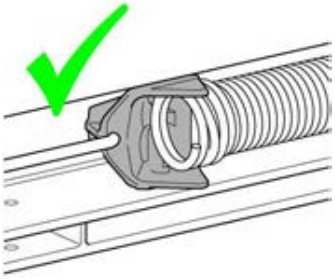


5. Press the deflexion lever to the left (1) and remove the complete cord system forwards (2).

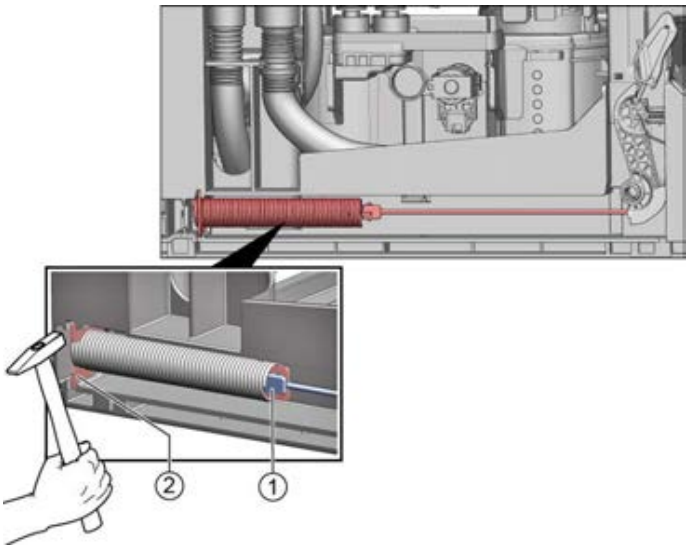



### 6.42.4 Installing door springs

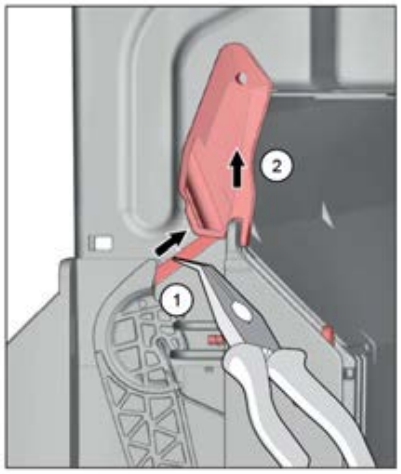
When installing the spring, the plastic holder of the spring must be correctly positioned. Otherwise, the holder will cause friction on the side panel.



1. Insert the tension cord into the spring (1) and hammer it into the notch of the base plate (2). Use the deflexion lever as illustrated.



2. Pull the tension cord holder upwards (1). Fix in the groove of the basis carrier (2).



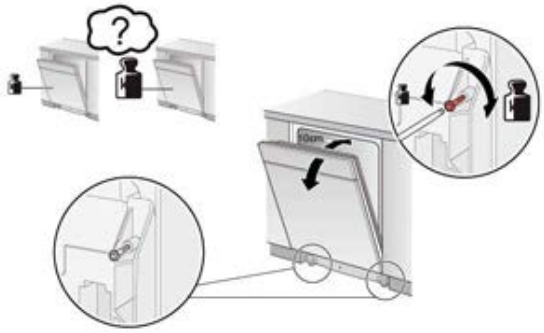

3. Slowly close the door. The cord system attaches itself automatically to the door hinge when closing the door.

### 6.42.5 Adjusting the door opening module

Prerequisite:
Toe panel has been removed.

| | |
|---|---|
| | Adjust the door opening with the adjusting screws in such a way that the door automatically opens to 10 cm. |

► Tighten and loosen the screws to vary the tension of the tension cord until the required tension is reached.



## 6.43 Replacing the door springs without the door opening module

- Replace door springs in pairs only!
- The springs are marked with coloured dots. Only install door springs with the same colour coding!

Prerequisite:
- Side panels have been removed.

### 6.43.1 Spring systems for the 45 cm model

The springs indicated here must **not** be used for the springs of the 60 cm wide model!

| Mat. no. | Colour | Weights of the furniture door |
|---|---|---|
|  | | |
| 611336 | Red | 2.5 - 7.5 kg |
| 632422 | Purple | 2.5 - 6.5 kg |
| 632421 | Brown | Springs for appliances without furniture door |

*Table 10: Spring table*

- In their original condition, all fully integrated dishwashers can support door fronts weighing 2.5 - 7.5 kg. A maximum weight of 11.5 kg is possible by replacing the springs.
- In their original condition, all integrated dishwashers can support door fronts weighing 2.5 - 6.5 kg.

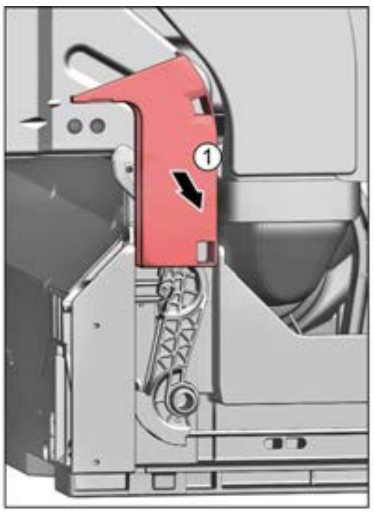
►

### 6.43.2 Procedure for using a considerably heavier furniture panel weighing (up to11.5 kg

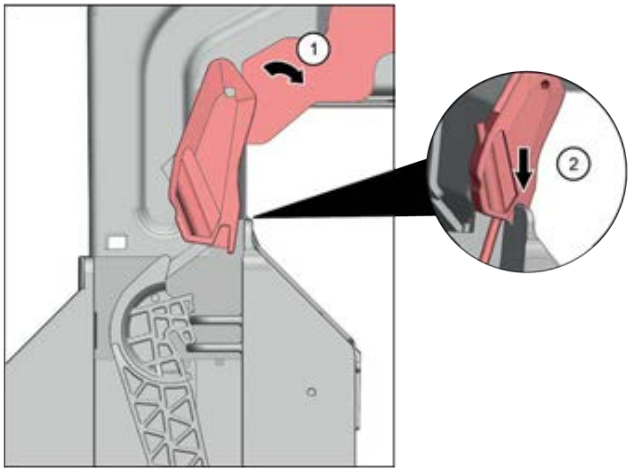
1. Establish the series spring according to the Quickfinder.
2. Select and use springs that are two levels stronger.
3. If there is only one stronger level, select this one and use.
4. If the strongest spring has already been used according to the table, it is not possible to increase the spring force.

### 6.43.3 Removing door springs

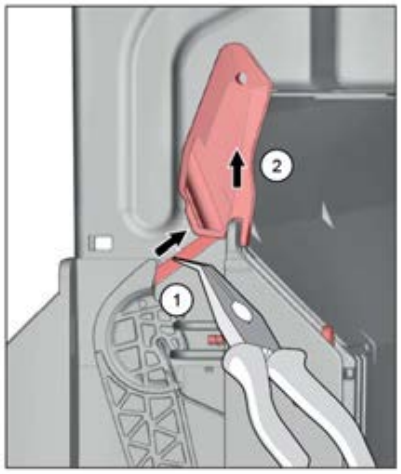
1. Remove the cover of the cord guide.



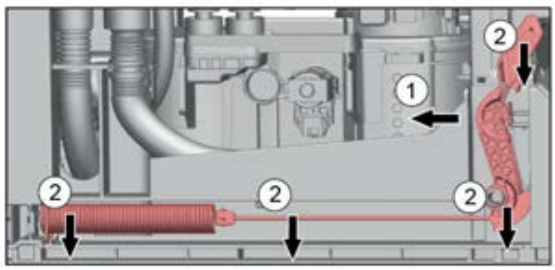

2. Open the appliance door slightly (1). Lock retainer in the basis carrier (2). Close the door. The door hinge unhinges itself from the tension cord holder.



3. Grip the cord with a flat-nosed pliers (1) and remove the holder from the retaining element (2).



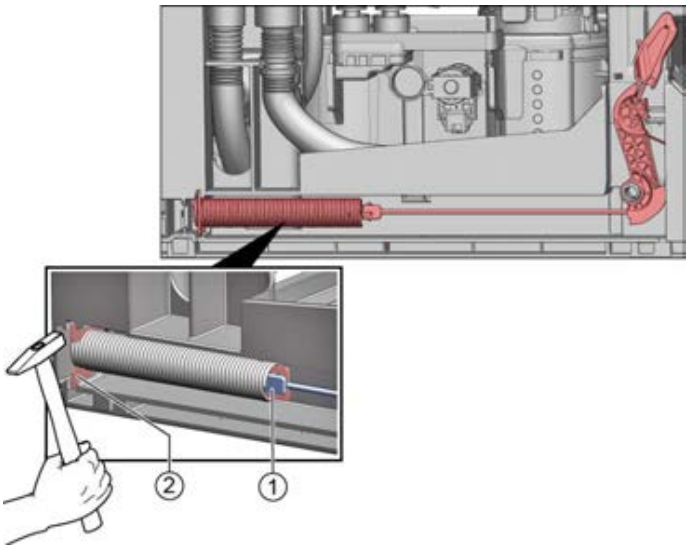

4. Press the deflexion lever to the left (1) and remove the complete cord system forwards (2).



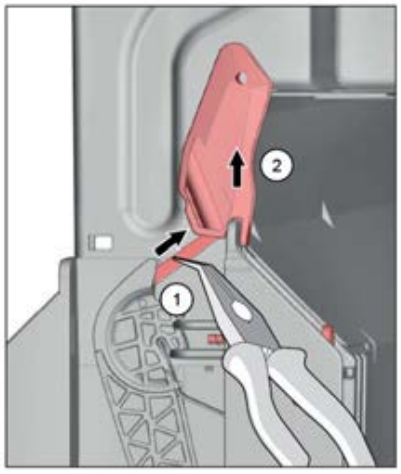

### 6.43.4 Installing door springs

| | |
|---|---|
| | When installing the spring, the plastic holder of the spring must be correctly positioned. Otherwise, the holder will cause friction on the side panel. |

1. Insert the tension cord into the spring (1) and hammer it into the notch of the base plate (2). Use the deflexion lever as illustrated.




2. Pull the tension cord holder upwards (1). Fix in the groove of the basis carrier (2).




3. Slowly close the door. The cord system attaches itself automatically to the door hinge when closing the door.

## 6.44 Replacing the door opening module (optional)

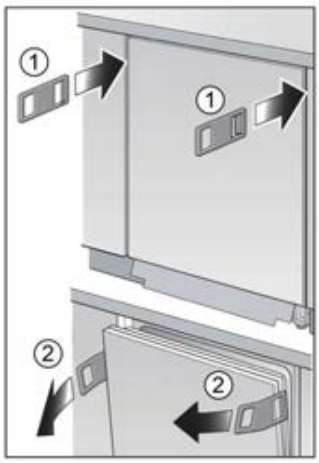
| | |
|---|---|
| | The door opening module supplements the manually operated door lock into an "automatic door opening". It is delivered as a complete replacement part. |

Required tools:
Auxiliary tool[ 630630]

Prerequisite:
- Appliance is disconnected from the power supply.
- For free-standing appliances: desk top has been removed.
- For fully-integrated and built-in appliances: pull out the appliance as far as the container frame.

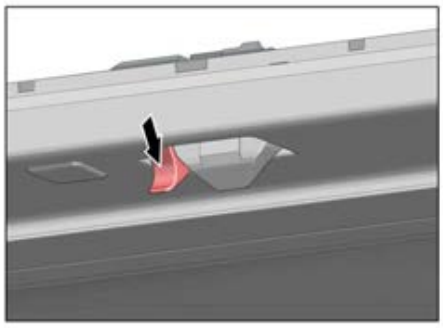
### 6.44.1 Emergency unlock the door using the auxiliary tool included in the delivery

► Slide the auxiliary tool (1) into the side. Open and unlock the doors by pulling (2).

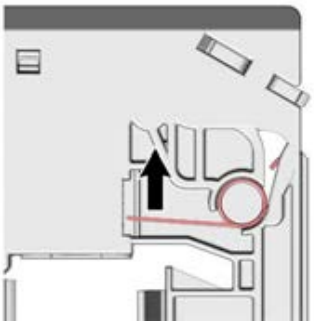


### 6.44.2 Replacing the door opening module

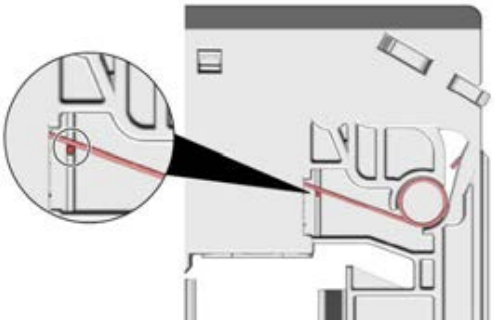
1. Lock the door lock manually.



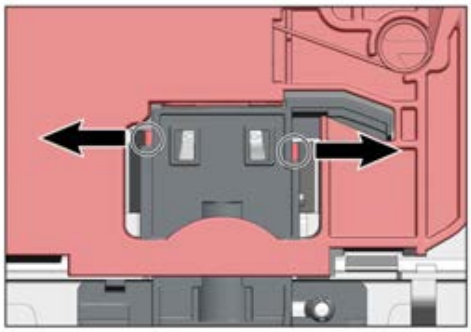
2. Bend the spring back.



3. Insert the spring.

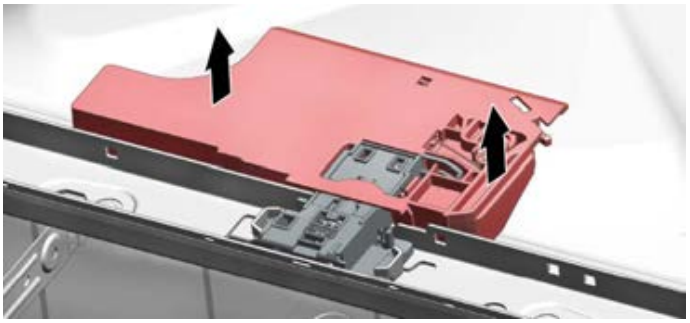


4. Loosen both catch tappets.



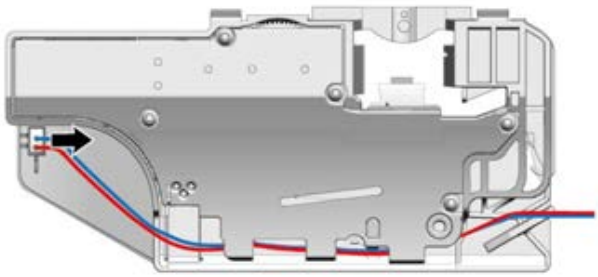
5. Loosen the door opening module carefully from the bitumen.


6. Remove the door opening module directly upwards from the door lock.



7. There are different types of door opening modules

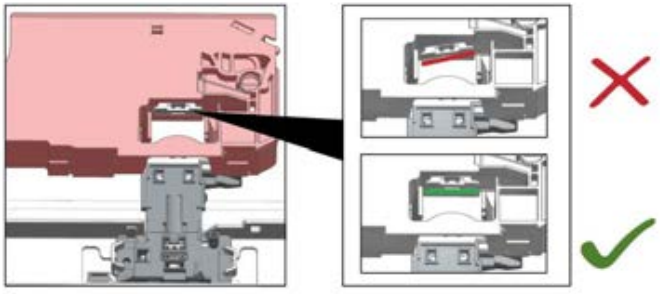
Disconnect the cable connection.



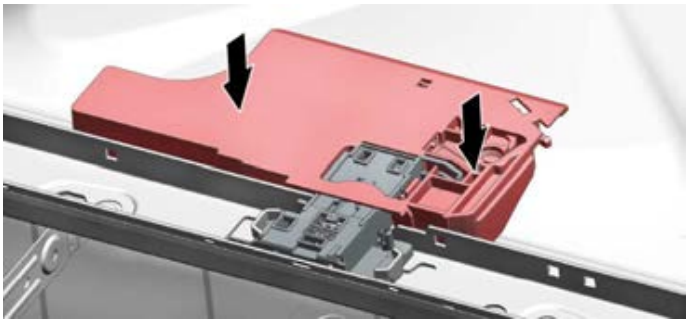
### 6.44.3 Installing the door opening module

1. Plug in the cable connection.

2. Adjust the sensor plate of the door opening module before installation.



3. Position the door opening on to the door lock from the top and click into place.



### 6.44.4 Reset

.

| | |
|---|---|
| | In order to remove the door opening module, the door lock must be manually locked.<br>After the door opening module has been fitted, the door lock must be unlocked again. |

2. Shut the door with increased force.
   Result:
   The spring lock of the door lock works normally again.

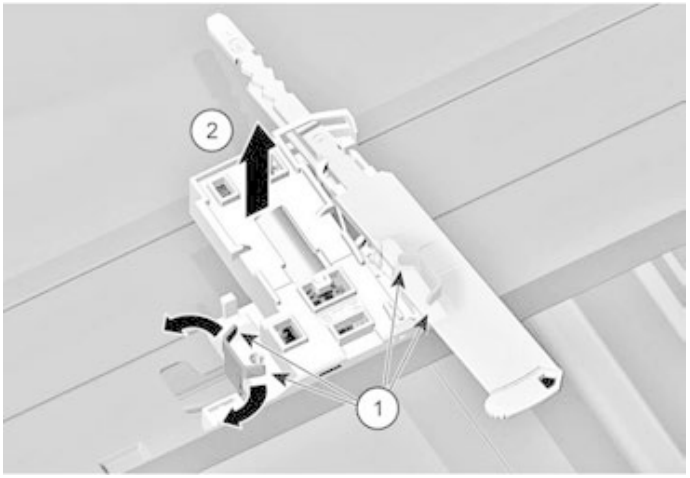
## 6.45 Replacing the door lock

The door lock is situated in the frame of the tub at the front of the appliance.

Prerequisite:
- Appliance is disconnected from the power supply.
- Desk top has been removed (optional).
- The door opening module has been removed (optional).
- The door opening module has been removed (optional).
- For fully-integrated appliances: pull out the appliance as far as the tub frame.

### 6.45.1 Removing the door lock

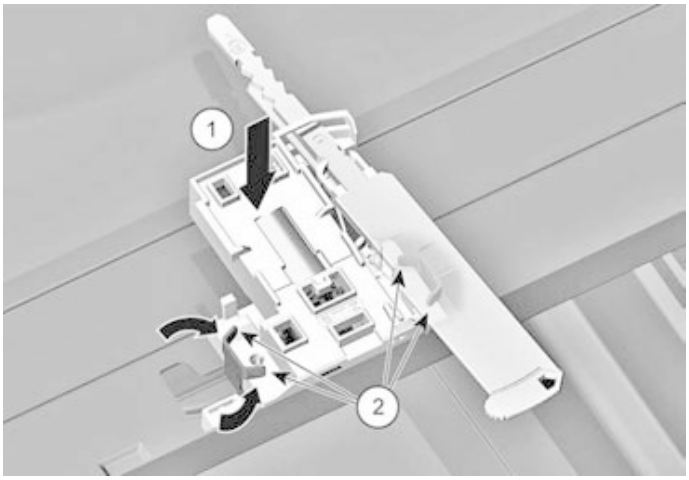
1. Bend both the retaining brackets straight to the right and left of the door lock (1).




2. Disengage both catch elements (on the tub frame at the front and back) with a small screwdriver.
3. Take the door lock out of the tub frame.

### 6.45.2 Installing the door lock

1. Insert the door lock into the tub frame and click into place (1).




2. Click the catch elements into place.
3. Bend both the retaining brackets inwards to fix the door lock (2).

### 6.45.3 Reset

If the spring lock locks manually (possibly when using the transparent diagnosis door), the system must be unlocked again. To do this close the door.

Strong mechanical resistance needs to be overcome! Increased force is therefore necessary to close the door.

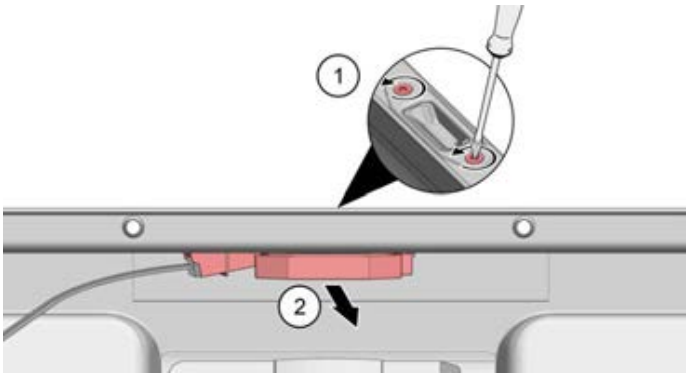
## 6.46 Replacing the door sensor

| | |
|---|---|
|  | The door sensor is situated in the upper area of the inner door. |

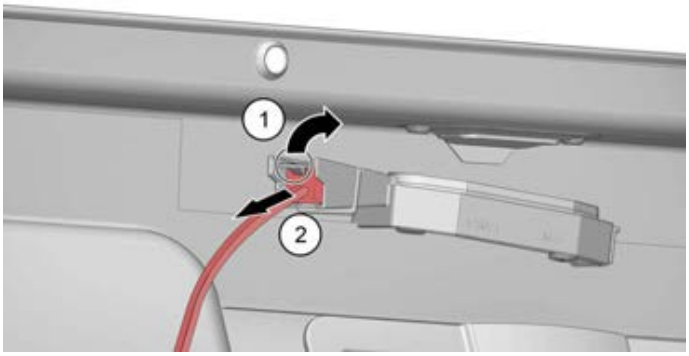
Prerequisite:
- Appliance is disconnected from the power supply.
- furniture panel has been removed (optional).
- Outer door has been removed
- Fascia panel has been removed.

### 6.46.1 Removing the door sensor with the closure recess

1. Remove 2 screws (1) and take out the door sensor with the closure recess (2).




2. Release the electrical connection (1) and unplug it (2).




### 6.46.2 Installing the door sensor with the closure recess

► Install the door sensor in reverse order.

## 6.47 Replacing a variable hinge on the furniture panel (optional)

**NOTICE**

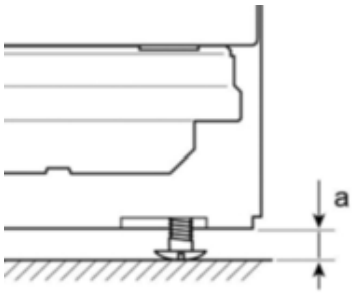
**Damage caused by collision with the base!**

► The furniture panel must not hit the base. This can cause destruction of the retaining or sliding elements.

### 6.47.1 Installation preparation

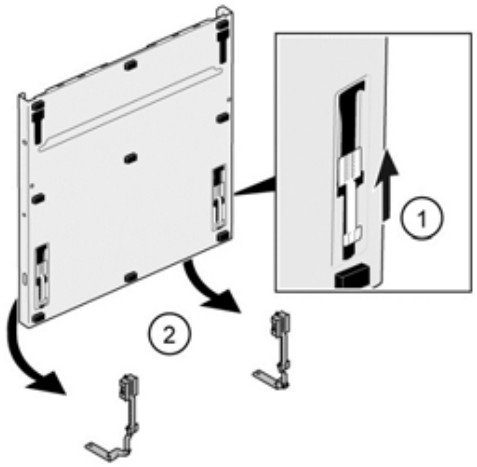
The appliance must be again aligned at the mounting height before installation of the furniture panel.

► Before removing the appliance, mark the mounting height (distance from the floor to the lower edge of the appliance).



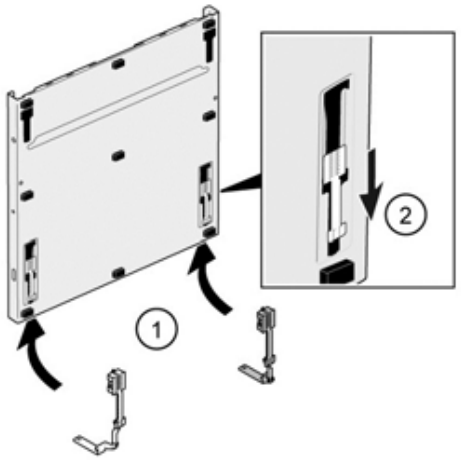

### 6.47.2 Removing variable hinges

1. Removing the furniture panel with variable hinges. (Page 97)
2. Remove the outer door. (Page 147)
3. Push the hinges upwards along the guide (1) and remove both sliding elements from the guides (2).



### 6.47.3 Installing variable hinges

1. Insert 2 single hinges upwards into the guides (1) and push them downwards within the guide (2).




2. Installing the outer door. (Page 59)
3. Installing the furniture panel with variable hinges (Page 97)

## 6.48 Replacing the water switch

Prerequisite:
- Appliance is disconnected from the power supply.
- Appliance has been emptied.
- Tub has been folded down.
- Heating pump has been removed.

**CAUTION**

**Sharp edges on the sump!**

Cut injuries.

► Wear protective gloves.

### 6.48.1 Removing the water switch

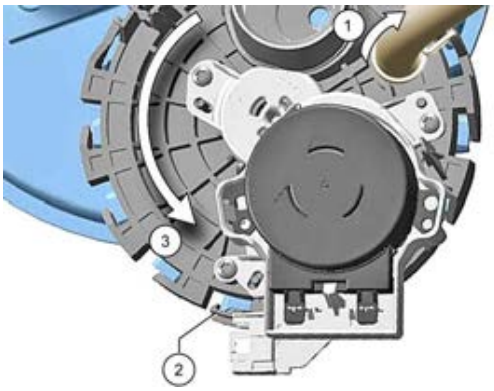
.

**NOTICE**

**Risk of injury: the water switch can only be turned by using force.**

► Use gloves!

2. Remove the hose to the fleet reservoir (optional) (1).

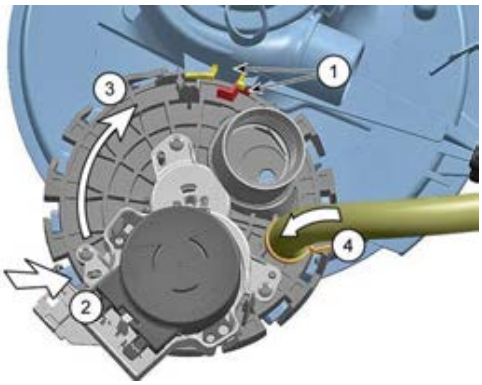



3. Disengage the catch element (2).
4. Turn the water switch anticlockwise and remove from the sump (3).

### 6.48.2 Installing the water switch

1. Brush the seal of the water switch with a little Promol or rinse aid.

2. Position the Z-shaped projection of the water switch between the two projections of the sump (1).




3. Position the water switch on the sump (2) turn it anticlockwise (3) and engage.

4. Secure the hose to the fleet reservoir (optional) (4).

## 6.49 Replacing the heat exchanger

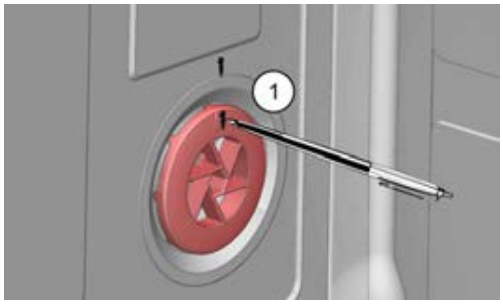
| | |
|---|---|
| | The heat exchanger is situated on the left-hand side of the tub. |

Required tools:
- Auxiliary tool [ 341313]

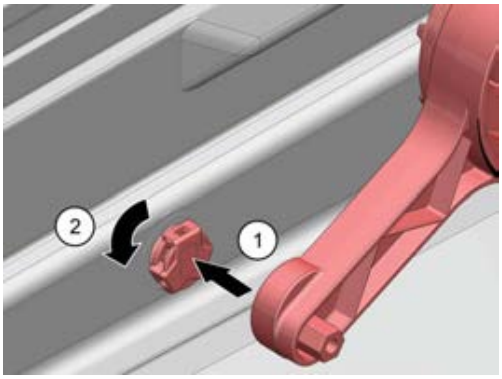
Prerequisite:
- Appliance has been emptied.
- Appliance is freely accessible.
- Left side panel has been removed.
- Flow meter has been removed.
- Outlet valve has been removed.

### 6.49.1 Removing the heat exchanger

1. Mark the installation position of the cover cap steam vent in the inside of the tank with a water-soluble pen.

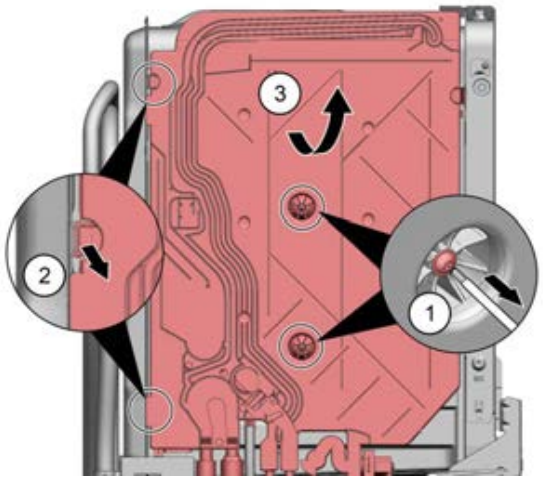



2. Remove the cover cap steam vent nut and the water inlet supports with the auxiliary tool.


3. Loosen the hose clamp on the inlet hose and remove the inlet hose.

4. Remove the screws (1), disengage the catch elements (2) and remove the heat exchanger towards the front and pull it up out of the water-softening system (3).



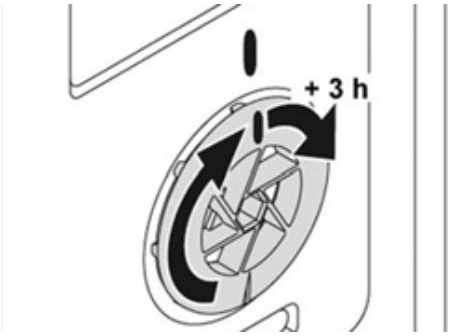

.

After prolonged operation of the appliance, the heat exchanger may be stuck to the bitumen isolation. If this is the case, use increased force.

### 6.49.2 Installing the heat exchanger

Leaks
- Avoid squeezing the connections to the water-softening system and the water drain hose and the seals.
- Ensure that the seal of the cover cap steam vent is correctly positioned.

1. Insert the heat exchanger into the opening of the water-softening system and the water drain hose
2. Push the heat exchanger into the retaining element and click the catch element into place.
3. Tighten the cover cap steam vent to the marking.
4. To ensure tightness, continue to tighten the cover cap steam vent by a ¼ revolution (+3 h).



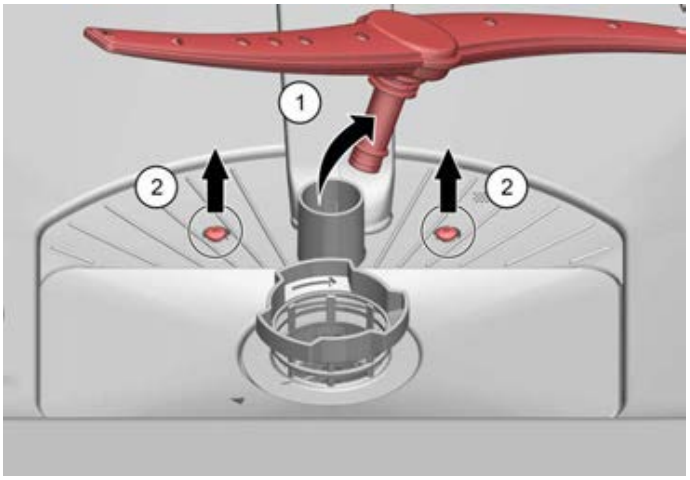

5. Tighten the water inlet supports with the auxiliary tool.
6. Tighten two fastening screws.
7. Connect the inlet hose and secure with hose clamps.
8. Attach the electrical connection of the flow meter and bend back the cover.

9. Installing the outlet valve (optional).

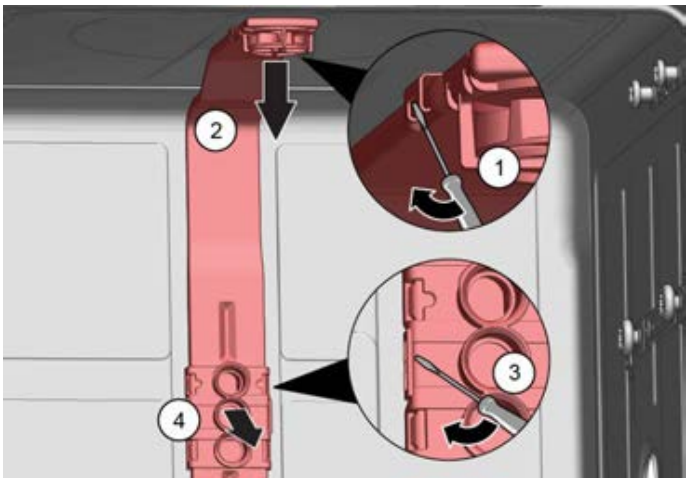
## 6.50 Replacing the feed pipe

### 6.50.1 Removing the feed pipe

1. Pull the spray arm up with a slight jerk (1). Remove the screws (2).




2. Disengage the catch element on the back wall (3) and sprinkler disc (1) with the help of a screwdriver.




3. Remove the feed pipe (2, 4).

.

| | |
|---|---|
| | Depending on the appliance model, there are appliances with and without a sprinkler disc. |

### 6.50.2 Installing the feed pipe

► Install the feed pipe in reverse order.

## 6.51 Replacing the dispenser

Prerequisite:
- Appliance is disconnected from the power supply.
- furniture panel has been removed (optional).
- Outer door has been removed.
- Fascia panel has been removed.

**CAUTION**

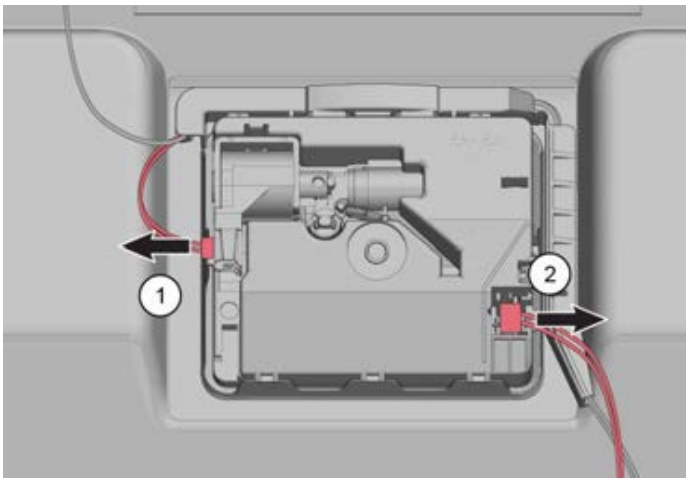
**Sharp edges!**

Cut injuries.

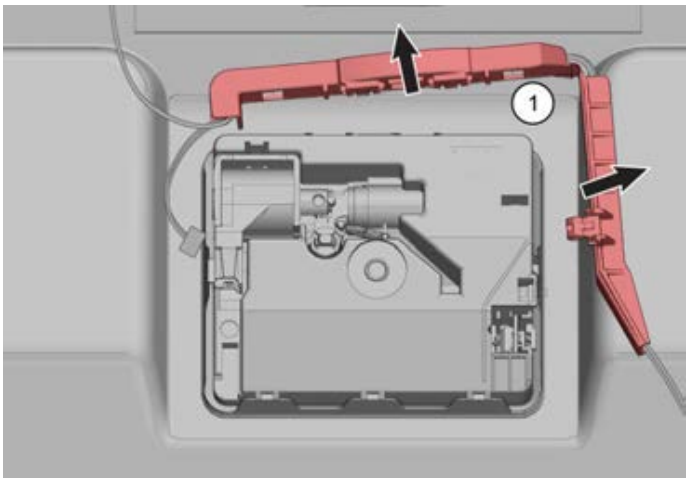
► Wear protective gloves.

### 6.51.1 Removing the dispenser

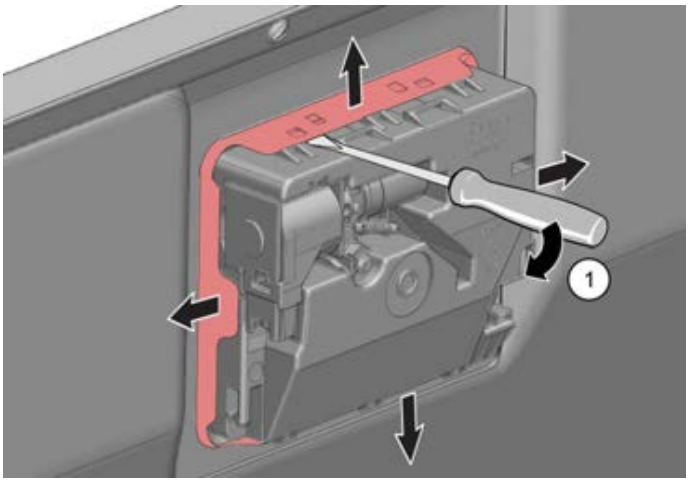
1. Release the electrical connection and unplug it (1). Pull out the plug of the low rinse aid sensor (2).



2. Disengage the cable duct on the right and at the top of the dispenser and fold it down (1).




3. Bend the metal plates of the inner door carefully outwards (1). Disengage the dispenser.



4.

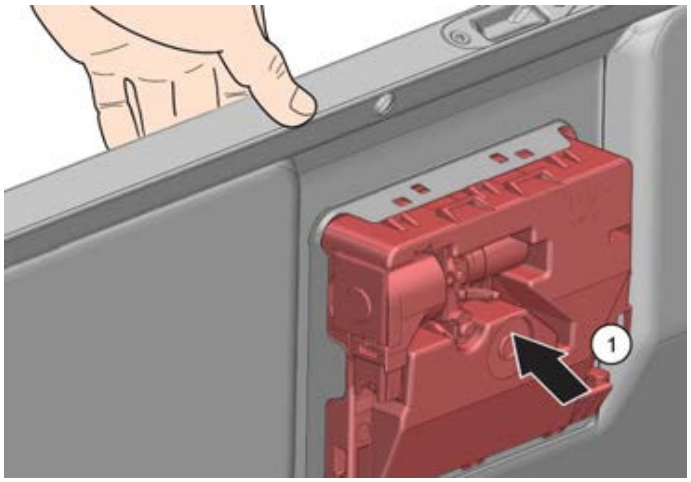
**CAUTION**

**Sharp edges on the retaining tabs!**

Cut injuries.

► Wear protective gloves.

Secure the dispenser on the inside against falling and press it out of the recess.




5. Remove the dispenser.

### 6.51.2 Installing the dispenser

1. Bend back the retaining bracket of the inside door into its initial position.
2. Press the dispenser evenly into the recess until all 8 retaining brackets have clicked into place.
3. Fold up the cable duct and click it into place on the dispenser.
4. Connect the electrical connections.