1 INTRODUCTION

1.1 Purpose of the document

The repair instructions:

- guide the **service technician** in troubleshooting and repairing domestic appliances
- assist the **technical storeman** in deciding which spare parts are probably required for the repair
- inform **trainers** and **technical personnel** about design, function, troubleshooting and repairs
- as supporting documentation support the training of the technical personnel

Apart from the repair instructions the service technician uses the following documents:

- Parts list
- Exploded drawing
- Circuit diagrams

The described troubleshooting and repair may be carried out a service technician only.

These repair instructions are assigned to specific appliances and are valid for those appliances only.

1.2 General symbols

Symbol	Meaning
	Special information

1.3 Safety-relevant symbols

Symbol	Meaning
	General warning information
	Danger of electric shock
	Risk of being cut
	Risk of crushing
	Hot surfaces
	Risk of explosion
	Strong magnetic field
	Non-ionising radiation

2 SAFETY

2.1 Qualifications of service technicians

The described activities may be carried out only by electrical engineers and electrical engineers for specific activities if they have been trained by BSH or an authorised establishment.

2.2 Identification of danger levels

Identification	Meaning
DANGER	Imminent danger which may result in death or serious injury if it is not avoided.
WARNING	Potentially imminent danger which may result in death or serious injury if it is not avoided.
CAUTION	Potentially imminent danger which may result in minor injury or damage to property if it is not avoided.

2.3 Identification of damage to property

Identification	Meaning
NOTE	Warning of potential damage to property

2.4 General safety instructions

- ► Read repair manual and follow the instructions included in it.
- ► Proceed systematically and follow the instructions for troubleshooting and repairs.
- ► When repairs are complete, check the effectiveness of the protective measures in accordance with VDE 0701 or the corresponding country-specific regulations and perform a function test.
  If the test is not passed, clearly identify the appliance as not safe and inform the operator in writing.
  The test for the effectiveness of the protective measures must be documented in a suitable manner. It is recommended to write down the measured values.
- ► Use only conductors which comply with the currently valid health and safety regulations at work.

DANGER

Exposed live parts

Danger to life caused by electric shock!

- ► Disconnect the appliance from the power supply.
- ► Do not touch housing, frame or components.
- ► Use residual-current-operated circuit-breaker if tests have to be conducted while the appliance is live.
- ► Ensure that the resistance of the protective conductor does not exceed the standardised values.

WARNING

Exposed conductive parts may be live if a fault has occurred.

Danger to life caused by electric shock!

- ► Disconnect the appliance from the power supply.
- ► Do not touch housing, frame or components.
- ► Use residual-current-operated circuit-breaker if tests have to be conducted while the appliance is live.
- ► Ensure that the resistance of the protetive conductor does not exceed the standardised values.

CAUTION

Risk of being cut on sharp edges.

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

CAUTION

Charged capacitors

Risk of injury from electric shock and startle response.

- ► Discharge capacitors before working on the appliance.

CAUTION

Components which come into contact with electro-static voltage will be damaged beyond repair

- ► Before carrying out any work, apply protective system to components susceptible to electrical discharge.
- ► Observe measures to protect the components suscep-tible to electrical discharge.

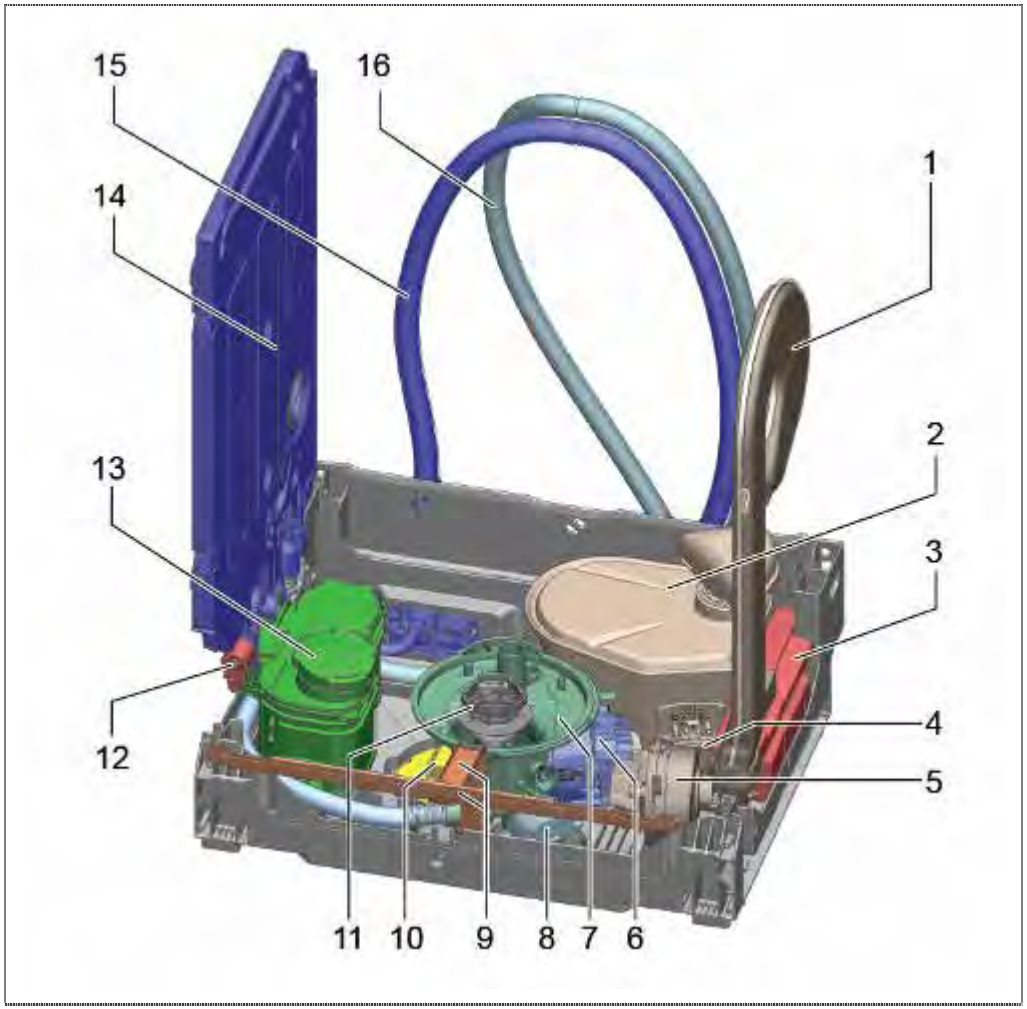
NOTE

Components which are replaced haphazardly will be damaged beyond repair

- ► Before replacing components, perform troubleshooting.
- ► Check systematically.
- ► Observe Technical Documentation.
- ► Do not replace components without reason.

3 CONSTRUCTION AND FUNCTION

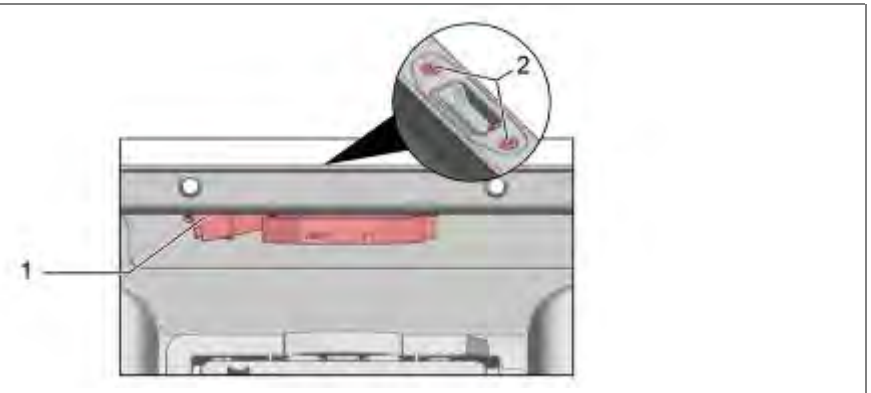
3.1 Overall view of the appliance with all components



1	Suction channel	11	Filtersystem
2	Zeolith container	12	
3	Power module	13	Floater with security switch
4	Air channel fan -> Zeolit container	14	Outlet valve hat exchaner
5	Fan	15	Water softener
6	Heat pump	16	Counter weight (optionally) / Distance part
7	Pump sump	17	Heat exchanger
8	HomeConnect module (optionally)	18	Inlet hose
9	Drain pump	19	Outlet hose
10	Overflow conduit / gutter		

3.2 Door sensor

3.2.1 Position of the door sensor



1	Door sensor (Hall element)	2	Screw connection for door sensor

The door sensor is situated in the centre at the top of the inner door.

A permanent magnet is inserted in the door lock

3.2.2 Function of the door sensor

Hall sensors (also known as Hall probes, after Edwin Hall) use the Hall effect to measure magnetic fields.

When the door is closed, the permanent magnet is positioned exactly over the Hall sensor.

When the door is opened or closed, the strength of the magnetic field changes on the Hall sensor.

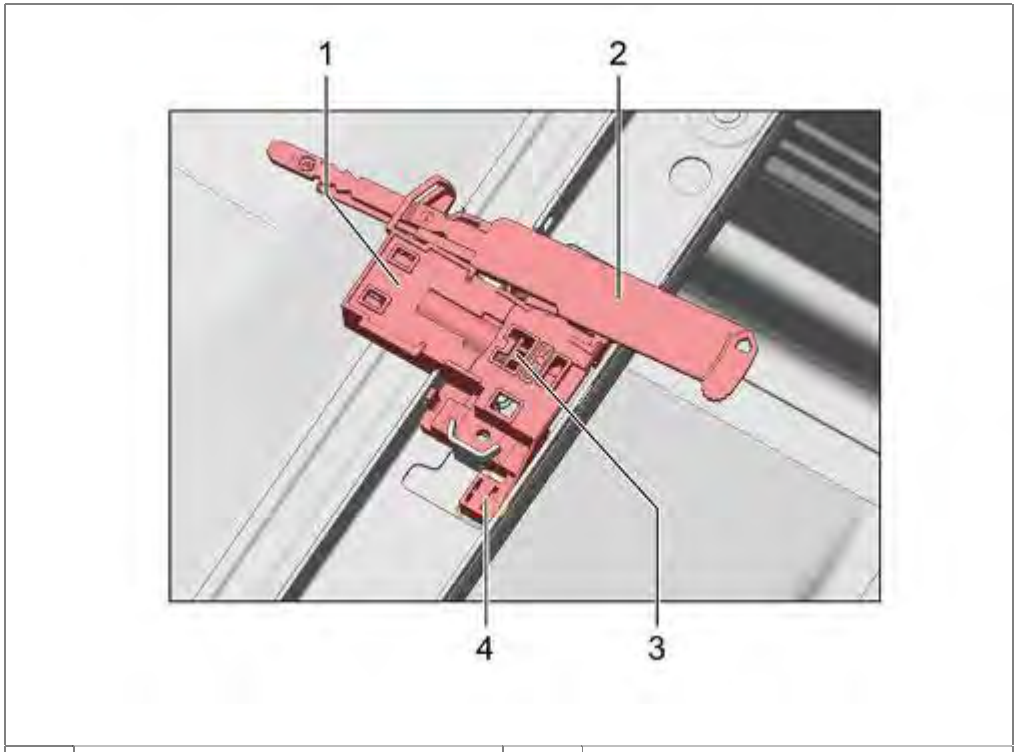
The Hall sensor modifies its power input. The electronics detect whether the door is open or closed.

If the power input is outside a defined range, this is detected by the electronics as a fault.

The Hall sensor responds to the direction of the magnetic field. An incorrectly fitted permanent magnet or incorrectly polarised signal lines may result in wrong information being sent to the electronics.

3.3 Door lock/Childproof lock

3.3.1 Overall view of the mechanical door lock



1	Door lock	3	Mechanical snap lock
2	Mechanical childproof lock (optional)	4	Permanent magnet

The door lock is mechanical. A snap lock in the container frame engages in a recess in the door frame.

3.3.2 Function of the mechanical childproof lock (optional)

The mechanical childproof lock prevents the door from opening.

Activation:

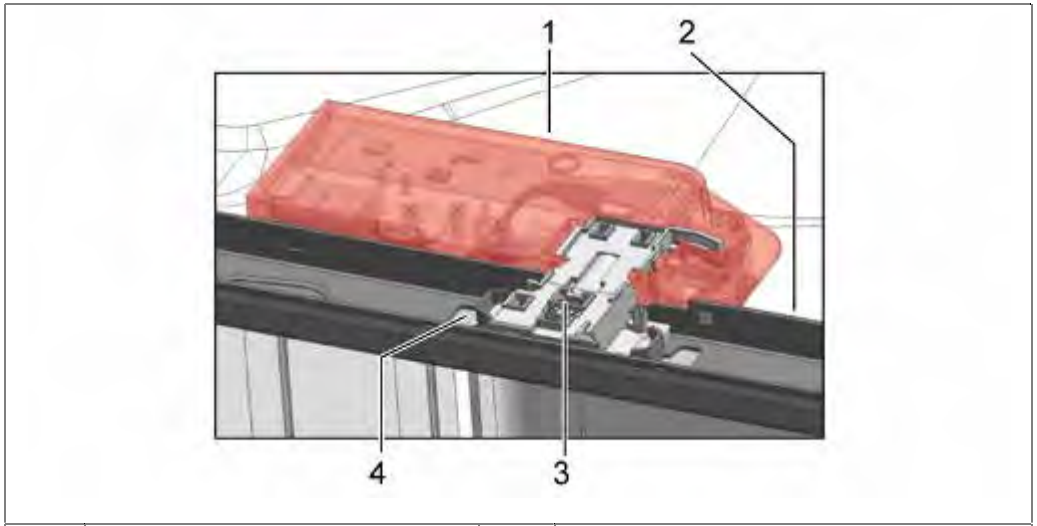
Pull lever outwards and push to the right.

Deactivation:

Push lever all the way in.

3.4 Door opening module

3.4.1 General view of the door lock with door opening module



1	Door opening module	3	Door lock
2	Tubframe	4	Permanentmagnet

3.4.2 Function

There are door opening modules available with different controls and functions:

- Door opening module to open the door in handleless kitchens.
  Door opens when you tap on approximately 10 cm
  Simple modules do not have parental controls. Bus-modules have Parental Control (double-tapping required)
- Door opening module to improve the dryness result in eco 50 program (eco dry)
  The door opens automatically in eco program at the end of the program.

There are versions with a permanent power supply (doors open at handleless kitchens), bus connection and sequential DC control possible.

A combination of eco dry and door opening (handleless kitchen) is possible.

For devices with energy recovery (zeolite auxiliary heater), the eco dry function is not used. In these models, only the door opening function for handleless kitchens is used.

3.4.3 Function of door lock with door opening module

The door lock is done mechanically. A snap-in-locker in the tub frame snaps into a recess in the door frame.

A short press, centered on top of the door, is detected by the electronics in the door opening module

The door is opened mechanically to about 10 cm.
This angle can be adjusted using the lever of the spring system.

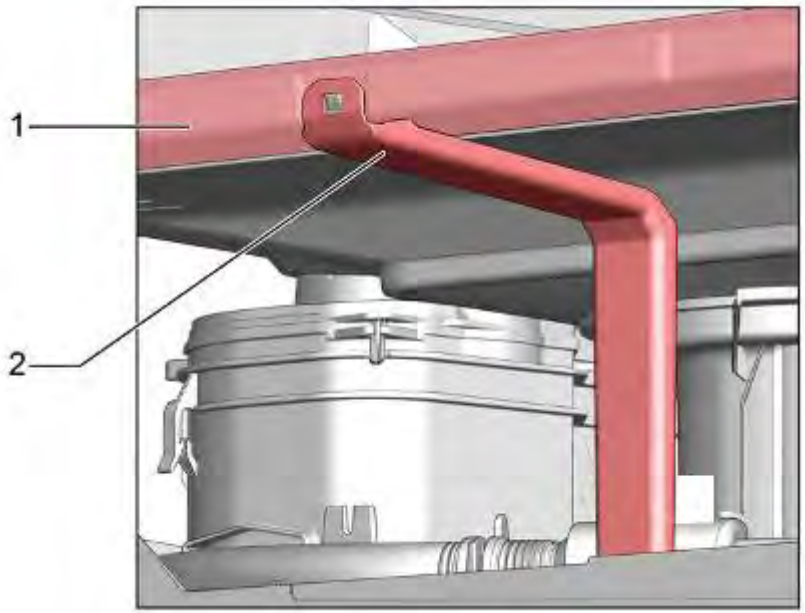
- The sensor is programmed fix. There are no changing of the settings in the electronic possible.
- If an error occurs no error codes are generated.
- The mechanical Parental Control can not be mounted .

3.5 Safety system

3.5.1 Components in the safety system

- AquaStop / water inlet valve
- Overflow channel and drainage duct
- Safety switch – base pan
- Intelligent electronics

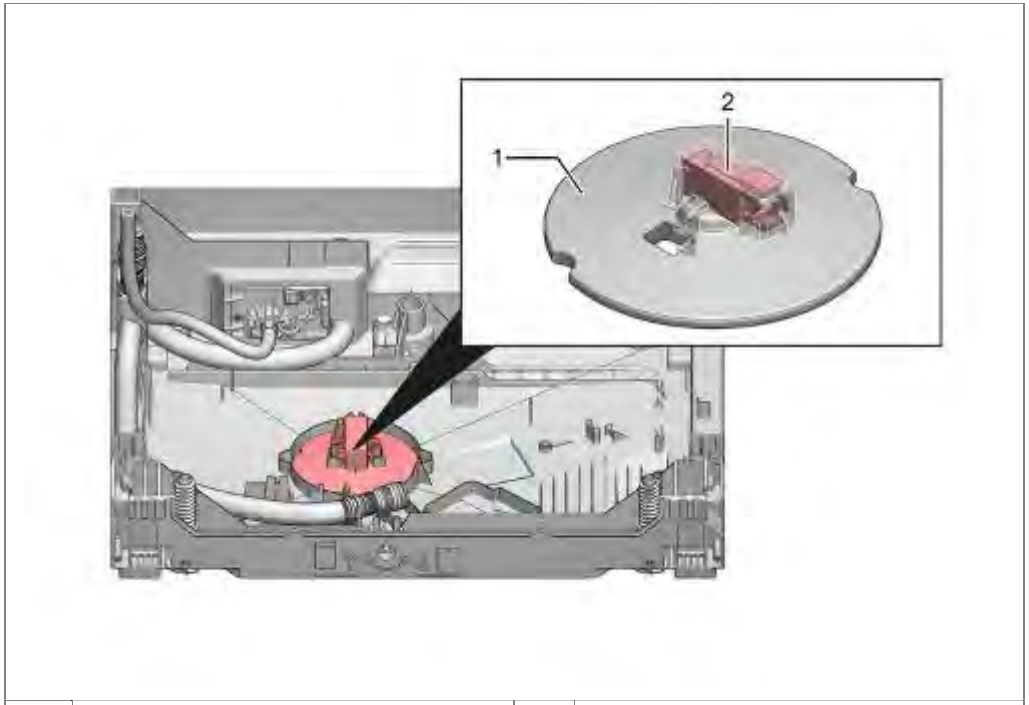
3.5.2 Overflow channel and drainage duct



1	Overflow channel	2	Drainage duct

Leakage water is conveyed out of the container via the overflow channel, through the drainage duct and into the base pan.

3.5.3 Safety switch – base pan



1	Safety switch	2	Polystyrene float

The safety switch is mechanically connected to the polystyrene float.

3.5.4 Function

The safety system is based on an “active” system.

The electronics continuously monitor the safety switch in the base pan. Even if the appliance is switched off.

If water runs into the base pan, the safety switch is actuated.

The appliance switches on.

The electronics detect that the appliance was switched on via the safety system and immediately activates pump off.

The AquaStop- / water inlet- valve is deactivated.

Error code E:15 or a flashing tap LED indicates the error to the customer.

The appliance can no longer be operated until

- ► The cause has been rectified and there is no longer any water in the base pan.
- ► The appliance has been isolated from the power supply.

Auxiliary function with devices with AquaStop:

If leakage water runs into the base pan via the rinsing tank and the overflow channel, a further overflow can be prevented by switching on the drainage pump.

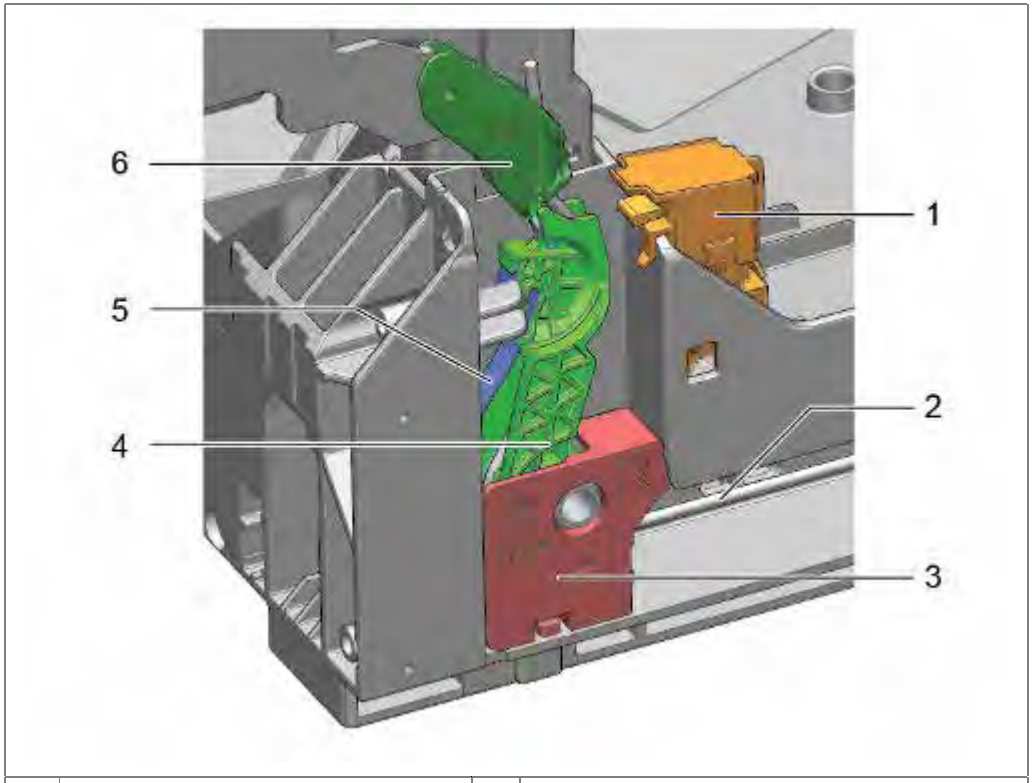
If the supply hose is defective, water runs directly into the base pan via the external hose (leakage water hose). The AquaStop valve is deactivated.

3.6 Safety System – Spring, Electric

The spring safety system is employed in machines with the Eco drying program.

Beginning with FD 9510, the spring safety system will be included in machines with the Eco drying program.

3.6.1 Components of the electric Safety System



1	Micro switch with housing	4	Lever/glider
2	Cord	5	Leaf spring
3	Protective cover	6	Cord connector

3.6.2 Function of the electrical Safety System

The Eco drying function automatically opens the door at the end of the program, allowing steam to exit.

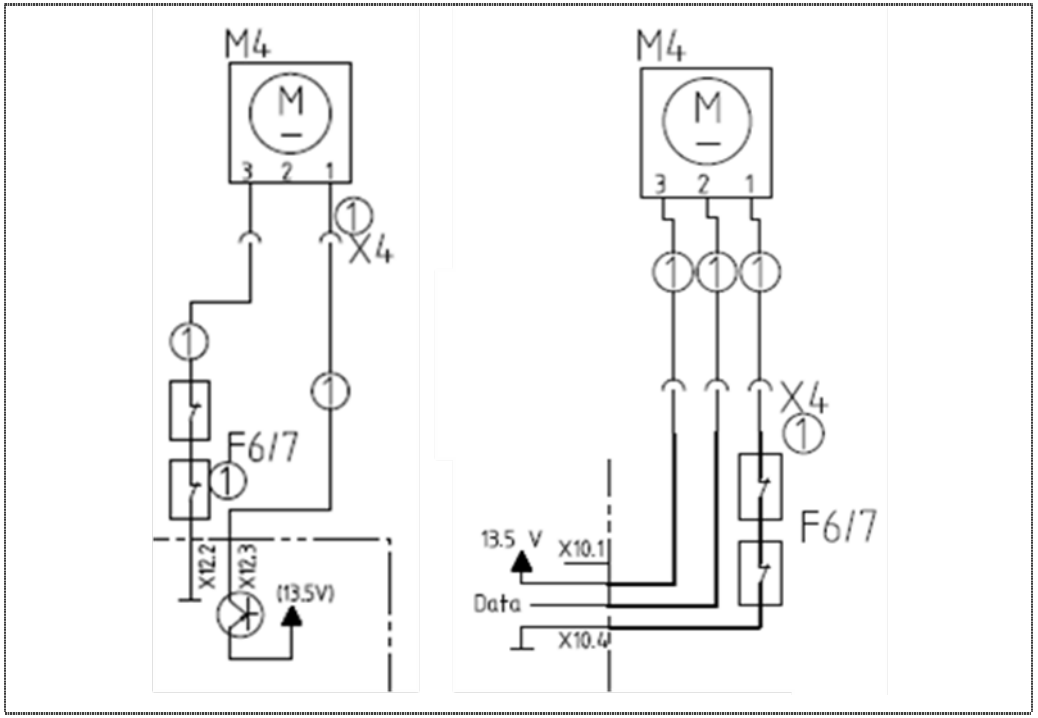
If a/both cord or spring is broken, the door of the machine will no longer be properly controlled by the system. Therefore, if the door is opened, it can fall uncontrolled.

CAUTION	If the door falls uncontrolled, the result could be personal or property damage.

The spring safety system should avoid any injury is a person or pet is in front of the door, when the door is opened automatically.

If the door is manually opened by the user, the system has no effect.

3.6.3 Electrical operation



The door will be opened automatically by the door opening module, when the Eco 50° Program is used.

As written in the chapter “Door Opening Module”, there are different variations of the door opening module in use.

1. Diagram on left: The module is powered by a DC voltage.
2. Diagram on right: The module is controlled by the Dbus² system.

Both systems require a system voltage as well as a ground. The system is protected by the micro switches of the security system in the base.

In the resting position, the contact of the micro switch is closed and the door opening module is connected to the ground. If there is a failure in the spring system, the leaf spring will push the glider back to the micro switch and engage it. This engagement opens the micro switch and breaks the contact to ground. The circuit is interrupted and the door opening module cannot open the door.

3.7 Aquastop valve

3.7.1 Design

The Aquastop valve is an electromechanical safety valve. The coarse and fine filters are located on the screw connection for the tap. Under the filters is the flow limiter. It limits the water flow to 2.5 litres.

The Aquastop valve is enclosed by a housing. A leakage water hose (external hose –> jacket around the supply hose) runs from the housing into the base pan.

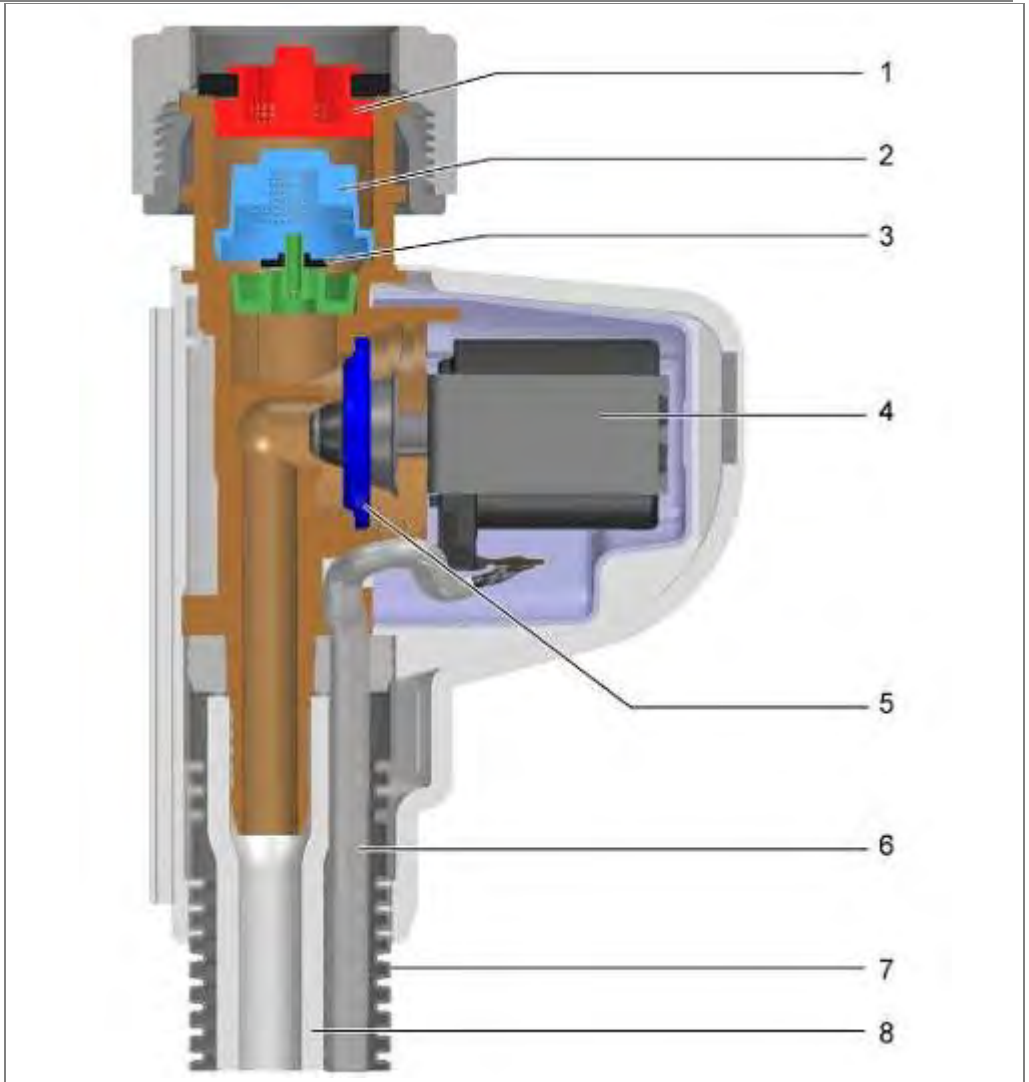
The leakage water hose contains the water supply hose and the electric control cable for the solenoid valve.

3.7.2 Function

In the idle state the coil is de-energised and the seal interrupts the water flow by the effect of the spring which presses on the armature. If the Aquastop valve is connected to the water mains, the water pressure also acts from behind on the seal and supports the sealing.

If leaks occur in the area of the valve or supply hose, these are conveyed into the base pan via the leakage water hose.

A polystyrene float activates the electronic safety system via a micro-switch. The coil of the AquaStop valve is deactivated by the electronics and interrupts the flow of water into the appliance.



1	Coarse filter	5	Seal
2	Fine filter	6	Control cable
3	Flow limiter	7	Leakage water hose
4	Coil	8	Pressure hose – water supply

3.8 Bithermal connection

3.8.1 Design

Bithermal connection refers to appliances which can connect cold and hot water simultaneously.

These appliances feature 2 intakes: A red AquaStop valve for the hot water connection and a blue AquaStop valve for the cold water connection.

In the appliance the feed water is merged via a passive, F-shaped connecting piece.

3.8.2 Function

The advantage of the bithermal connection applies only to domestic installations which obtain hot water by means of regenerative energies. Both connections can remain connected. When there is a switchover from summer to winter mode, only the programme selection button switches between the hot water and cold water connection.

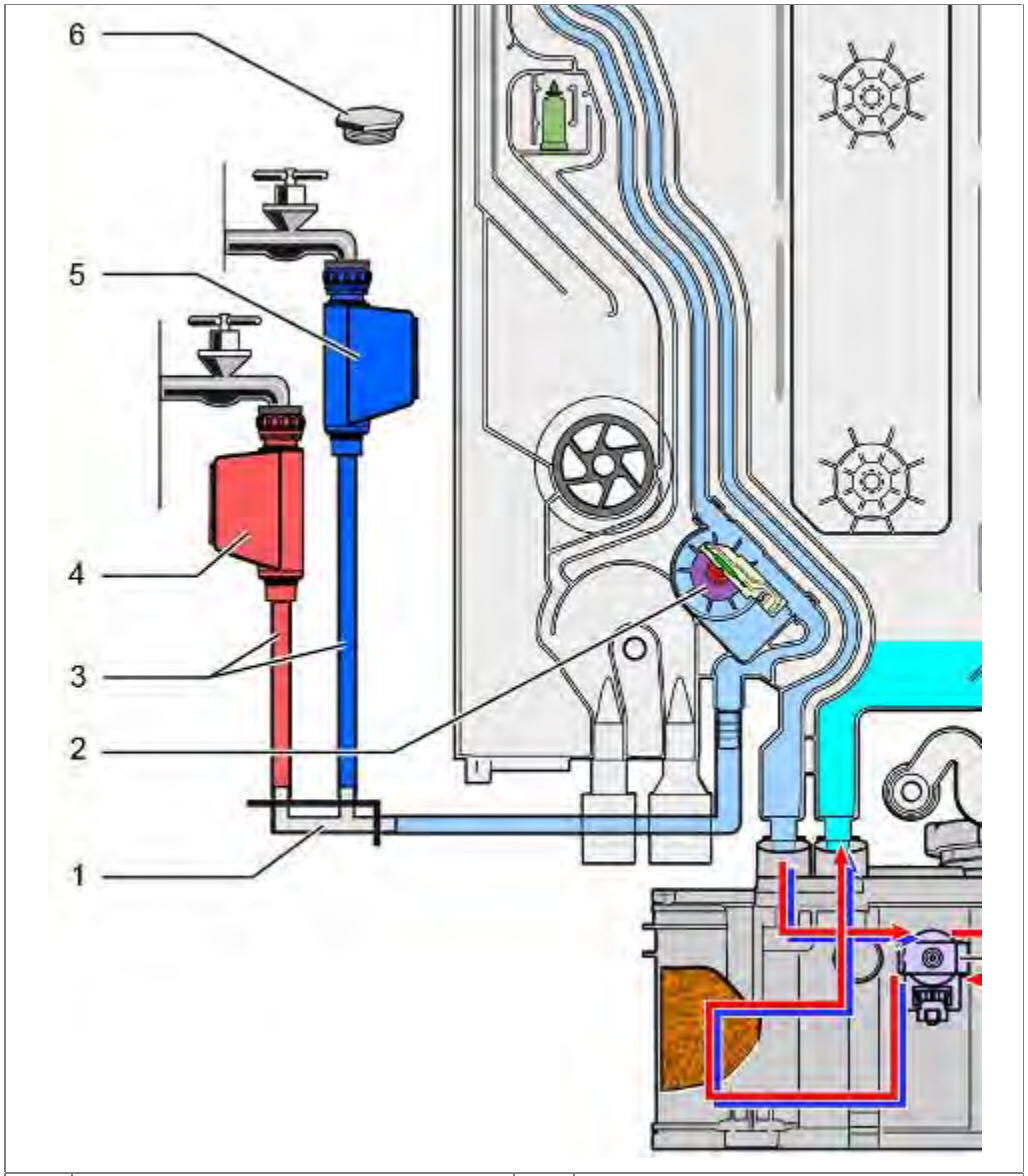
Press the “hot water” button  to switch the water inlet from the blue inlet to the red inlet. All wash programmes work with hot water except “Auto 35–45” and “Gentle 40”. These two programmes mix water: approx. 1 l of cold water and approx. 2 l of hot water.

Only cold water is used to regenerate the water softening system.

If the appliance is operated with cold water only, the heat exchanger is filled as normal. If the hot water function is activated, the heat exchanger is not filled.

The water temperature of the hot water connection must not exceed 60 °C.

Both Aquastop valves are electrically identical.



1	Connecting piece	5	AquaStop valve for cold water
2	Flow sensor	6	Sealing plug
3	Supply hoses		
4	AquaStop valve for hot water		

3.8.3 Connection

The system requires that the cold water connection is always connected. The hot water connection can also be connected.

3.8.4 Sealing plug

When the appliance is delivered, the AquaStop valve for the hot water connection is sealed with a sealing plug.

If the appliance is supplied via the cold water connection only, water may escape via the red valve if it is not connected or sealed.

In the AquaStop valve the sealing action is supported by the water pressure of the water mains. If one of the two valves is not connected, water pressure in the opposite direction acts on the “free” valve via the connecting piece. If the spring force of the coil is overcome as a result, water can escape.

CAUTION

Water leakage!

No sealing plug

► If the appliance is operated on one water connection only, the “free” Aquastop valve must be sealed with the sealing plug.

3.9 Water inlet

When the programme starts, the electronic control opens the Aquastop/water inlet valve (filling valve) for a short time. It is expected that water runs in. Electronics evaluates the impulses of the rotating flow sensor. Are these missing, an error code is indicated, the water tap LED flash and the program does not start.

If impulses are received, the program starts. The drain valve is activated and the content of the heat exchanger is discharged into the container.

By launching the circulation pump a smooth running filling starts. Is recognized that too little water is in the equipment, the AquaStop- / water inlet valve is opened.

Water flows into the heat exchanger via the supply hose. The flow sensor and the free flow line are located in the water channel of the heat exchanger for the water supply.

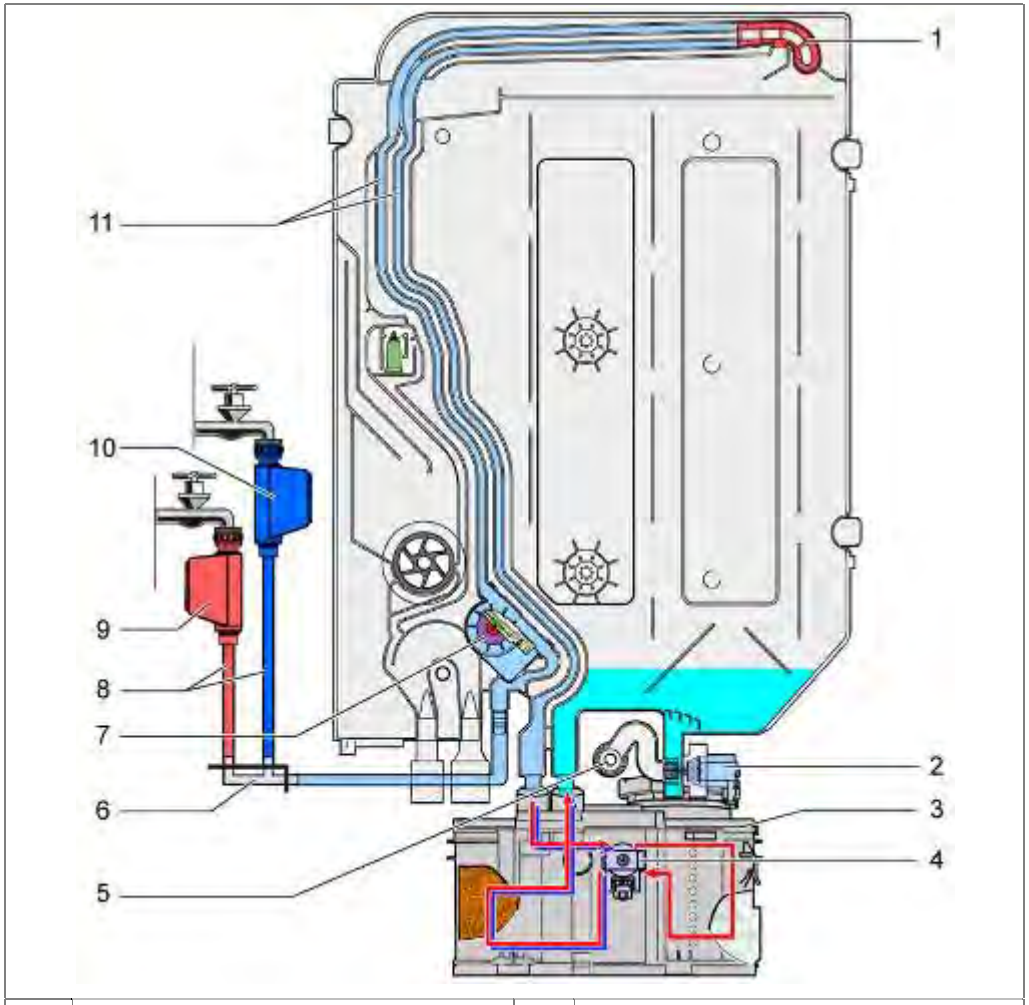
The water flows either into the granulate container (soften) or into the salt container (regenerate) via the regeneration valve in the water softening system.

The outlet opening of the water softening system conveys the water back to the heat exchanger.

3.9.1 Bithermal connection (optional)

Appliances with bithermal water connection have 2 supply hoses with AquaStop valve.

The colour of the AquaStop valve identifies the difference between cold and hot water connections. The electronics control both valves separately. The appliance is supplied with either cold water or hot water.



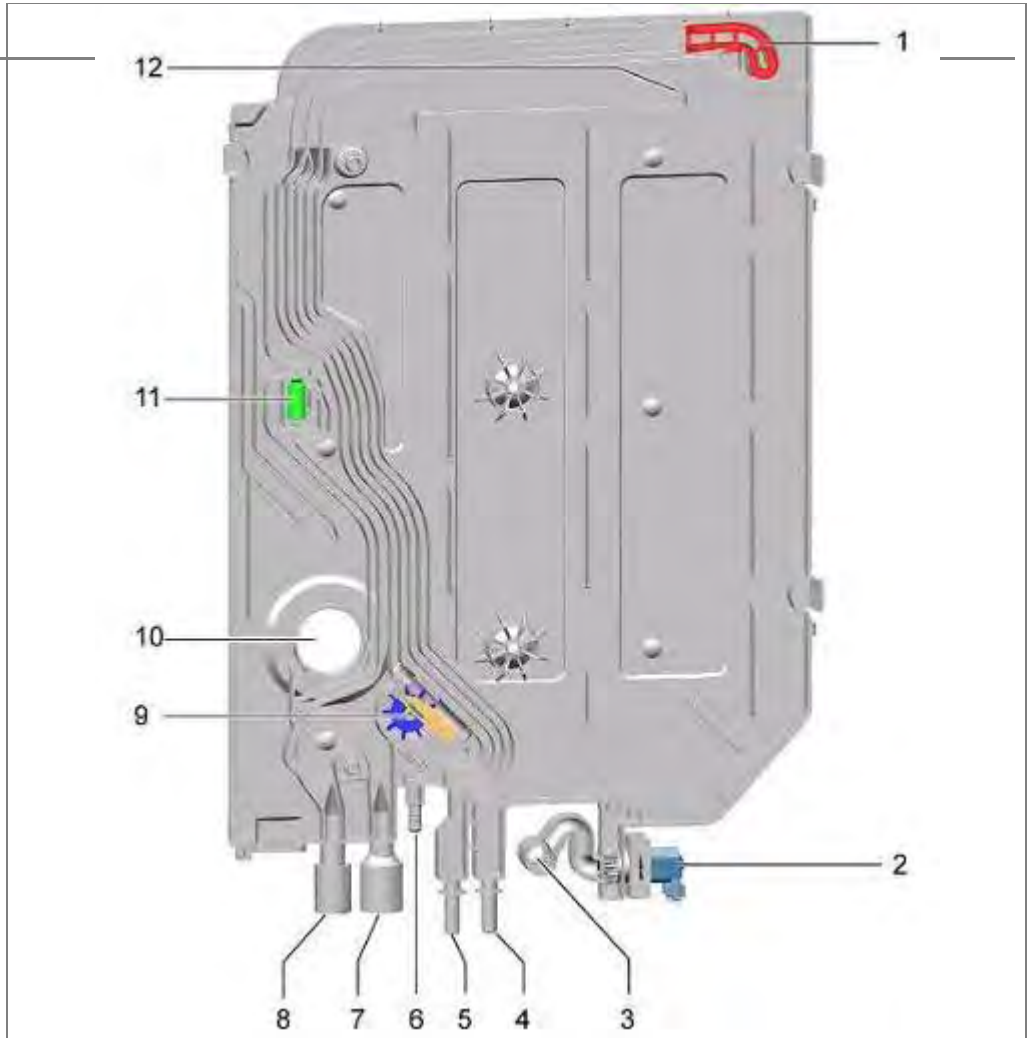
1	Free flow line	7	Impeller wheel with flow sensor
2	Heat exchanger drainage valve	8	Supply hoses
3	Water softening system	9	AquaStop valve for hot water
4	Regeneration valve	10	AquaStop valve for cold water, optionally water inlet valve
5	Outlet opening	11	Heat exchanger water channel
6	Mixing piece		

3.9.2 Appliances with liquor reservoir (optional)

If the appliance has an optional liquor reservoir, the heat exchanger at the end of the final rinse is filled only to $^{2}/_{3}$ (2.1 l). This results in an amount of water of approx. 4.2 l in the appliance.

3.10 Heat exchanger

The heat exchanger is used as the water inlet, water outlet and for storing the water which exchanges the heat
The diagram shows the components and connections of the heat exchanger.



1	Free flow line	7	Inlet from detergent-solution pump
2	Heat exchanger drainage valve	8	Water drainage (to the siphon)
3	Water drainage to the rinsing tank	9	Flow sensor
4	Inlet from water softening system	10	Expansion opening
5	Water outlet to the water softening system	11	Drainage hose ventilation valve
6	Water supply	12	Barrier

.

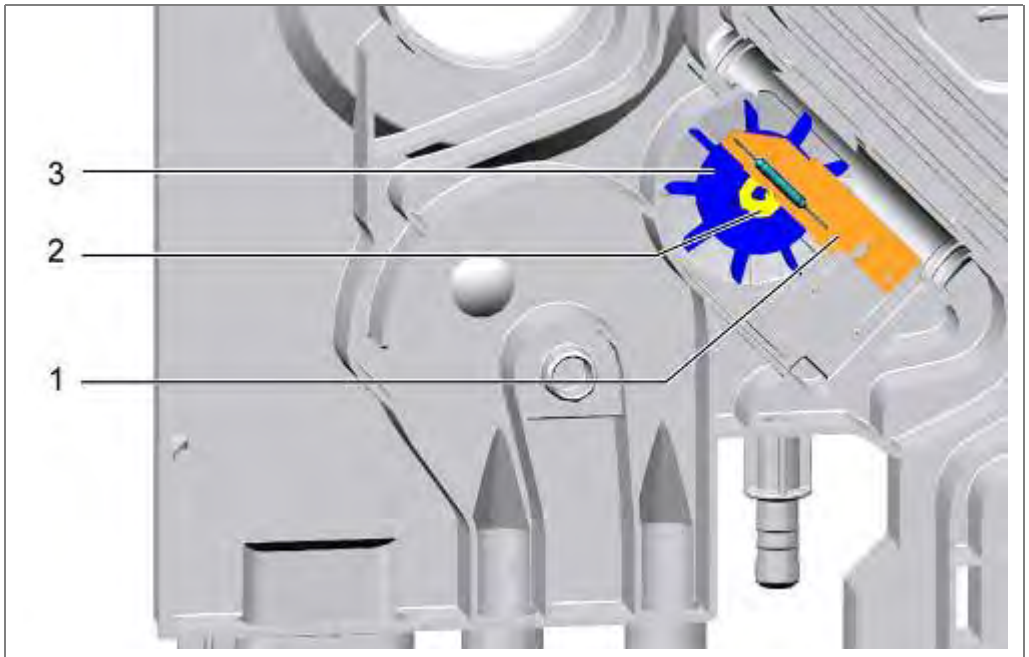
3.11 Flow sensor

3.11.1 Function

The flow sensor is attached in the water channel of the heat exchanger (impeller wheel counter). The impeller wheel rotates as water flows through the channel.

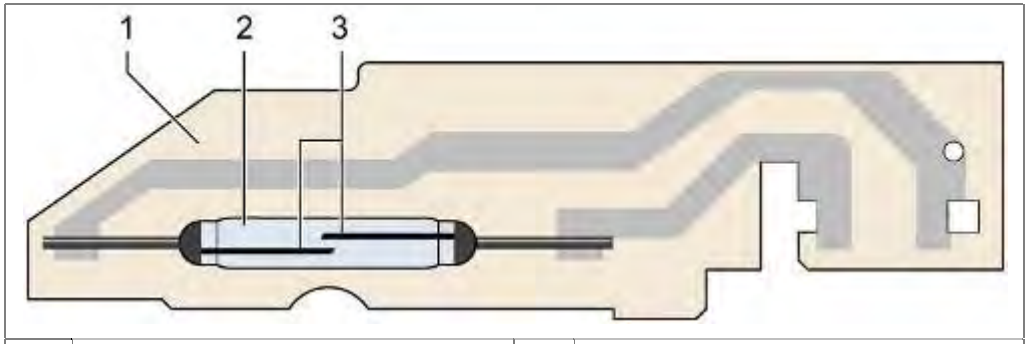
A small permanent magnet attached to the impeller wheel switches both contacts of a magnetic switch (Reed switch). As a result, electrical pulses are generated.

These pulses are counted by the electronics. The electronics use these pulses to calculate the amount of water which flows into the appliance.



1	PCB with Reed contact switch	3	Impeller wheel
2	Permanent magnet		

3.11.2 Design of mechanical reed contact



1	PCB with reed contact switch	3	Contact tongues
2	Glass flask		

Reed contact switches switch or interrupt circuits. They are contact tongues fused in a glass flask in a vacuum or an inert gas and which simultaneously form the contact spring and the armature.

The name derives from the reed of woodwind instruments as it resembles the oscillating contact tongues. The contact tongues are manufactured from a ferromagnetic material (e.g. soft iron) coated with a noble metal. The contacts are actuated by an externally acting magnetic field which is generated electrically by an approaching permanent magnet or in an appropriate magnetic coil. The magnetic field activates the two contact tongues which then close the circuit. As soon as the magnetic field declines or a certain force drops below a minimum value, the spring effect opens the contact again.

Reed contact switches are very sensitive to mechanical effects such as distortion.

3.12 Expansion opening

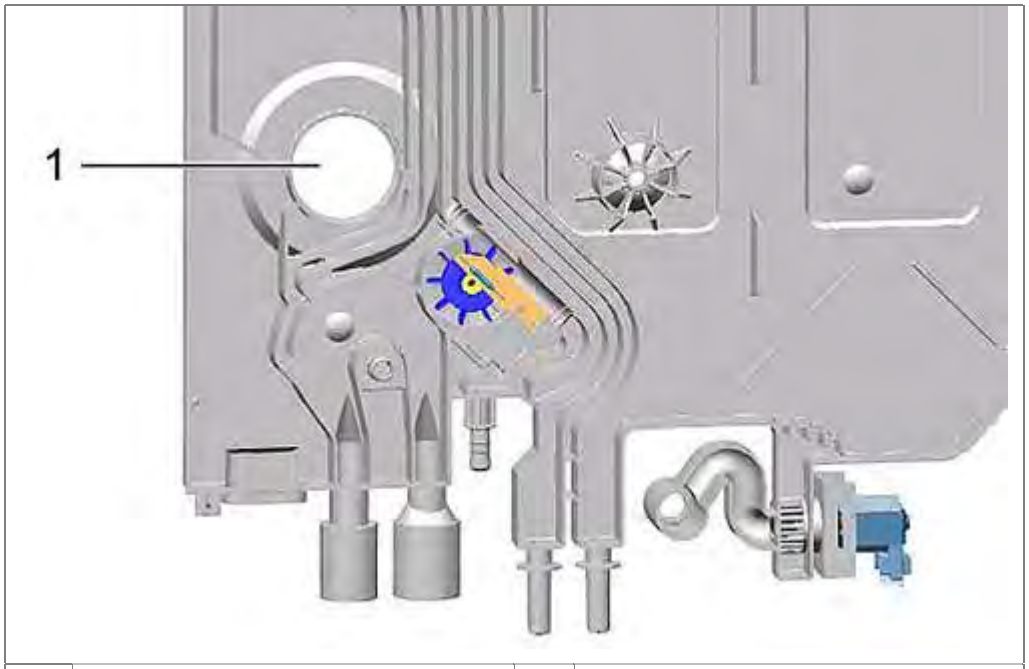
The heat exchanger is connected to the rinsing tank by the expansion opening.

During the heating process the air in the rinsing tank expands. To prevent an overpressure and to ensure that the door is pressed on, air escapes via the expansion opening.

If the door is opened while the washed utensils are warm, cold air flows into the appliance.

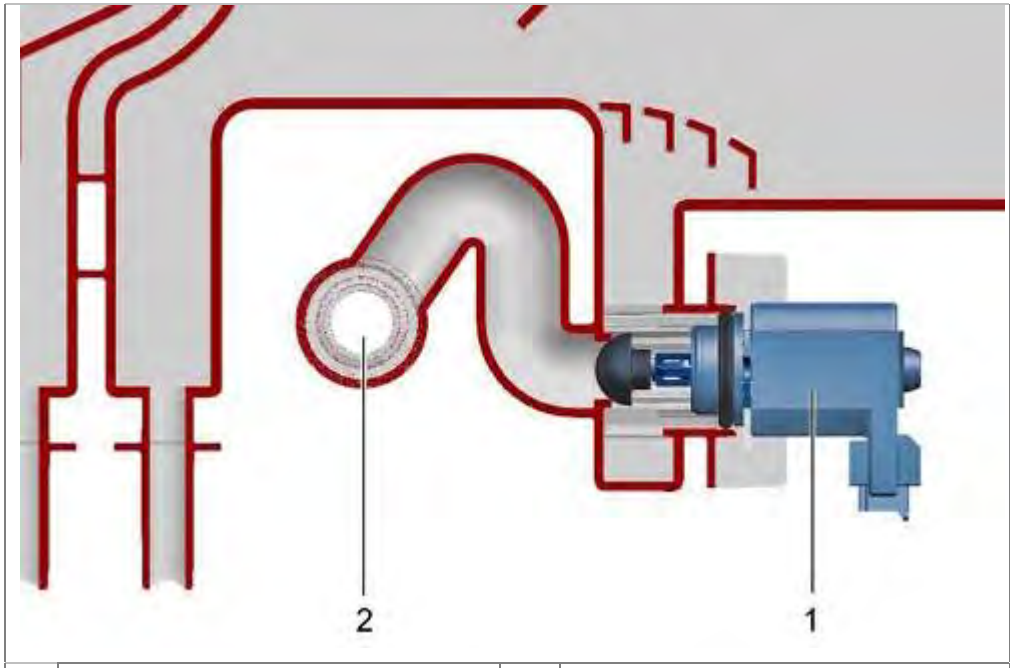
If the door is closed, the air is heated by the warm washed utensils and expands. Overpressure occurs.

This overpressure is released via the expansion opening onto the heat exchanger where it is dissipated via a small air hole.



1	Expansion opening in heat exchanger		

3.13 Heat exchanger drainage valve

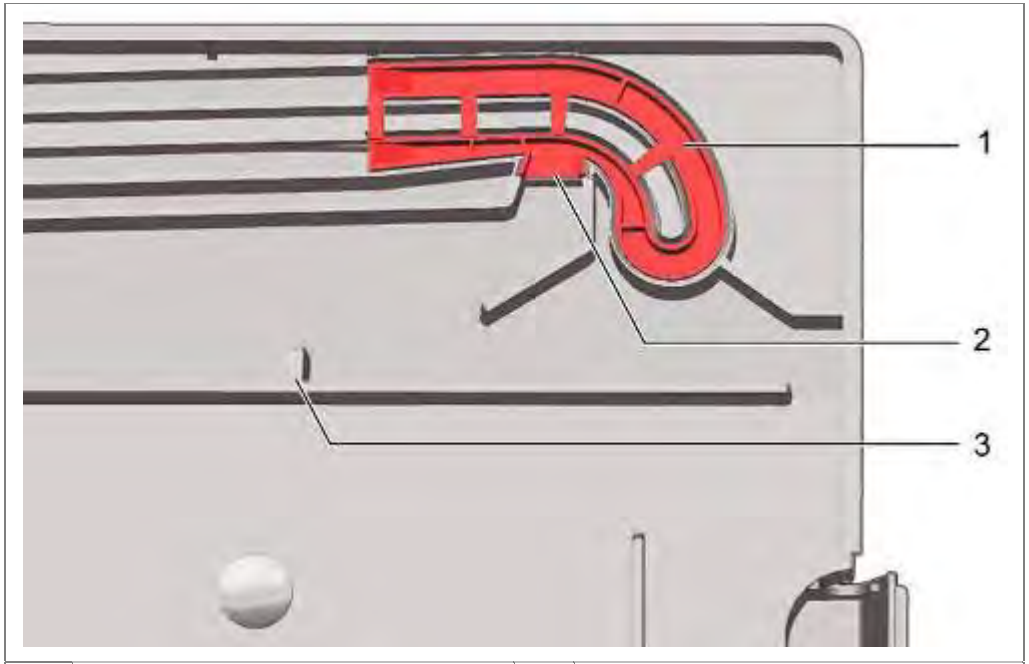


1	Heat exchanger drainage valve	2	Outlet opening

Appliances with active heat exchanger have a drainage valve.

If this valve is actuated by the electronics, the water flows into the rinsing tank of the appliance via the outlet opening.

3.14 Free flow line



1	Free flow line	3	Lug
2	Air equalisation opening		

The free flow line is a water bend with an opening.

The curved shape accelerates the water which flows past the opening.

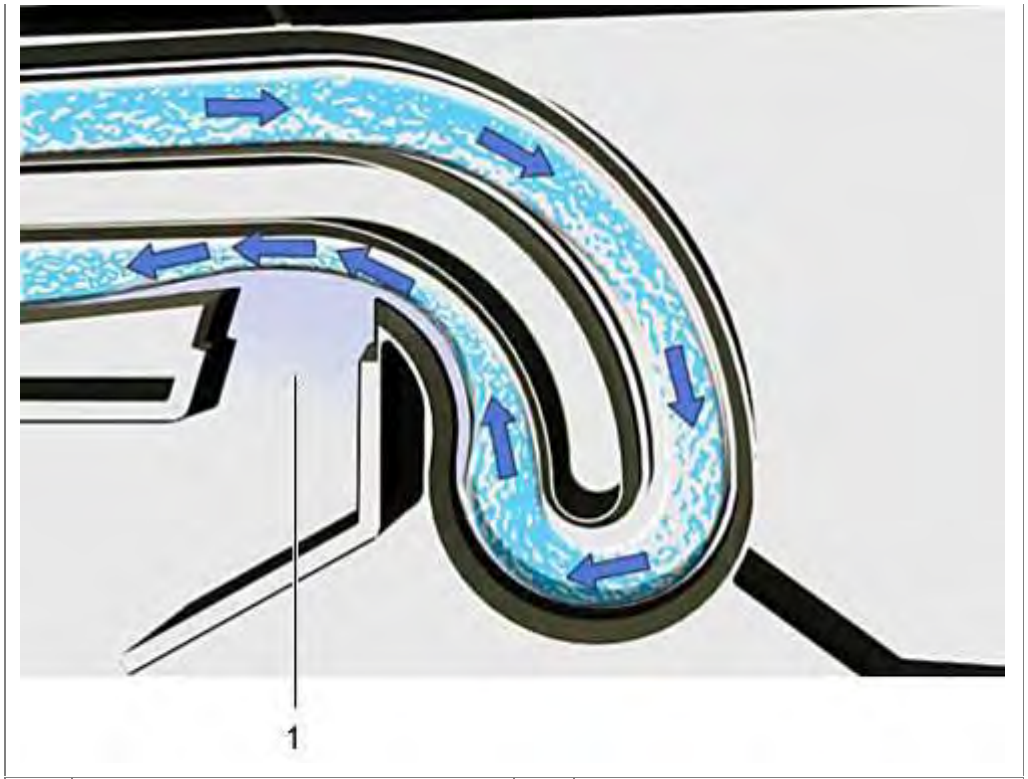
As a result, almost no water can escape through the opening even at a low water pressure. If water nevertheless escapes, it flows into the appliance. In the case of appliances up to FD8903 the water runs into the tank via the expansion opening. With FD8904 a lug was inserted into the heat exchanger. Escaping water flows into the heat exchanger.

This measure is stipulated by the deutsche Vereinigung des Gas- und Wasserfaches (DVGW).

If there is low pressure in the water line, water may flow out of the machine into the water supply system in the worst case scenario.

Only air is drawn in through the opening in the flow line and the return flow of water is prevented.

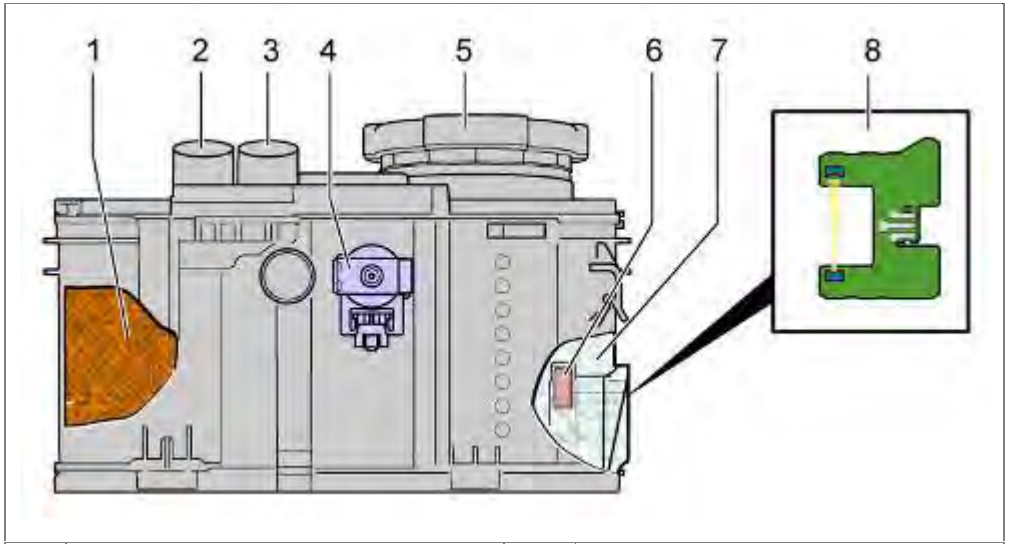
3.14.1 Flow characteristics in the free flow line



1	Air equalisation opening		

3.15 Water softening system

The water softening system (ion exchanger) is a container which is filled with fine-grained synthetic resin granules. This synthetic resin replaces calcium and magnesium ions in the water with sodium ions which are on its surface.



1	Ion exchanger	5	Salt dispenser cover
2	Water inlet	6	Float element (optionally)
3	Water outlet	7	Salt dispenser
4	Regeneration valve	8	Low salt sensor

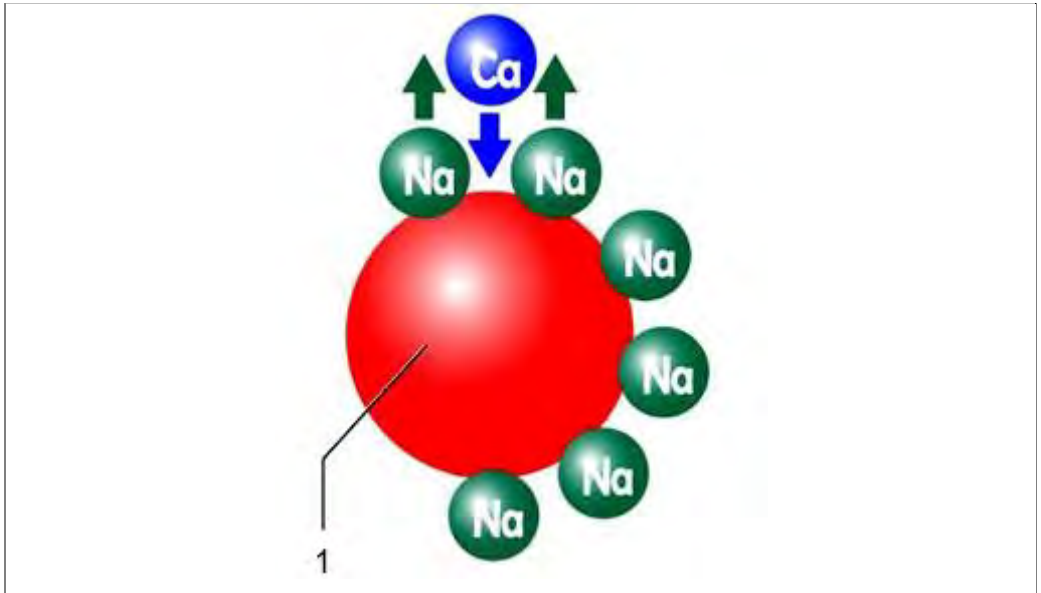
AU-Models

For production reasons, Australien models have a „dummy“ water softener without granules patly. The valve is replaced by a “blind” plug.

Technical specifications:

Capacity: Fine-grained salt Coarse-grained salt	ca. 1.3 ca. 0.9	kg

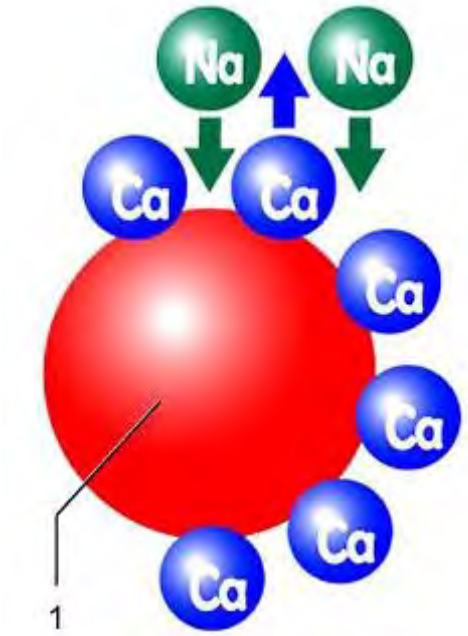
3.15.1 Water softening



1	Synthetic resin		

The untreated water with its hardness constituents is conveyed via the synthetic resin. Calcium and magnesium are bonded to the surface of the exchange compound while sodium ions are released into the water. When all sodium ions have been replaced with ions of the hardness constituents, the capacity of the water softening system is exhausted and must be regenerated.

3.15.2 Regeneration



1	Synthetic resin		

To make the ion exchanger functional again, a concentrated salt solution (sodium chloride) is conveyed from the salt dispenser by the water softener. Due to the large surplus the sodium ions from the salt solution displace the calcium and magnesium ions and attach themselves to the exchange compound. The ion exchanger is now “loaded” (regenerated) again and ready for use.

3.15.3 Regeneration cycle

In dependence of the adjusted water hardness and the recognized quantity of water the regeneration cycle is steered by electronics.

3.16 Regeneration valve

A 2-way valve (regeneration valve) is installed in the water softening system. This valve controls the water flow:

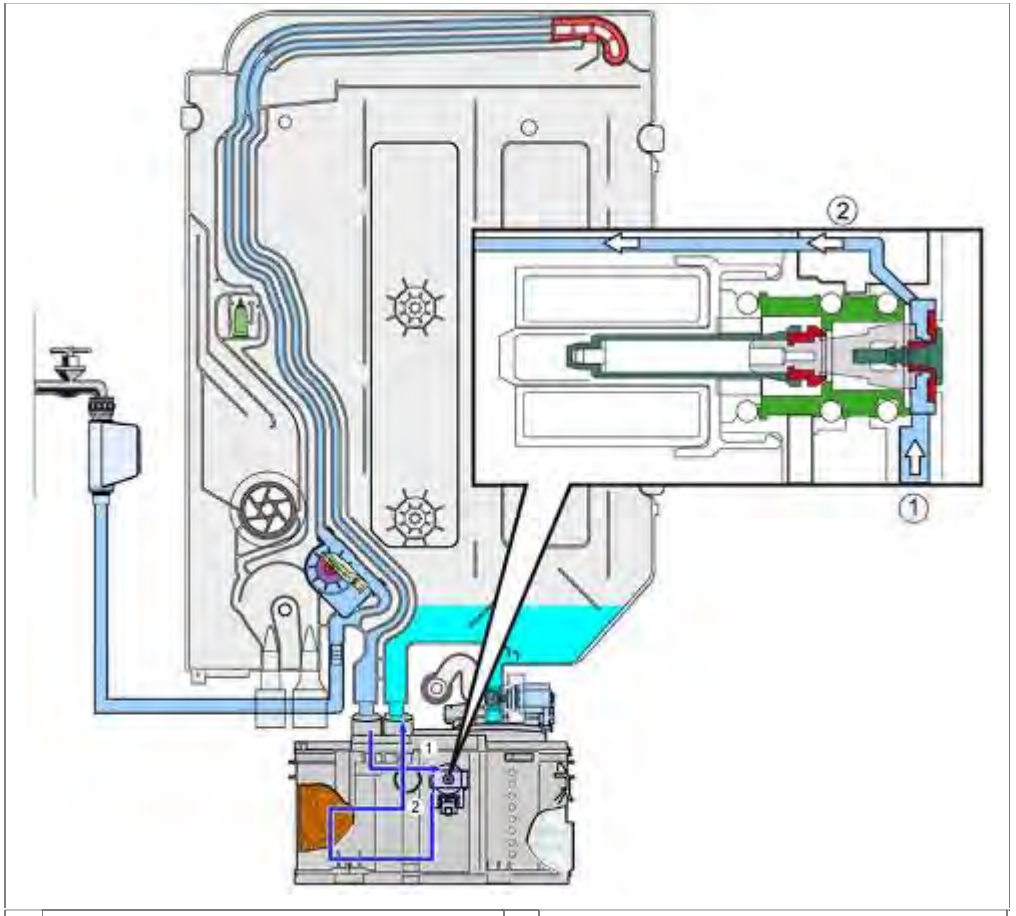
- ► Direct path into the ion exchanger
- ► Regenerate via the salt dispenser

3.16.1 Design

1	Valve with armature	3	Coil
2	Spring		

3.16.2 Water passages in the water softening system

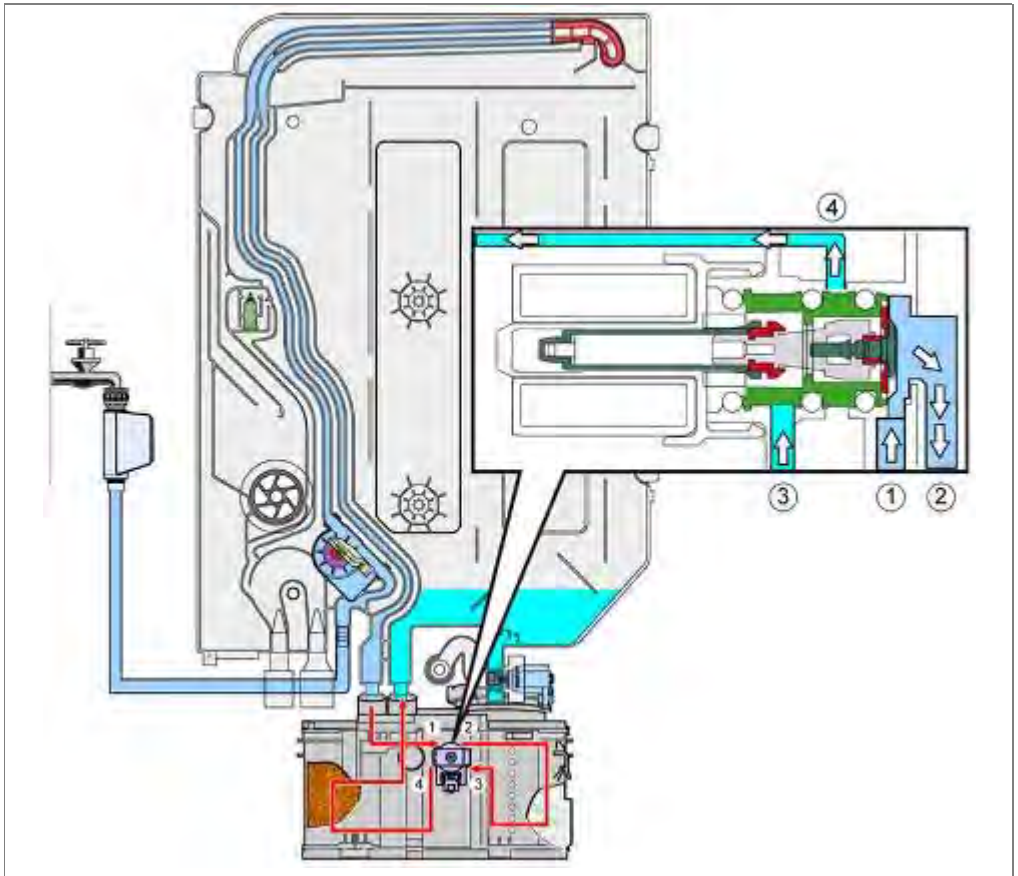
When the regeneration valve is in the idle state, the water is conveyed directly into the ion exchanger and softened.



1	Untreated water inlet regeneration valve with heat exchanger	2	Untreated water outlet regeneration valve with heat exchanger

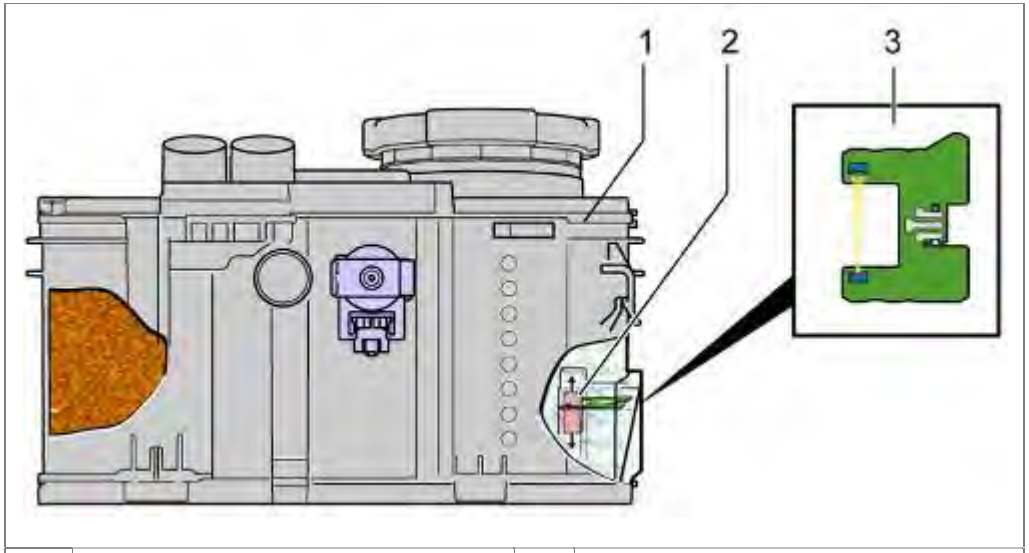
If the regeneration valve is actuated, the water flows into the salt dispenser and is enriched with salt.

The water is conveyed back to the regeneration valve via the water channels of the water softening system. The brine solution flows into the ion exchanger. The granules are regenerated. The brine solution is conveyed into the rinsing tank via the heat exchanger and pumped out.



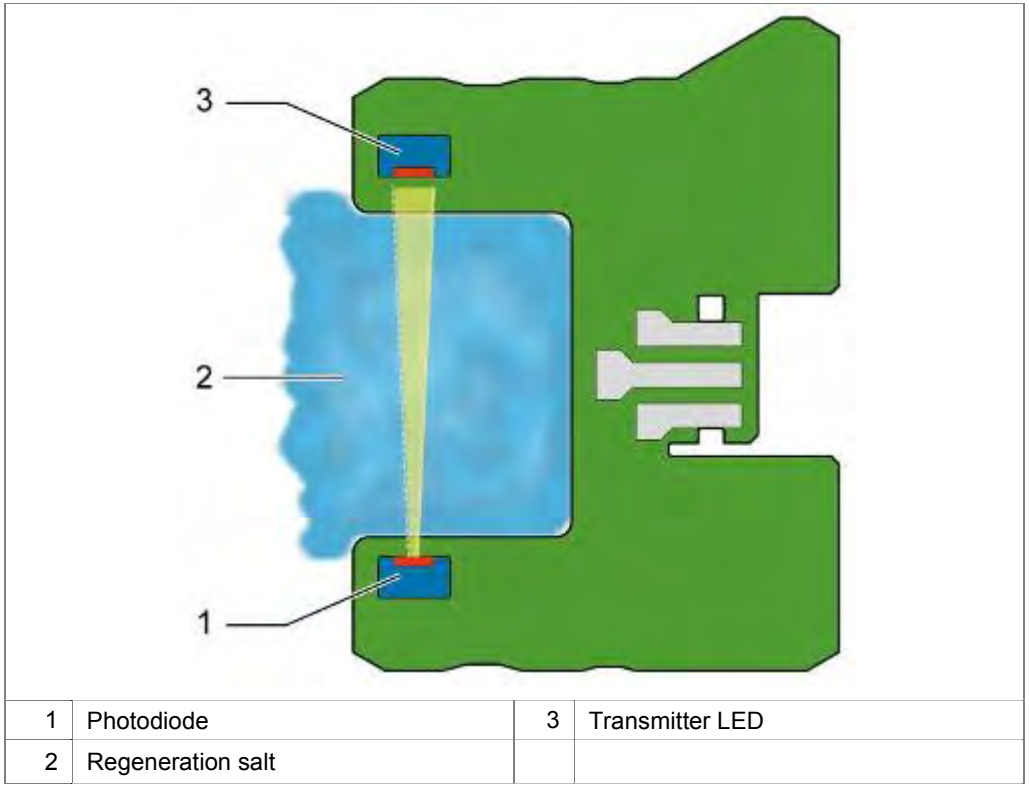
1	Untreated water inlet regeneration valve with heat exchanger	3	Salt water inlet regeneration valve with heat exchanger
2	Untreated water outlet regeneration valve with heat exchanger	4	Salt water outlet regeneration valve with heat exchanger

3.17 Low salt detection



1	Water softening system	3	PCB with light barrier
2	Floater (optionally)		

The PCB for the low salt indicator is attached with clips to the right side of the water softening system (front side of appliance).



1	Photodiode	3	Transmitter LED
2	Regeneration salt		

The salt level is detected via a light barrier. If the regeneration salt runs low, the line in the light barrier is freed and the electronics detect “Add salt”.

If the low salt indicator appears, there is still so much salt in the appliance that some more regeneration processes may occur.

According to this principle it is not necessary to fill the salt dispenser with water when switching on the appliance for the first time.

It is filled with salt tablets is recognized only with a water softening system with a float.

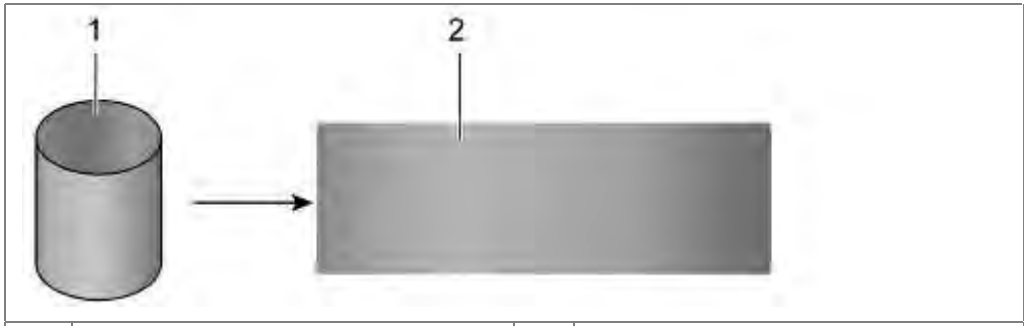
3.18 Filter system

1	Fine filter cylinder	3	Coarse filter
2	Surface filter, alternatively stainless steel or plasic		

The 3-stage filter system is intended to prevent particles from getting into the rinsing circuit and impairing the pumping or spraying system.

3.18.1 Fine filter cylinder

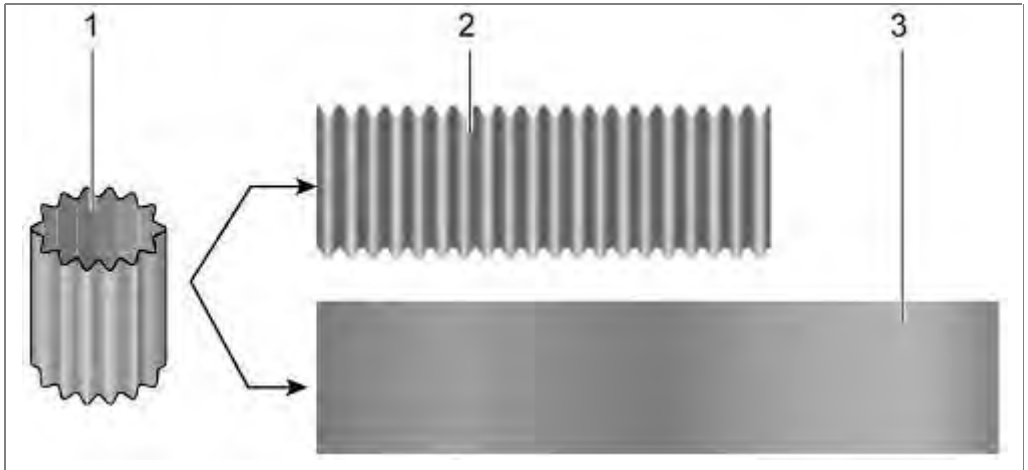
Conventional fine filter systems are based on a round cylinder shape. If the cylinder is rolled out, the filter surface can be seen.



1	Fine filter cylinder rolled up	2	Fine filter cylinder rolled out

The new fine filter system is based on a corrugated fine filter cylinder.

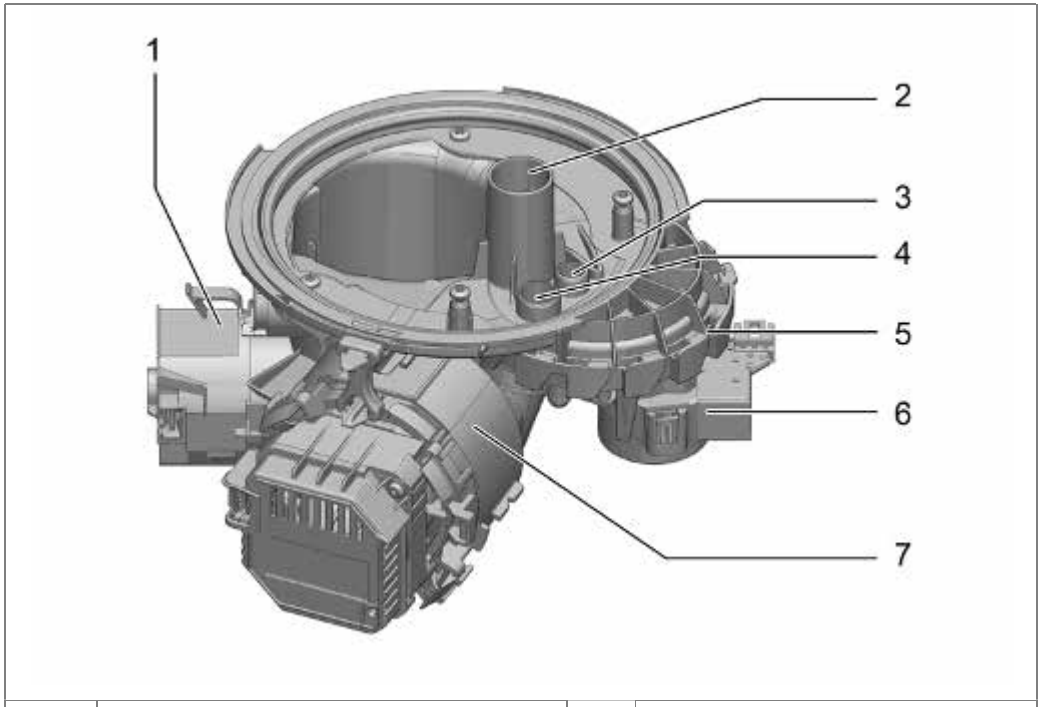
If it is rolled out and smoothed, a 1.5x filter surface can be seen.



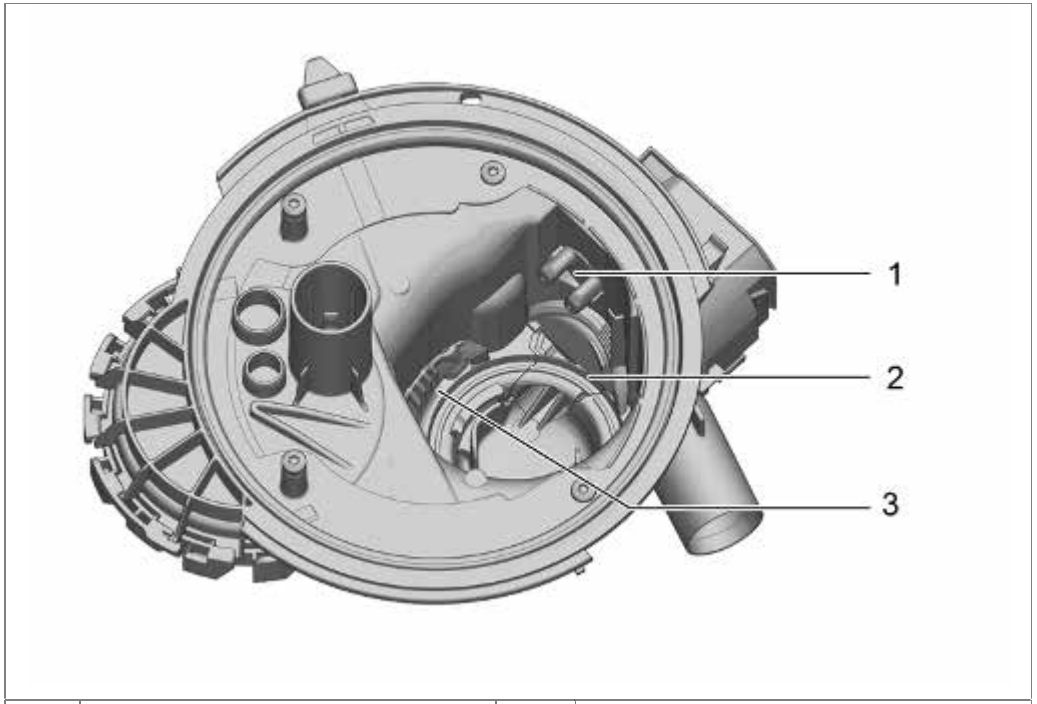
1	Corrugated fine filter cylinder, rolled up	3	Fine filter cylinder, rolled out
2	Fine filter cylinder, rolled out		

3.19 Pump sump

The pump sump is illustrated here with all mounted parts.



1	Drain pump	5	Water switch (optionally)
2	Connection for lower spray arm	6	Water switch motor with pulse generator (optionally)
3	Supply pipe connection for roof sprinkler (optionally)	7	Heating pump
4	Supply pipe connection for upper spray arm		



1	Aqua sensor (optionally)	3	Suction cap
2	Drain pump cover		

3.19.1 Covers in the pump sump

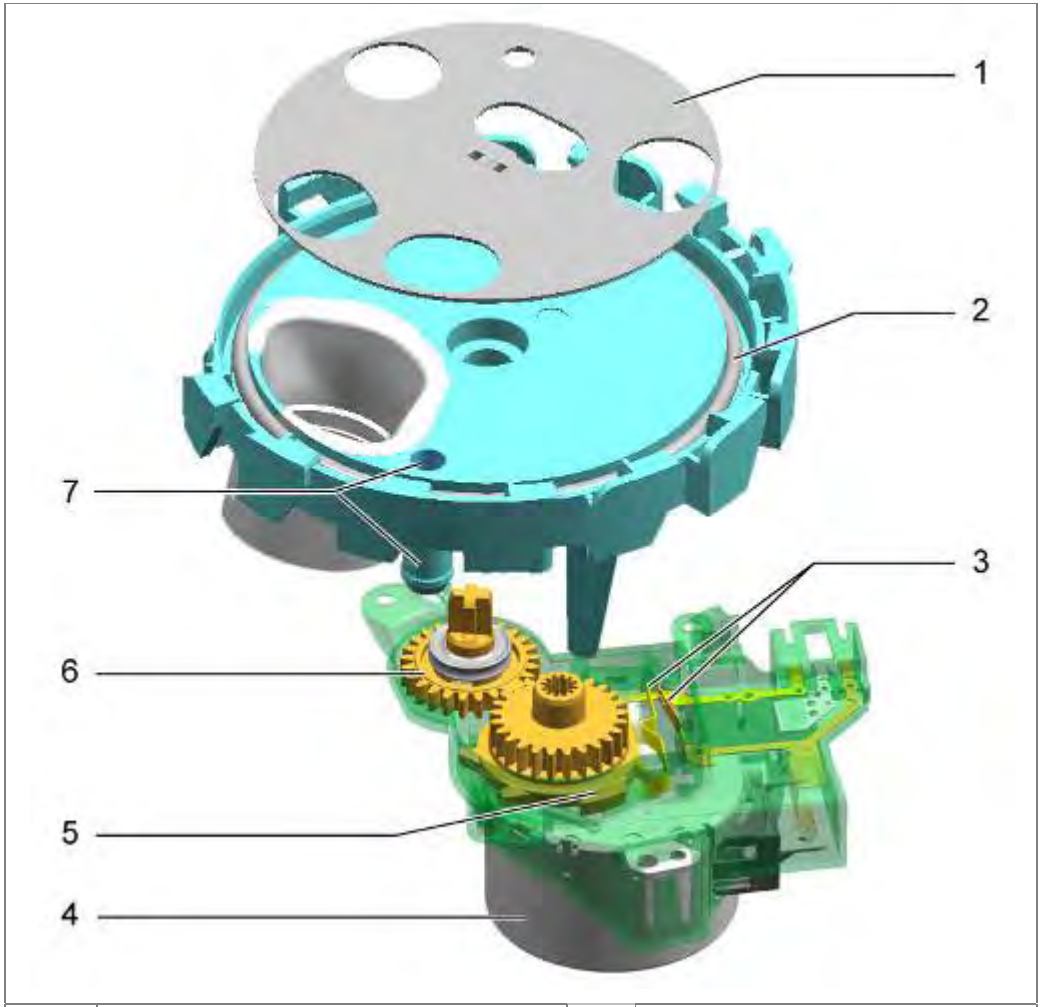
The suction cap ensures that the pump has an optimized suction performance and flow performance. No air or dirt is drawn in. This cap should not be removed by the customer.

The cover of the drain pump is used to channel the water. Without the cover the drain pump cannot build up any pressure.

Customers may remove the drain pump cover for cleaning purposes.

If the cover is not correctly attached, the water cannot be pumped out.

3.20 Water switch



1	Locking disc	5	Cog with cam plate
2	Seal	6	Cog
3	Pulse generator (switch)	7	Connection water storage tank (optionally)
4	Drive motor		

The water switch controls the water passage of the 3 spray levels and the filling of the optional water storage tank.

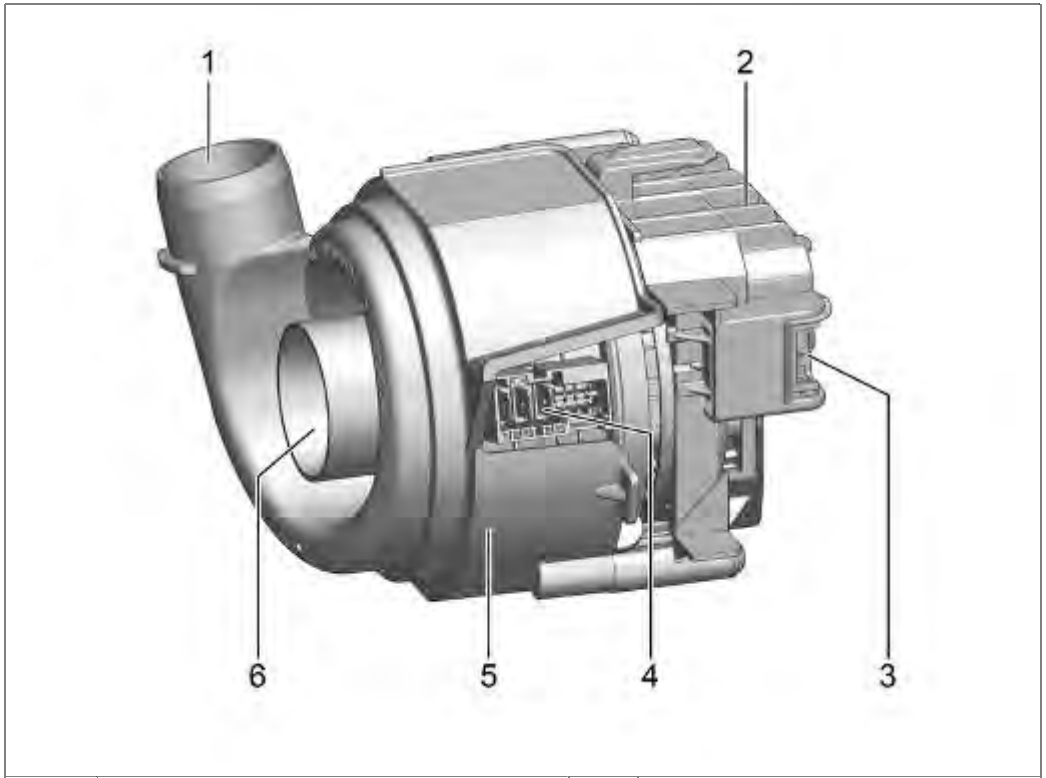
It consists of a drive motor with cam plate, pulse generator and the locking disc. When the appliance is switched on, the motor is actuated via a triac. The cam plate is attached to the motor axle. The cam plate actuates a switch (pulse generator) which transmits pulses of different length and intervals to the electronics. If the electronics detect the standard setting, the water switch is initialised.

The locking disc is rotated depending on the actuation. In doing so, holes of varying size release the water passage on the particular spray level or the connection of the hose to the optional water storage tank. The arrangement of the openings in the locking plate allows several levels to be actuated simultaneously or alternately.

3.21 Heating pump (standard)

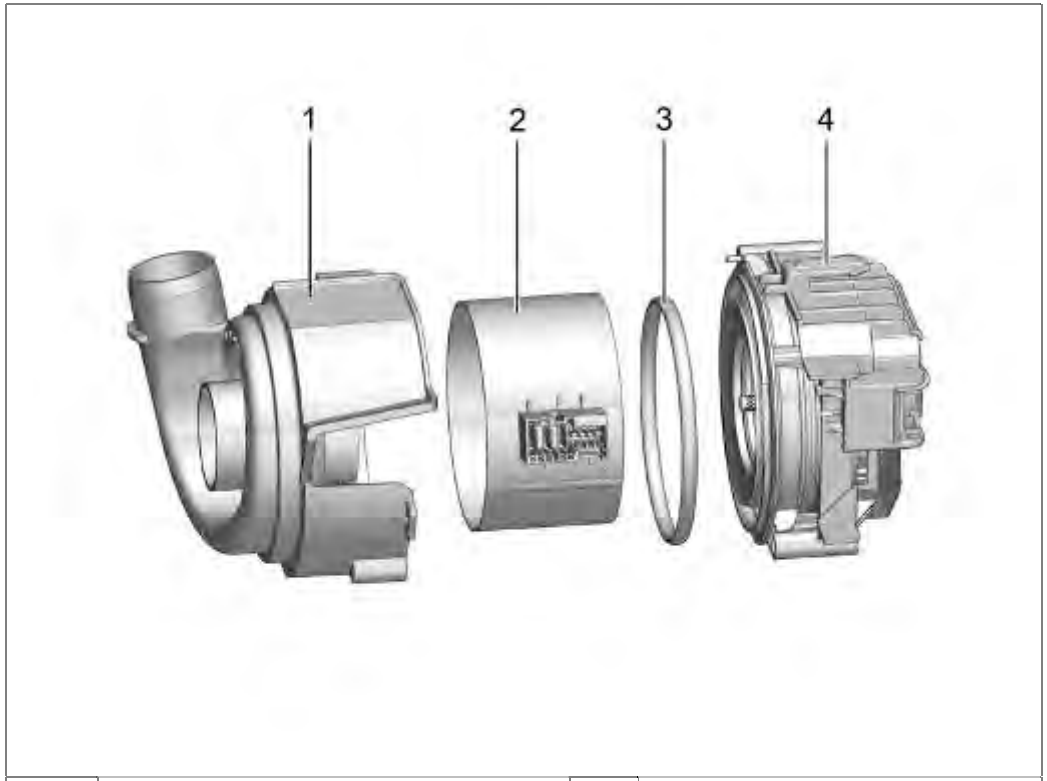
3.21.1 Overall view of the heating pump

The heating pump contains the heater, temperature sensors and circulation pump in one housing.



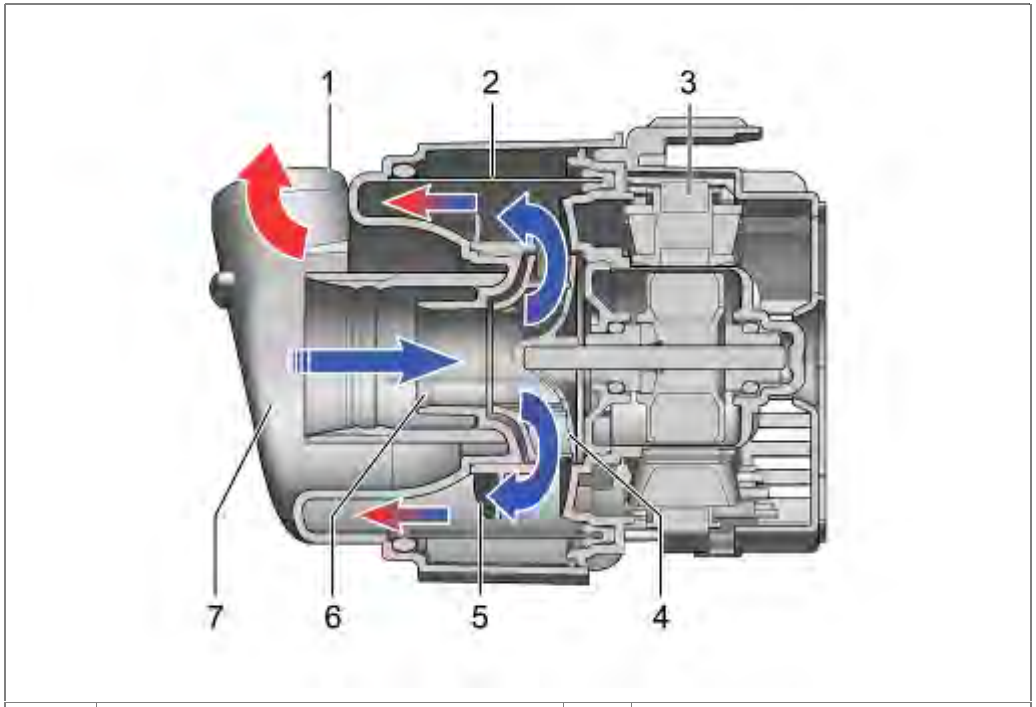
1	Pressure connection	4	Heater / NTC connection
2	Circulation pump motor	5	Housing cover
3	Circulation pump motor connection	6	Intake connection

3.21.2 Structure oft he heat pump:



1	Pump housing with internal thermal protection shield made of metal	3	Sealing
2	Heating tube with NTCs	4	BLDC Motor

3.21.3 Design of the heating pump:



1	Pressure connection	5	Guide wheel
2	Heating tube with NTCs	6	Intake connection
3	BLDC motor	7	Pump housing with intake and pressure connections
4	Pump wheel		

3.21.4 Function of the circulation pump

The water is drawn in via the intake connection. The guide wheel guides the water evenly along the heating tube. The water is pumped to the water points via the pressure connection.

While water is being circulated, the BLDC motor (Brushless DC Motor) signals different states to the power electronics via the current consumption of the individual windings:

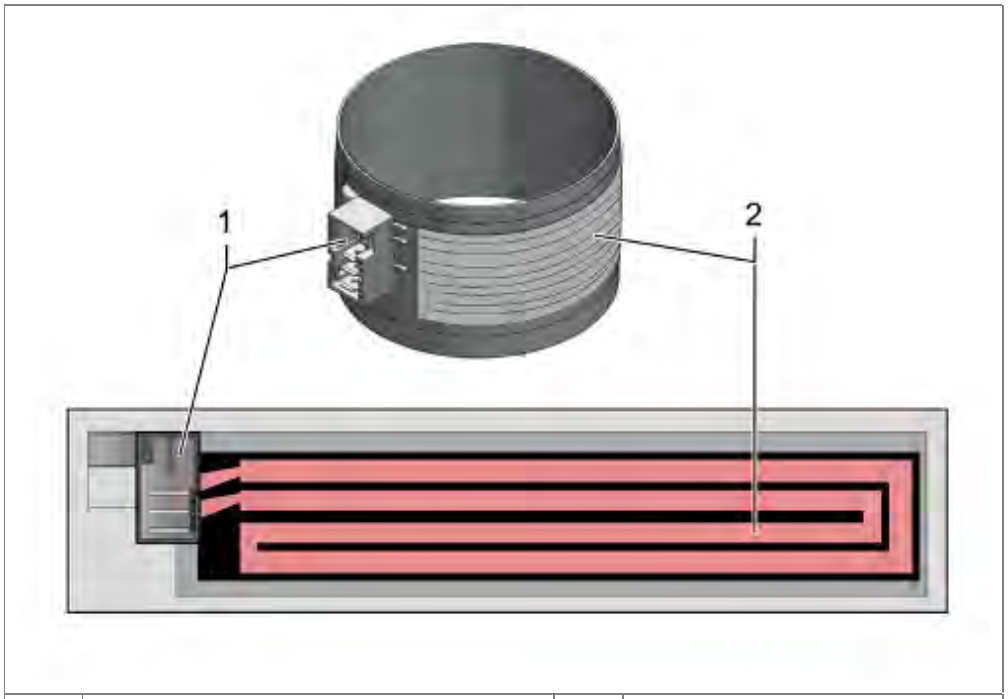
- No water,
- too little water,
- adequate water level,
- pump blockage.

Safety-relevant states, such as “Heating without water” or “Water temperature too high”, are detected and evaluated for the heating operation.

If the pump is blocked, this is detected by the electronics. By brief intermittent pumping, the pump attempts to loosen the blockage.

If this is not successful, the running programme ends. An error code is saved in the error memory.

3.21.5 Design of the heater



1	NTCs	2	Heating paths

The heating paths are applied to a specially coated metal tube. The connections and two NTCs are integrated in the heating paths.

The heating tube cannot be replaced separately.

3.21.6 Function of the heater / NTCs

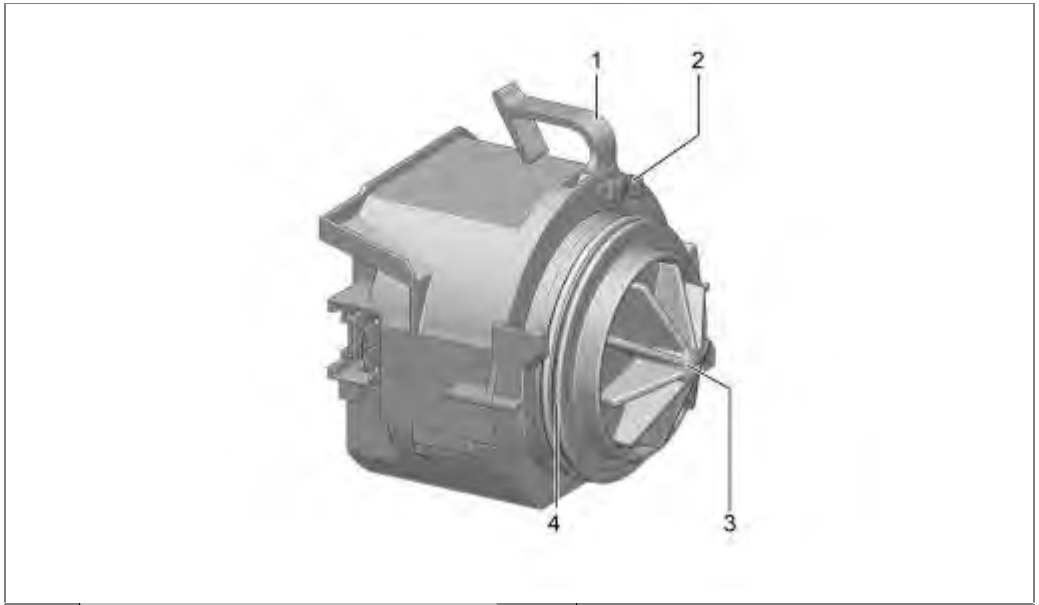
The water temperature is determined via the NTCs.

In heating mode the electronics detect the temperature increase which occurs.

The heater should heat the water by 1.5 °C / min.

If the appliance is connected to a hot water connection or solar equipment, the heater is switched off at a supply water temperature of > 75 °C.

3.22 Drain pump



1	Cable holder	3	Impeller wheel
2	Catch mechanism	4	Seal

The water is drawn in via the water outlet opening of the pump sump. The impeller wheel pumps the water through the non-return valve into the drainage hose.

While water is being pumped out, the BLDC motor (Brushless DC Motor) signals different states to the power electronics via the current consumption of the individual windings:

- ► No water, (idling)
- ► No pressure build-up (missing service flap)
- ► Pump blockage
- ► Blocked or kinked drainage

If there is too little water in the pump area, pumping is stopped.

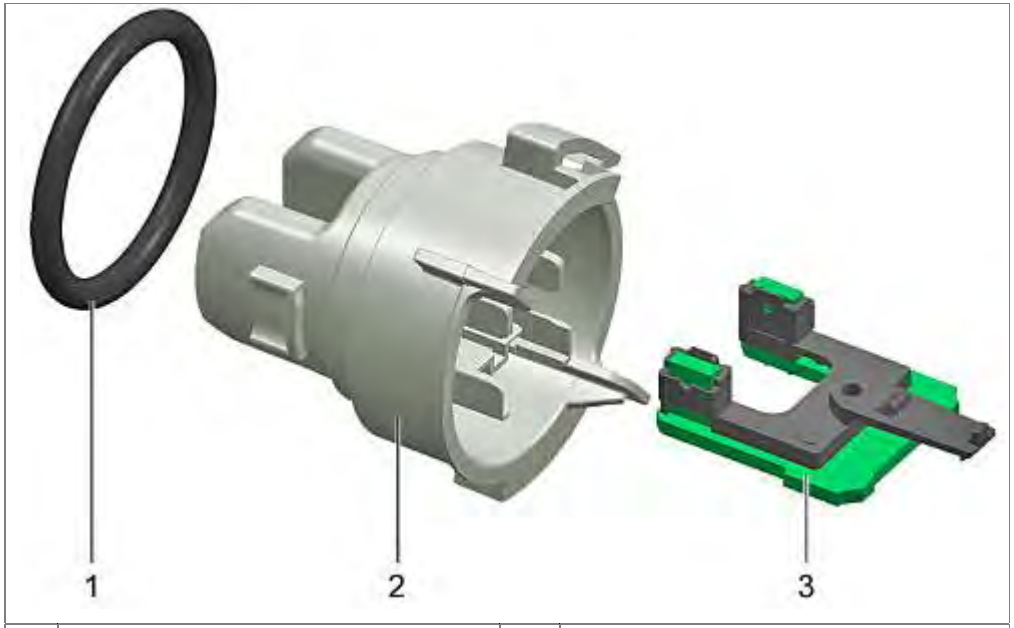
If there is no cap in the pump sump, water pressure cannot build up. An error code is saved in the electronics.

If the pump is blocked, this is detected by the electronics. By brief intermittent pumping, the pump attempts to loosen the blockage.

If drainage is disrupted by a blockage or a kink in the drainage hose, pumping is stopped. An error code is saved in the electronics.

Detection occurs via the current input of the pump during idling and the different load states.

3.23 Aqua sensor (optional)



1	Seal	3	PCB with light barrier
2	Housing		

A infrared diode and a phototransistor are located opposite each other in a U-shaped translucent housing on a board.

The infrared diode transmits infrared light through the detergent solution flowing between the U-shaped housing. Depending on the turbidity, the light-sensitive base of the phototransistor becomes conductive.

The measurement is analysed in turbidity ranges. The values are saved in the electronics. The Aqua sensor is active in the prerinse, the wash and at the end of the wash. The result of the Aqua sensor analysis influences the sequence of the rinse programmes.

A wide range of programme structures is possible in the automatic programme.

In each programme sequence in which the Aqua sensor is active the Aqua sensor is calbrated.

If calibration is defective, an error is written into the error memory of the power electronics. The measured value is set to “turbid” and a maximum programme sequence occurs

No Aqua sensor installed

► There are appliances which are supplied without Aqua sensors. Nevertheless, the electronics check the Aqua sensor and save an error message.

3.24 Spray system

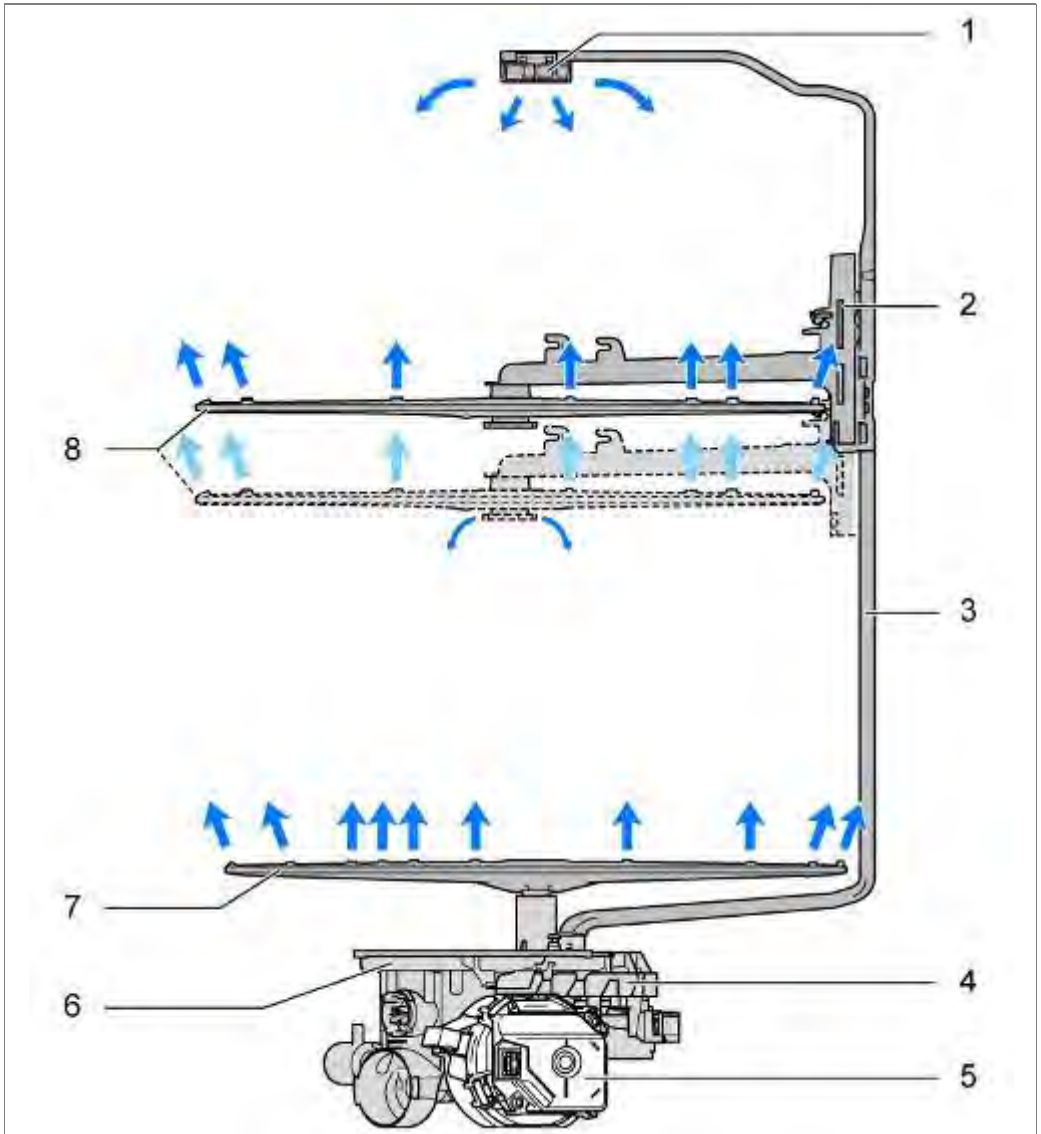
The spray system consists of 3 spraying levels: the lower and upper spray arms and an optional roof shower head. Water is supplied to the upper spray arm and the roof shower head via the supply pipe attached to the inside of the tank rear panel. This pipe is connected to the pump sump by a direct plug-and-socket connection.

The supply pipe has 2 separate water channels. As a result, the upper spray arm and the optional roof shower head can be actuated separately.

The upper spray arm is attached by its inlet pipe directly to the top basket. The supply pipe is connected by a coupling. Optionally, the height can be adjusted by max. 3 levels (Rackmatik).

The lower spray arm is connected by its bearings directly to the pump sump. It has a nozzle on the underside to clean the surface filter and to rinse dirt into the filter system.

Appliances without a water switch do not have the roof shower head. Both spray arms can only be operated simultaneously.



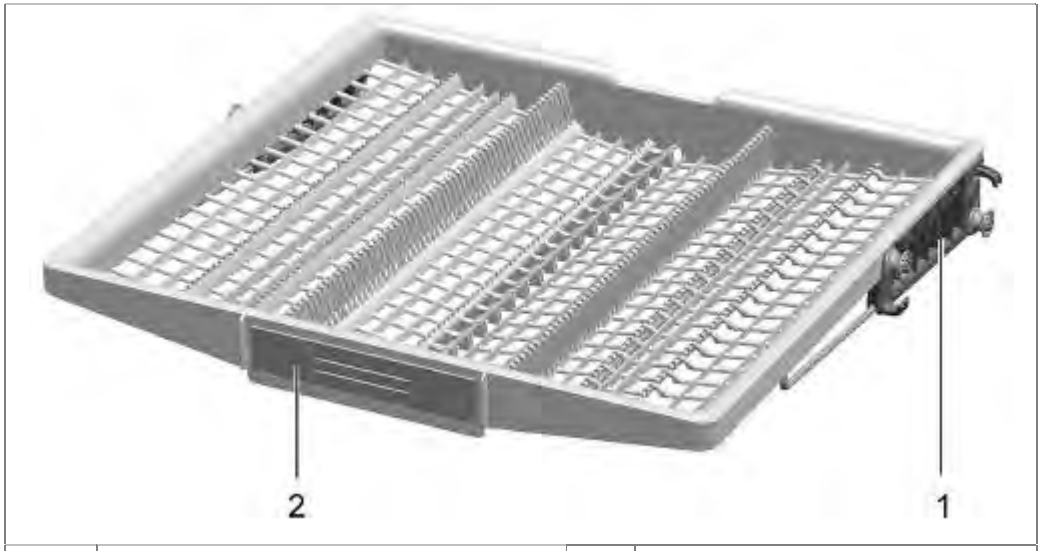
1	Roof shower/roof spinner (optional)	5	Heating pump
2	Coupling for upper spray arm	6	Pump sump
3	Supply pipe	7	Lower spray arm
4	Water switch (optional)	8	Upper spray arm

3.25 Basket system

The basket system consists of 2–3 levels. The baskets differ in features and colour depending on appliance class. The table indicates the differences in features (date 07.2008).

	Vario	VarioFlex	VarioFlexPlus
Top basket			
Ball ends	–	–	¡
Split additional cup racks, hinged	¡	¡	¡
Folding spikes	optional	¡	¡
Optimised glass holder	–	–	¡
Height-adjustable basket (3x Rackmatic)	optional	¡	¡
Basket handle	–	¡	¡
Dosing assistant	¡	¡	¡
Bottom basket			
Ball ends	–	–	¡
Split additional cup racks, hinged	optional	¡	¡
Holder for long-stemmed glasses	–	–	¡
High basket back	–	–	¡
Basket handle	–	¡	¡

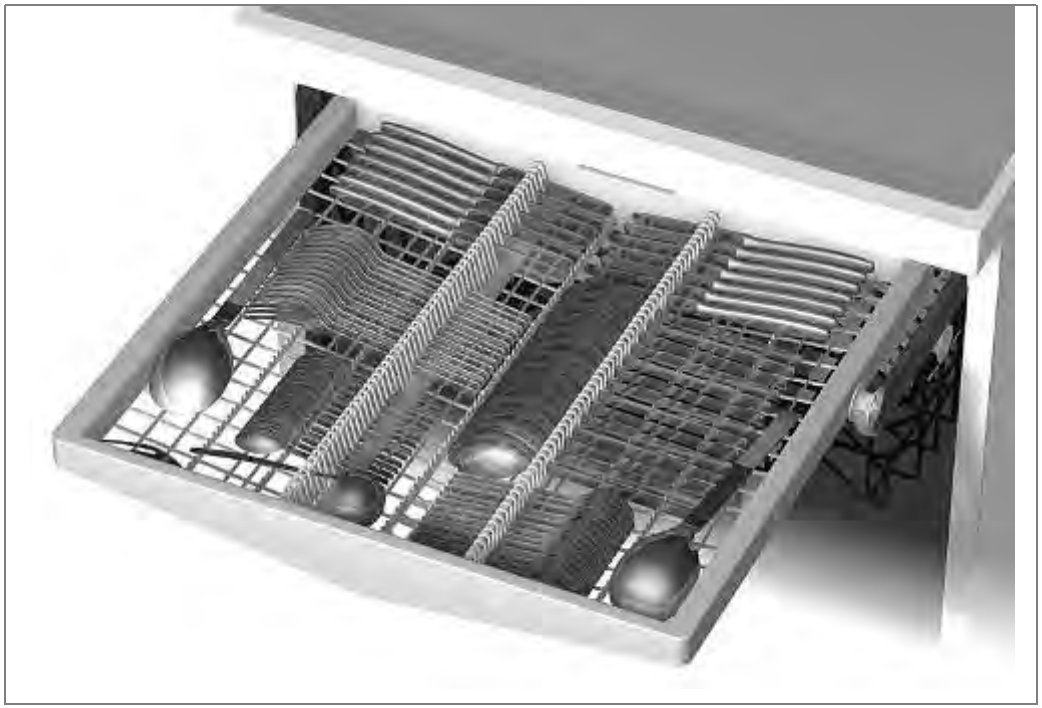
3.25.1 Cutlery drawer - option



1	Pull-out plate	2	Basket handle

The cutlery drawer is attached at the very top of the rinsing tank. It is used as a holder for cutlery, other cooking accessories and also espresso cups. The utensils are washed primarily by the roof sprinkler. See Spray system.

Loading example:

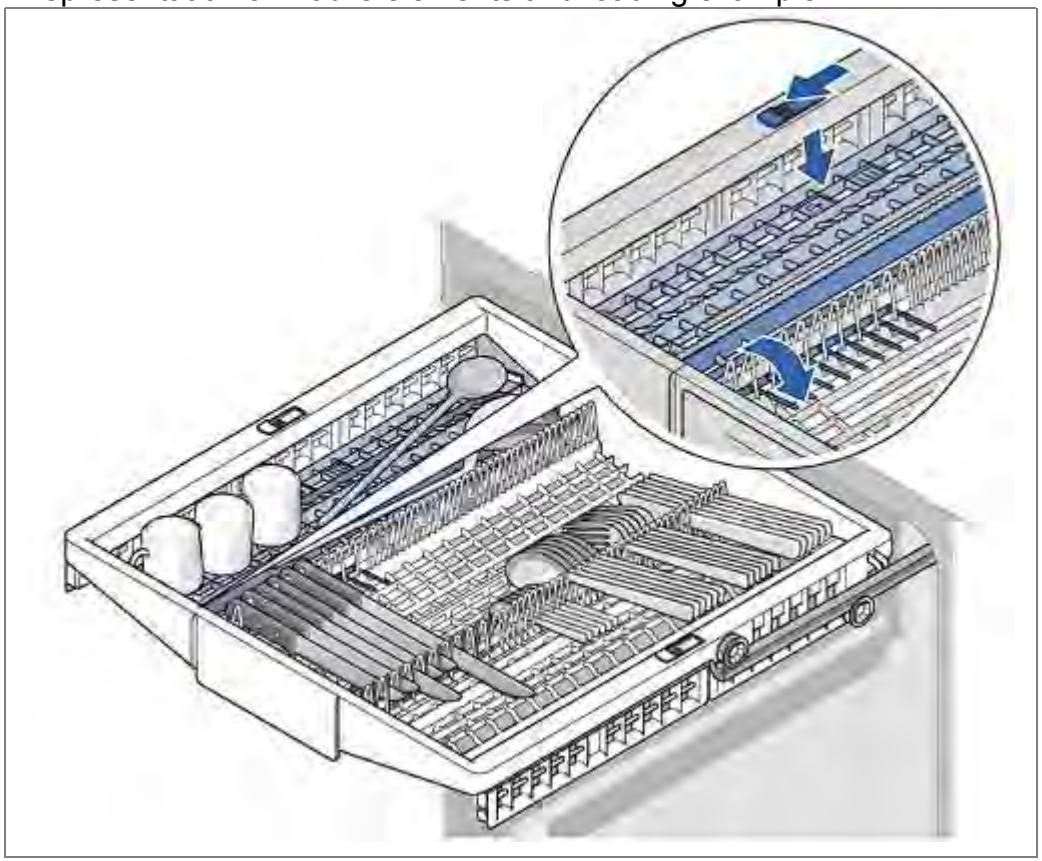


3.25.2 VarioDrawer Plus – optionally from 10/2011

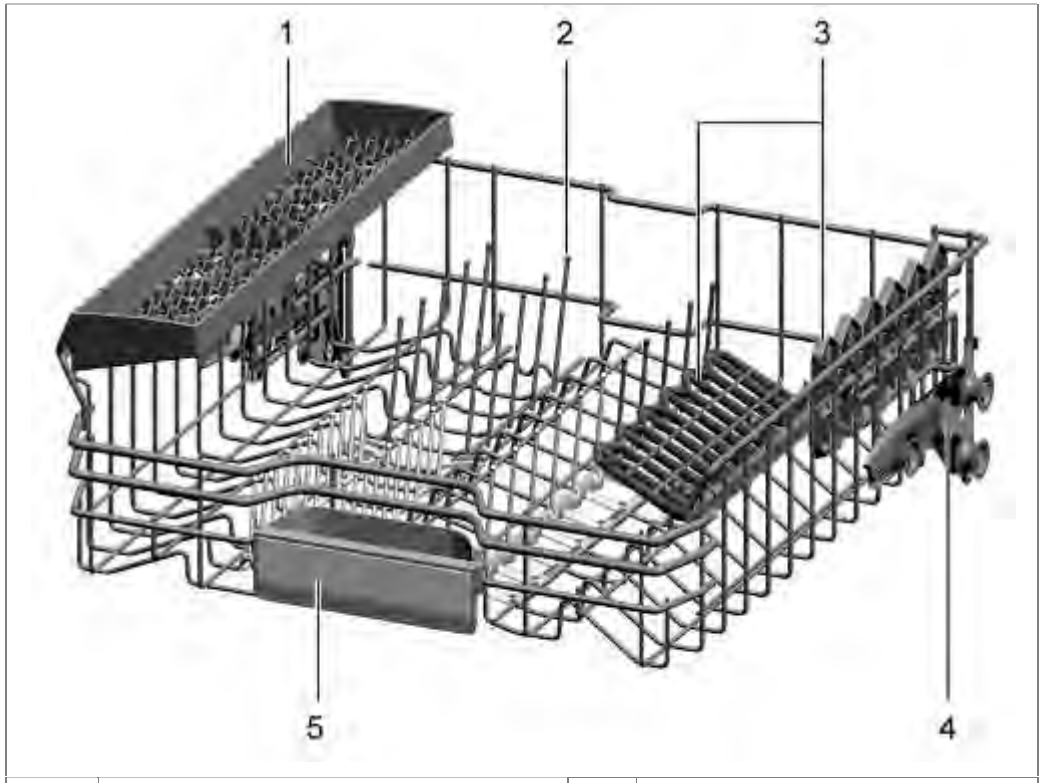
1	Lowerable elements	3	Folding spikes
2	Lowering mechanism	4	Opening

Starting from 10/2011 a VarioDrawer comes to the employment. This contains 2 rows flip tiens and lowerable files in the external areas, separately for right and left.

Representation of mobile elements and loading example:



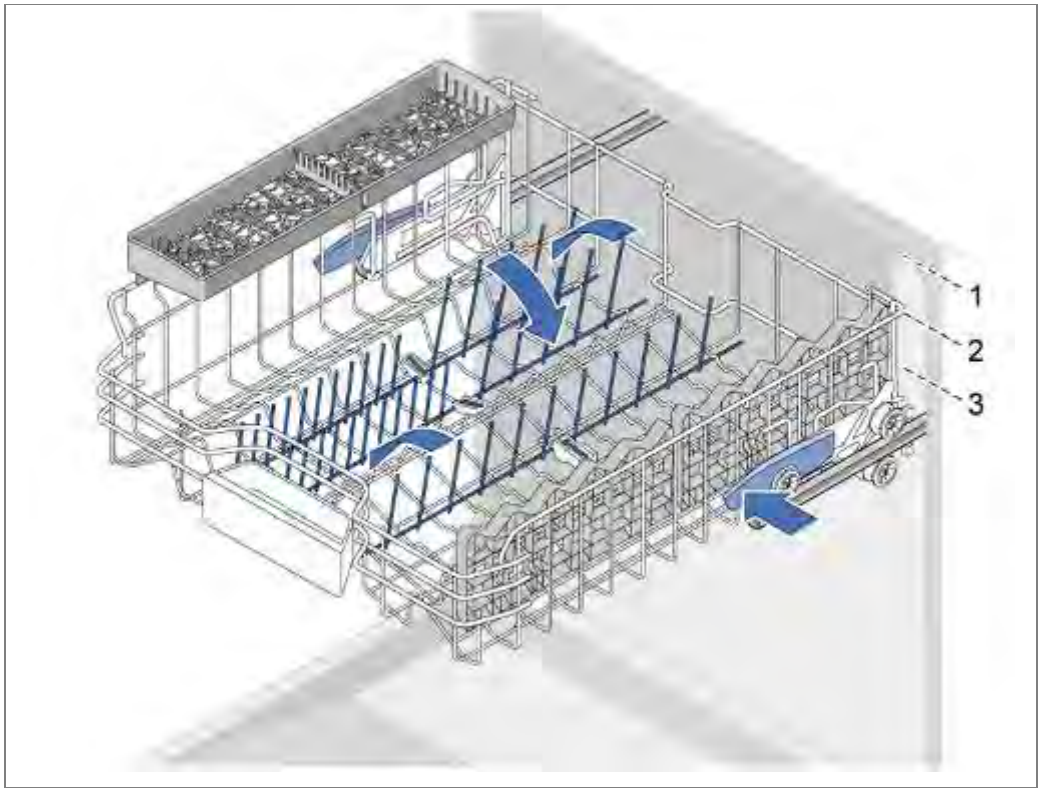
3.25.3 Top basket



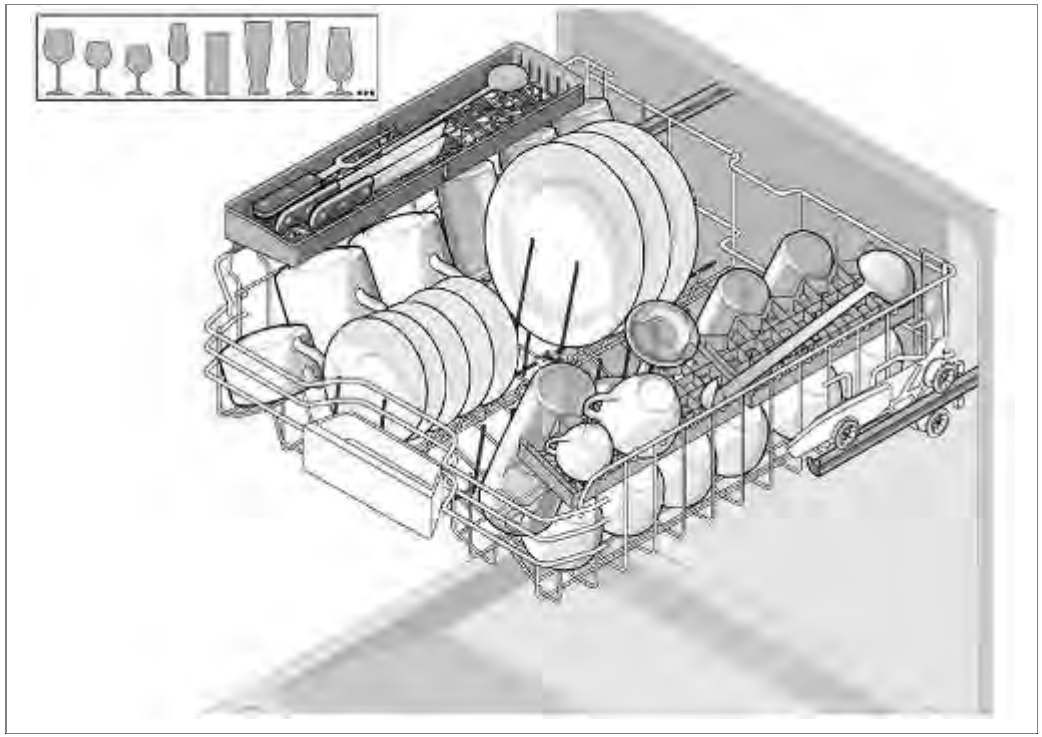
1	Knife shelf	4	Rackmatik plate
2	Folding spikes	5	Basket handle
3	Split, hinged additional cup racks		

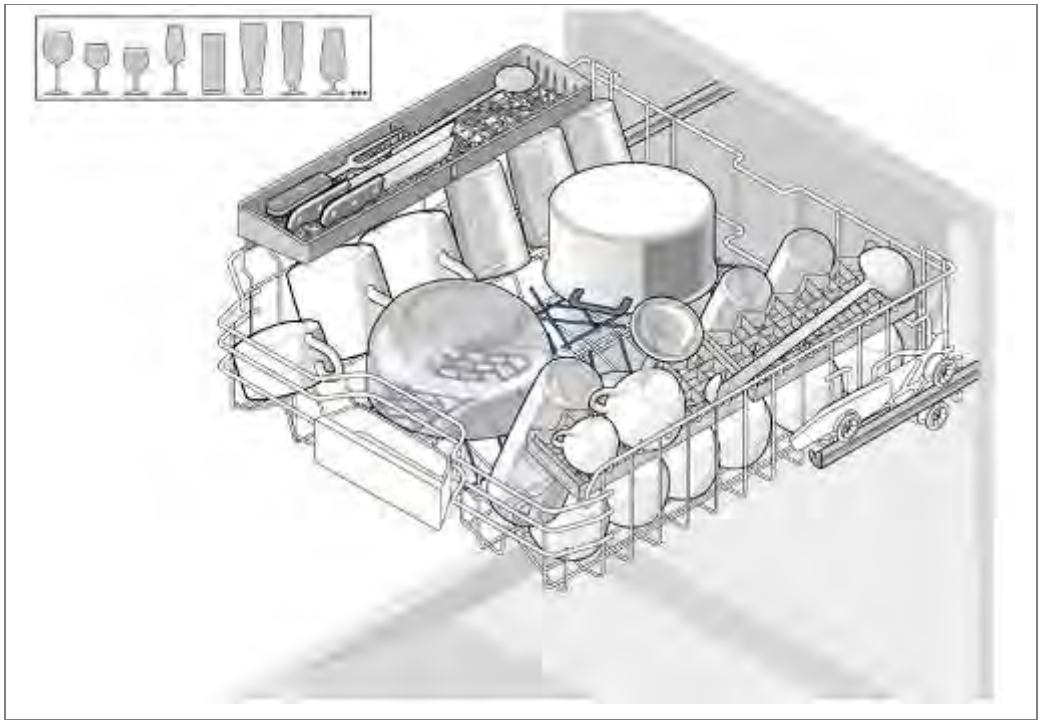
The extendable top basket is loaded with smaller plates, glasses and cups. The utensils are cleaned by a spray arm under the top basket. When the top basket is pushed in, it docks with the supply pipe at the rear to make the water connection (see Spray system).

Representation of mobile elements:

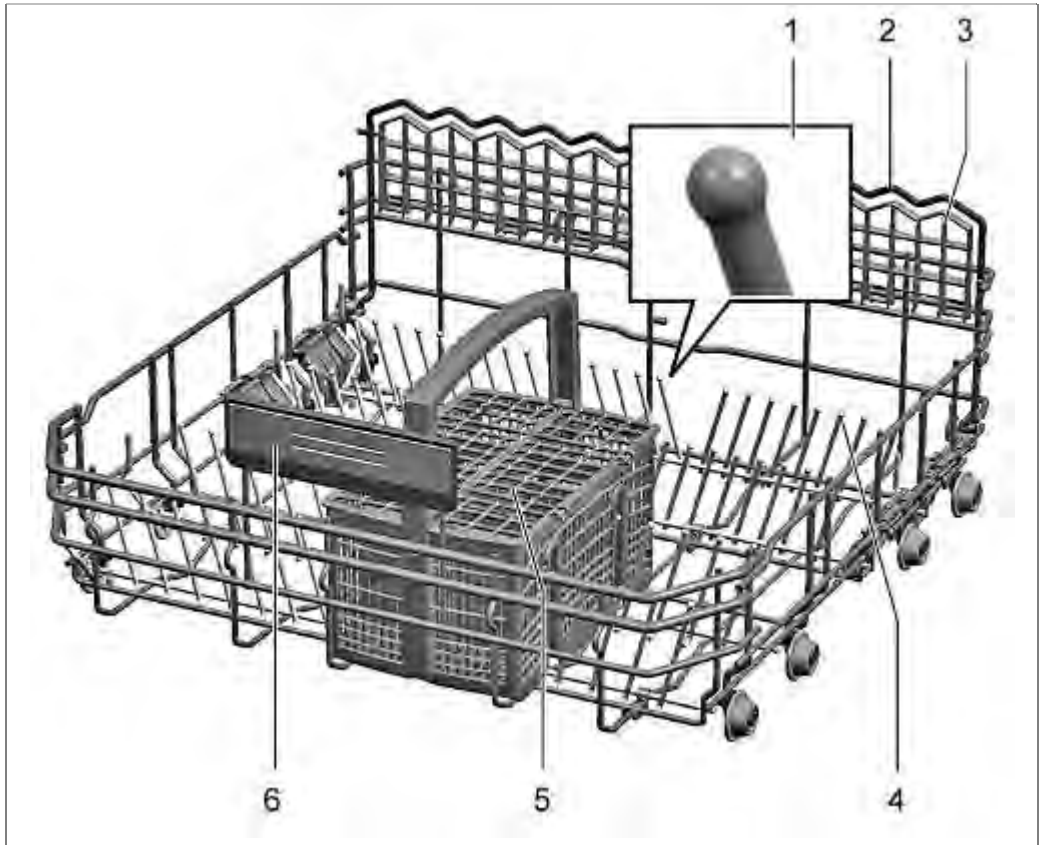


Loading example:





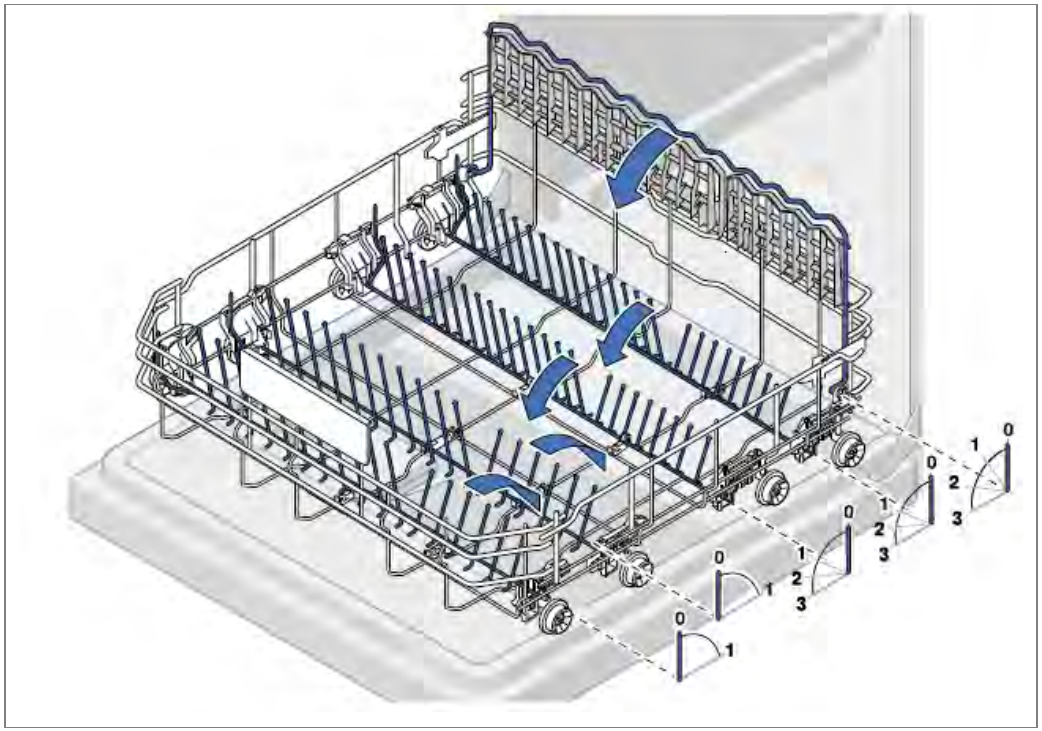
3.25.4 Bottom basket



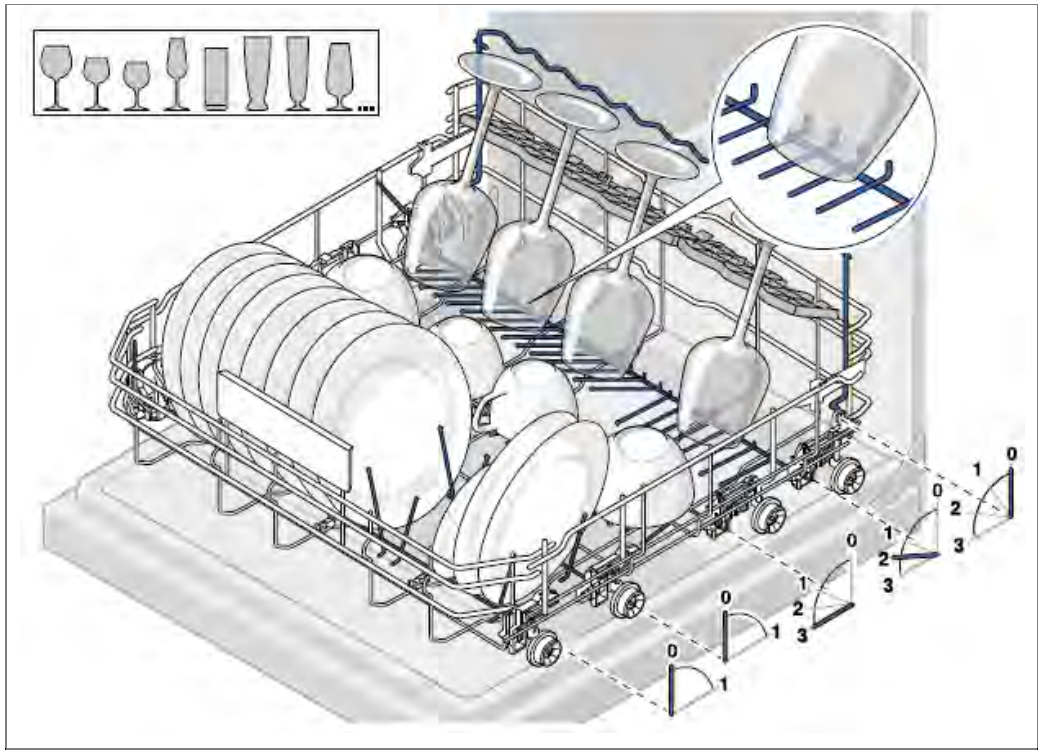
1	Ball ends	4	Folding spikes
2	Holder for long-stemmed glasses	5	Cutlery basket (optionally)
3	Split, hinged additional cup racks	6	Basket handle

The bottom basket is moved out of the appliance on rollers. The fixed lower spray arm cleans the utensils in the bottom basket (see Spray system).

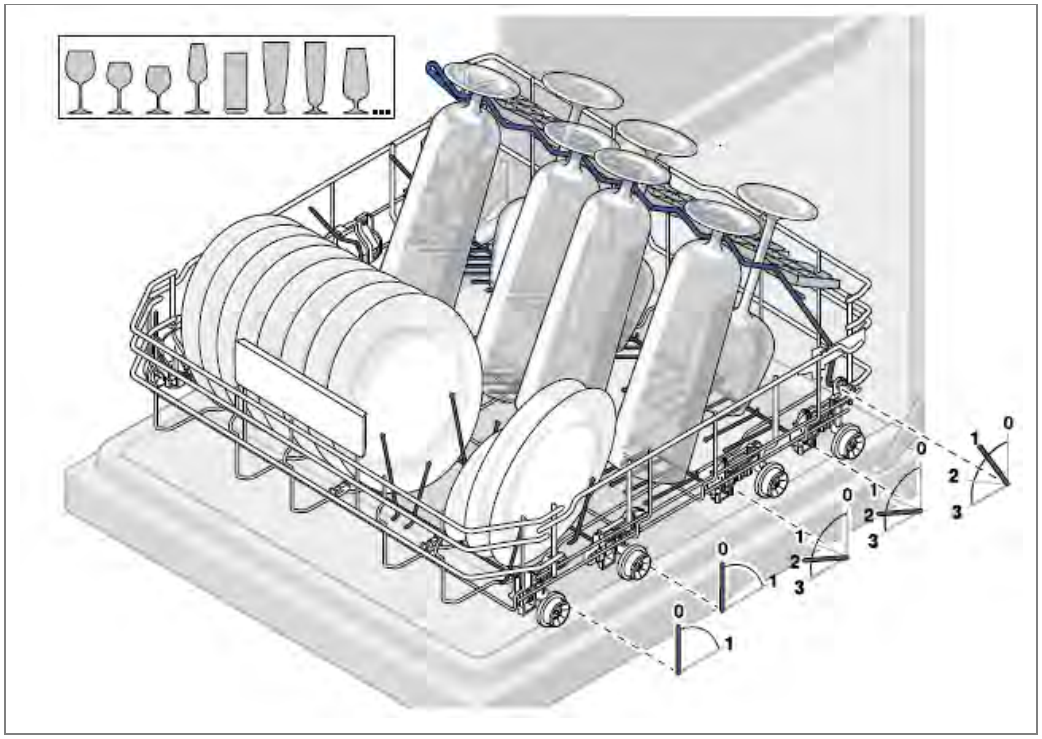
Representation of mobile elements:

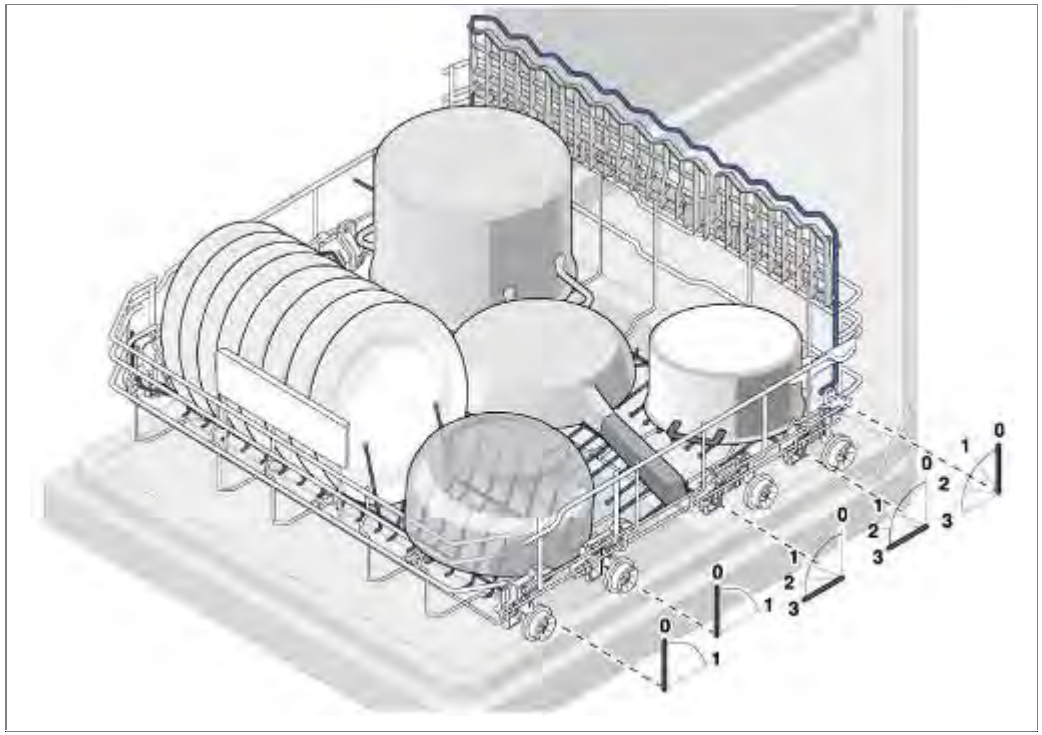


Loading example:



Loading example:





3.25.5 Ball ends

Ball ends are small balls on the tips of the folding spikes. If glasses or plates are placed on standard spikes, streaks may form in the area where the utensil touches the spike. The ball ends generate a minimum gap. As a result, utensils can be washed and dried without streaks.

3.25.6 Etagere

An etagere is an additional hinged shelf in the baskets. As it is attached in the top of the basket, this produces another level (etage).

There is space on this level for mocha cups or small objects.

3.25.7 Folding spikes

These spikes can be folded down so that utensils can be arranged more flexibly. The spikes can be folded down on several levels or only on one level.

3.25.8 Rackmatik

The height adjustment for the top basket is called Rackmatik. The adjustment can be on several levels (3 levels). The supply pipe has connections for one 3-level Rackmatik.

The top basket can also be tilted to the right or left.

The metal holders of the Rackmatik are pressed mechanically into the top basket. If the holders are bent open, the surface of the top basket may be damaged.

3.25.9 Holder for long-stemmed glasses

A folding bracket on the back of the bottom basket can be folded forwards so that long-stemmed glasses can also be arranged on a 2nd row.

3.26 Soft Close system

The soft close glides on the upper and lower racks are incorporated into the normal telescoping glides.

On each telescoping glide, there is a additional part mounted to it in order to create the soft close effect.

If the rack is in the machine, the catch in the telescoping glide is fully inserted into the soft close mechanism.

When the rack is pulled out, a catch in telescoping glide extends the spring inside the soft close mechanism.

As the glide continues to extend, the catch is eventually released from the soft close mechanism.

When the rack is inserted back into the machine, the catch connects to the soft close mechanism and is returned to the home position with a controlled, dampened motion.

3.27 Dosing assistant

1	Top basket	3	Dispenser
2	Handle cover	4	Spray arm top basket

The dosing assistant is an interaction between the arrangement of the dispenser and the handle cover in the top basket.

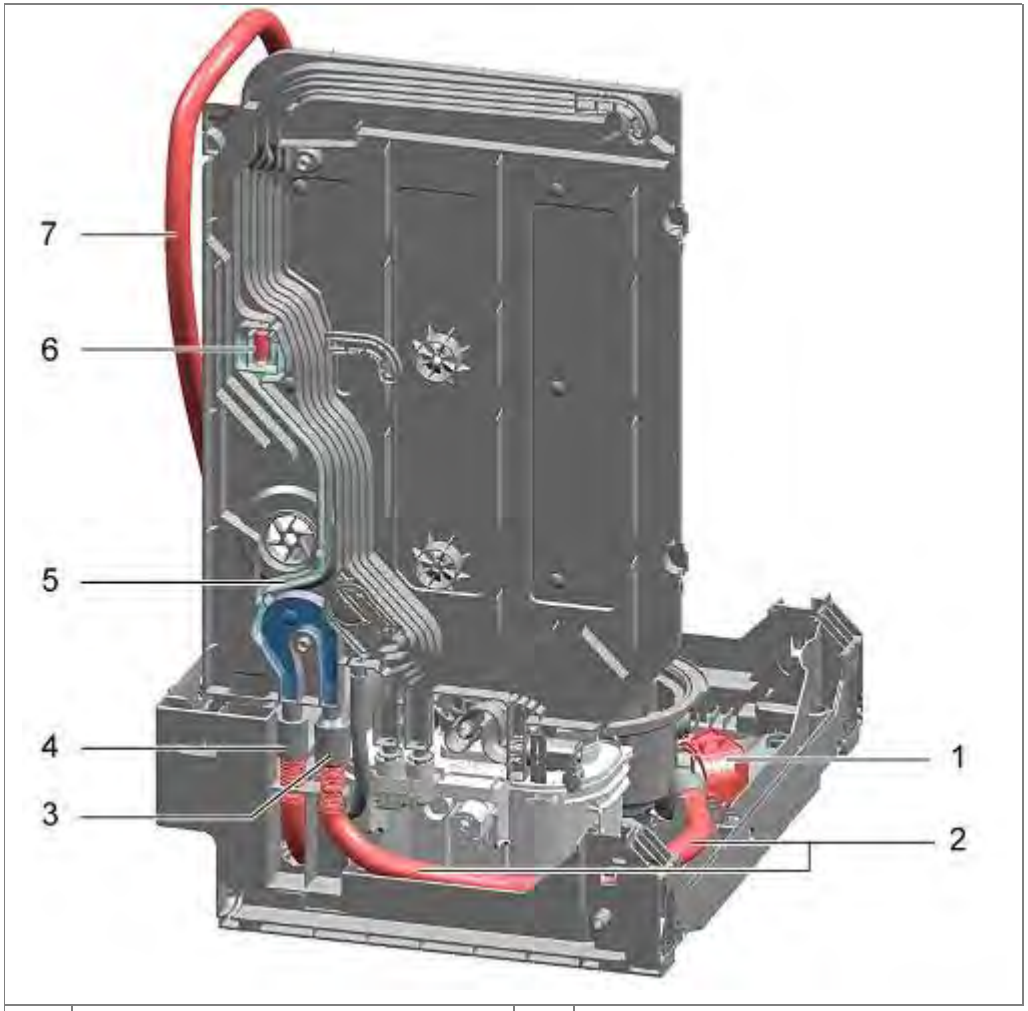
The dispenser is situated in the middle of the door on the upper side of the door.

In the top basket is the handle cover or tab drawer.

The tab drops into the tray. The spray arm in the top basket sprays the tray from below to dissolve the tab.

The bottom basket can no longer be pulled out over the dispenser. Food remnants can no longer drop into the dosage chamber and block it.

3.28 Water outlet

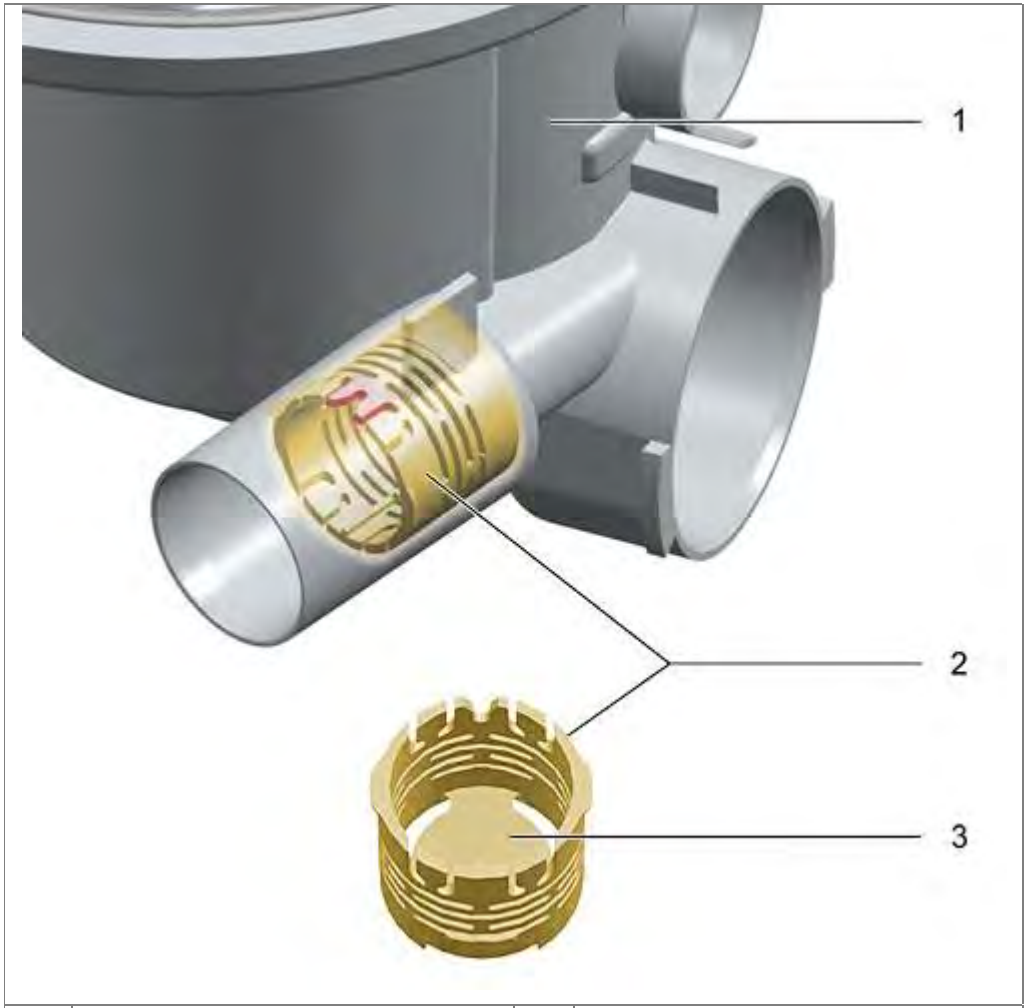


1	Drain pump	5	Air duct
2	Inner drainage hose	6	Float chamber with float
3	Input water outlet	7	Drainage hose
4	Output water outlet		

If the drain pump is actuated for draining, the water is pumped to the heat exchanger. The water flows to the drainage hose via the heat exchanger and out of the appliance.

A non-return valve is installed in the hose connection of the pump sump. This prevents the return of waste water into the pump sump.

3.29 Non-return valve

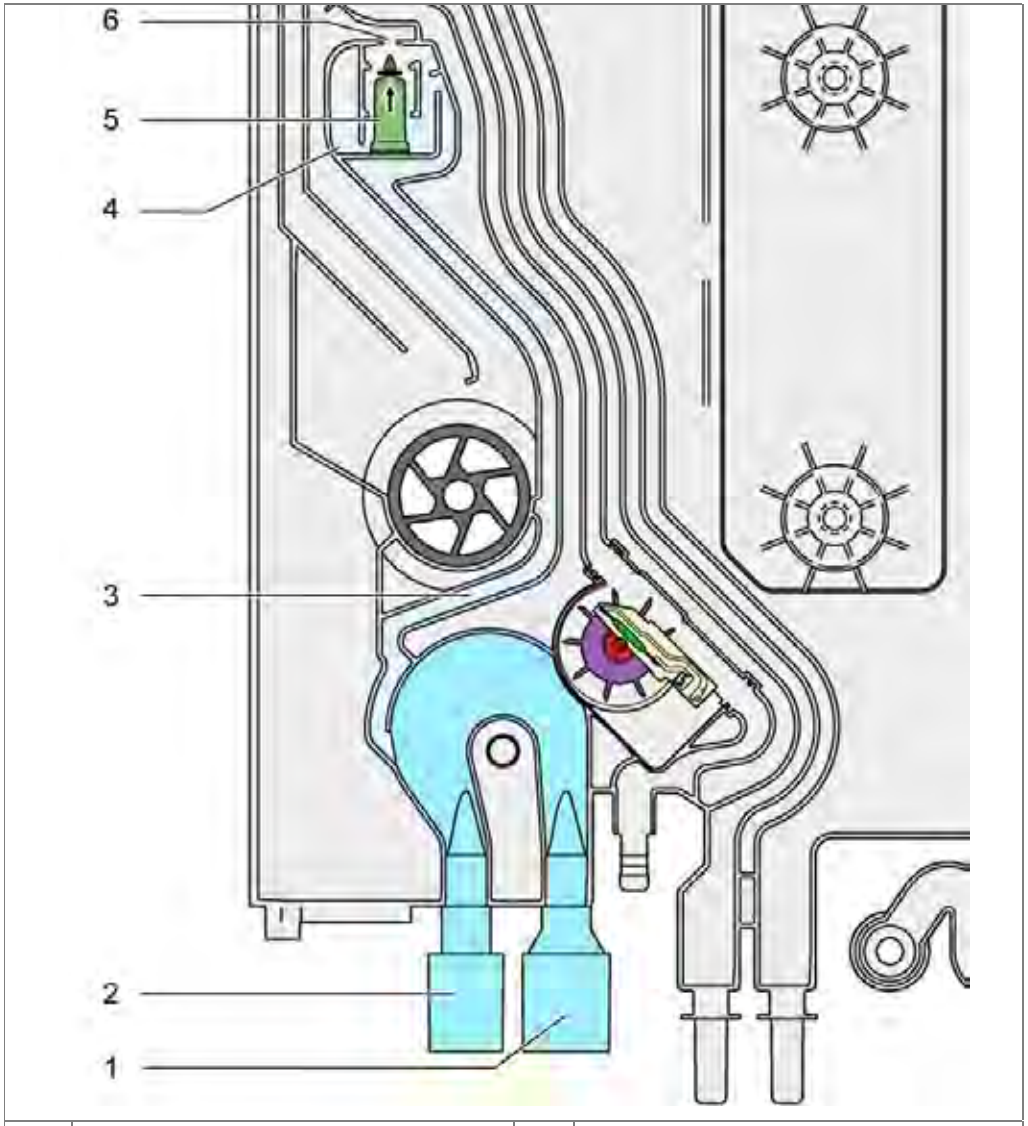


1	Pump sump	3	Sealing lip
2	Non-return valve		

The non-return valve prevents water from running back out of the drainage area of the appliance.

This prevents dirt residue, dirty water or detergent residue from flowing back into the rinsing circuit.

3.30 Ventilation sequence



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

During pumping, water is pumped to the drainage hose via the drainage channel of the heat exchanger / water inlet.

A continuous water flow occurs. If the drainage is lower than the appliance, the water flows out of the appliance by suction effect even if the drain pump is no longer actuated.

In the float chamber there is so much water that the float floats and the ventilation opening closes.

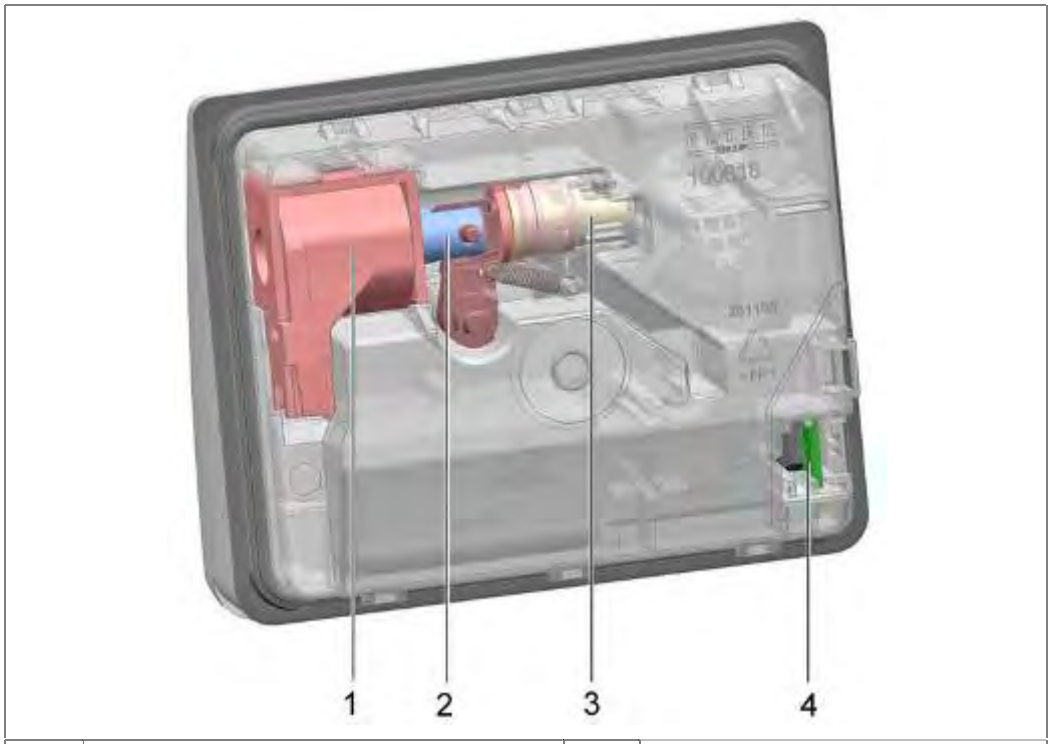
The ventilation opening is released by the float as soon as the water flow in the water outlet decreases. The appliance cannot be drained while the liquor pump is deactivated as air can flow in via the ventilation opening.

If the drainage hose is defective (blockage, kink), pressure builds up.

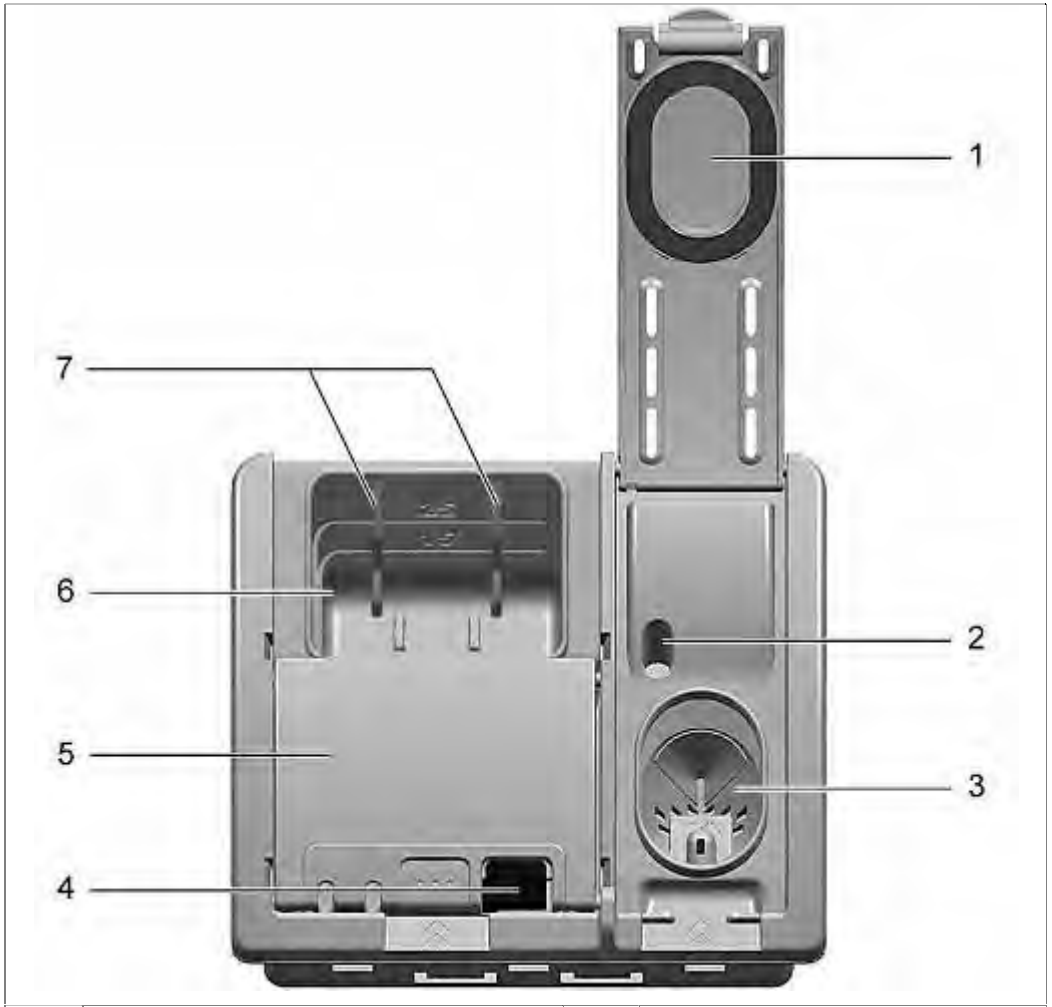
Electronics detects the blockage over by drain pump
An error code is saved in the failure memory.

3.31 Dispenser

When the dispenser is filled with rinse aid, the cover is closed. It stays closed until it is manually opened again.
The dosing chamber for detergent is opened mechanically in the appropriate washing section. Powdered detergent flows into the rinsing tank. Tabs drop into the handle cover (dosing assistant).



1	Coil	3	Dosing pump
2	Anchor with switching mechanism	4	Low rinse aid sensor



1	Rinse aid dispenser cover with seal	5	Detergent dispenser cover
2	Rinse aid outlet opening	6	Detergent dosing chamber
3	Rinse aid filler opening	7	Plastic bars
4	Detergent flap locking button		

3.31.1 Function

The actuator mechanism for the detergent cover is actuated via a coil. The coil is actuated via pulses from the power electronics.
When the coil is switched on, the anchor is moved to the left.

The anchor is connected by a plastic lever to the release lever of the detergent cover. When the actuation lever is turned, the detergent cover is released and opens.

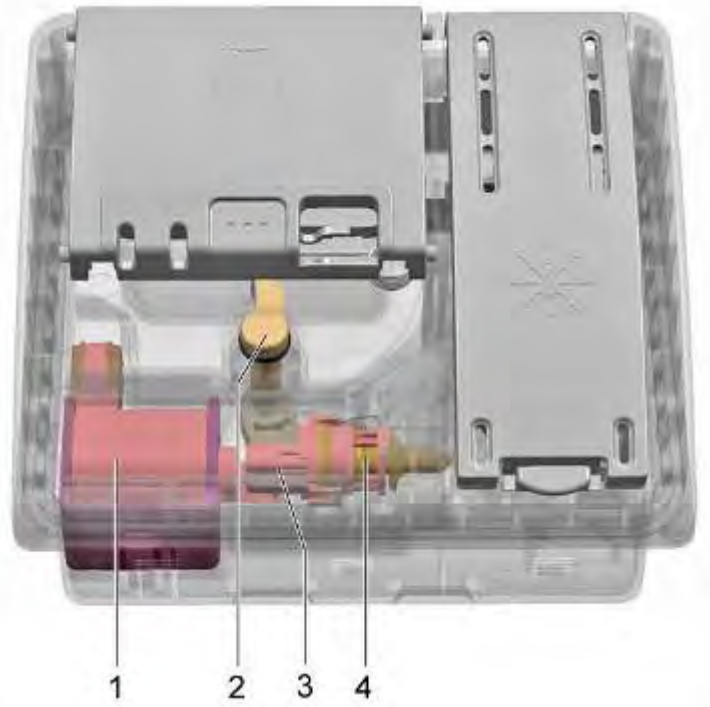
There is a switching mechanism between the coil anchor and the rinse-aid valve. The switching mechanism prevents rinse aid from being metered when the coil is initially actuated.

When the detergent cover is opened, the mechanism switches similar to a “ballpoint mechanism”. The detergent cover is no longer actuated, but the dosing pump for rinse aid.

With each pulse 1 ml of rinse aid is dispensed. The setting stage for the rinse aid corresponds to the pulses and the dispensed amount. To ensure that the rinse aid container drains, there is a scoop chamber. This is always filled when the appliance door is fully opened. The rinse aid flows out of this scoop chamber into the appliance. If the door is not fully opened, rinse aid may not flow into the appliance because the scoop chamber was not filled.

A ventilation system is used to equalise the pressure in the dispenser.

If the appliance door is opened, the actuating mechanism is “reset”. This causes the detergent cover to open first the next time the coil is actuated.
If there is humidity left in the detergent dispenser and a detergent tablet is inserted, the tablet begins to dissolve slowly.
2 plastic bars in the dispenser prevent the detergent from “sticking” to the housing.

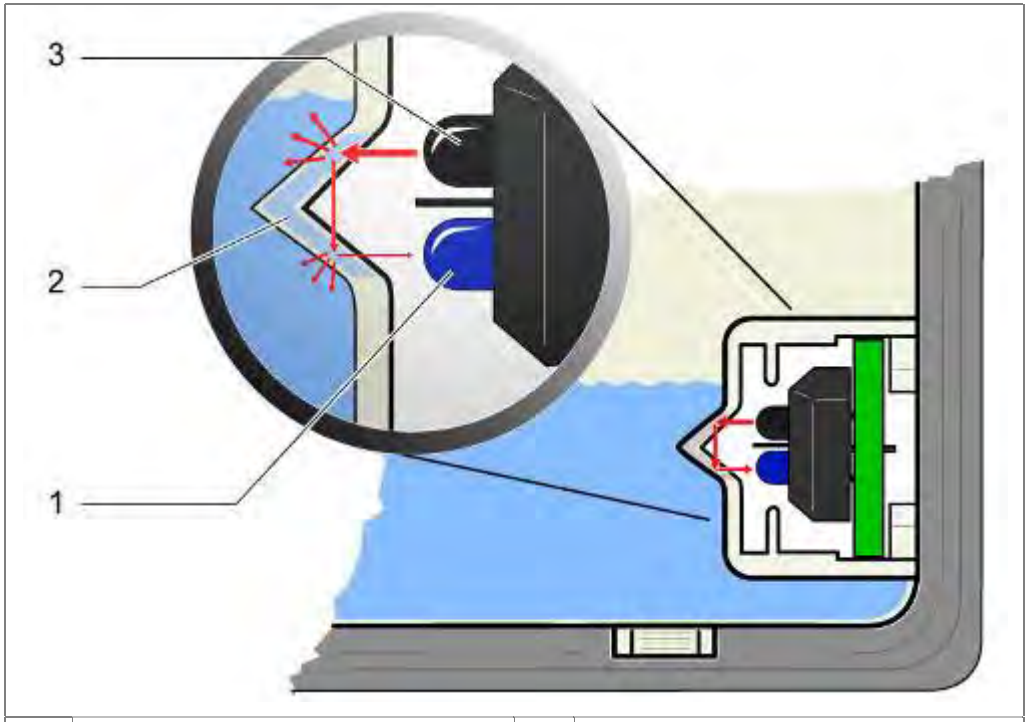


1	Coil	3	Anchor with switching mechanism
2	Release lever	4	Dosing pump

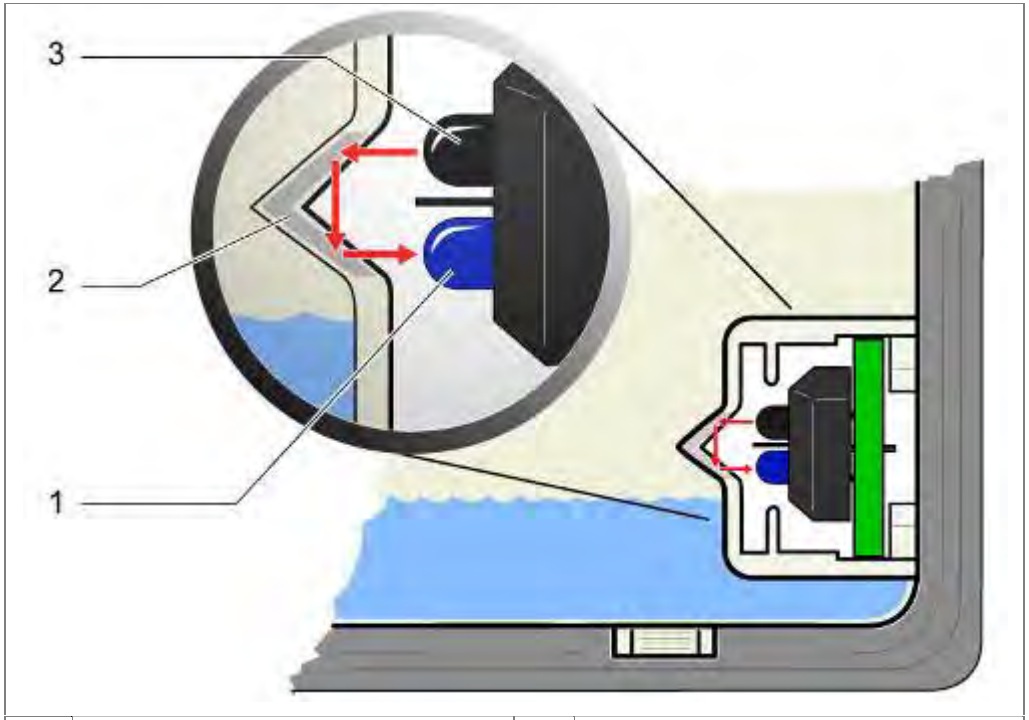
3.32 Low rinse-aid sensor

The optical low rinse-aid sensor consists of a transmitter diode and a photo transistor.

A light beam is transmitted from the transmitter diode to the receiver diode via a prism. If the dispenser is full, the light beam in the prism is scattered. The received signal is weaker than the transmitted one.



1	Receiver diode	3	Transmitter diode
2	Prism		



1	Receiver diode	3	Transmitter diode
2	Prism		

If the dispenser is empty, the light beam in the prism is reflected. The received signal is the same as the transmitted signal.

The received signal is analysed and displayed via the power electronics.

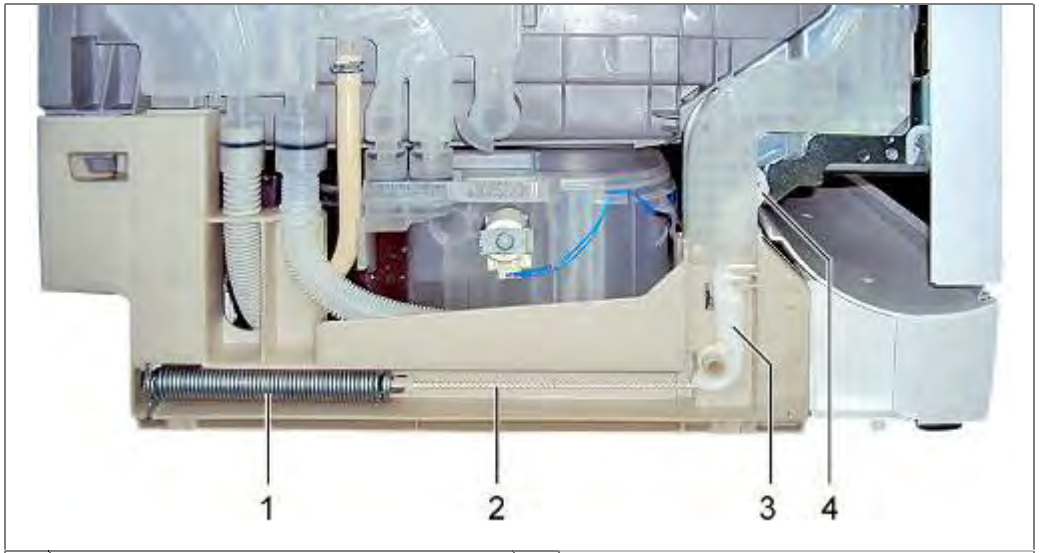
3.33 Door springs

The door springs are located on the right and left under the base pan. The tensile force is transferred to the door hinge with a tension cord via a deflection lever.

The tensile force of the door springs cannot be adjusted.

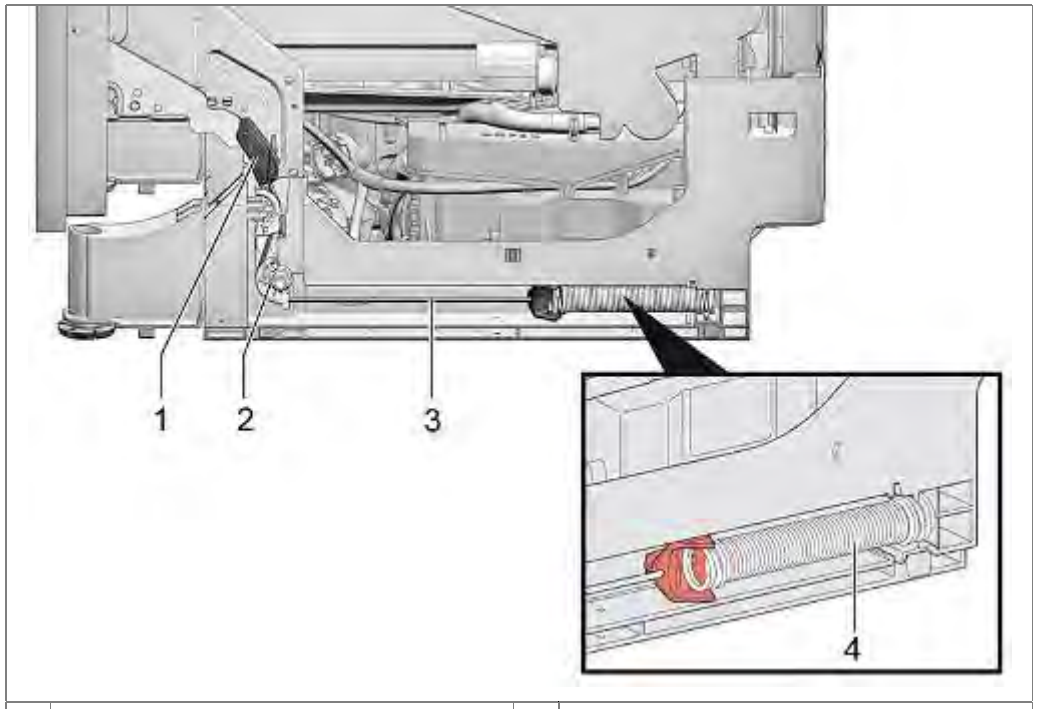
The installed spring and the cable system automatically adjust themselves to the door weight.

Springs with different tensile forces are available. They are marked by coloured points. The allocation to the released furniture fronts is shown in a table in the chapter replacing the springs.



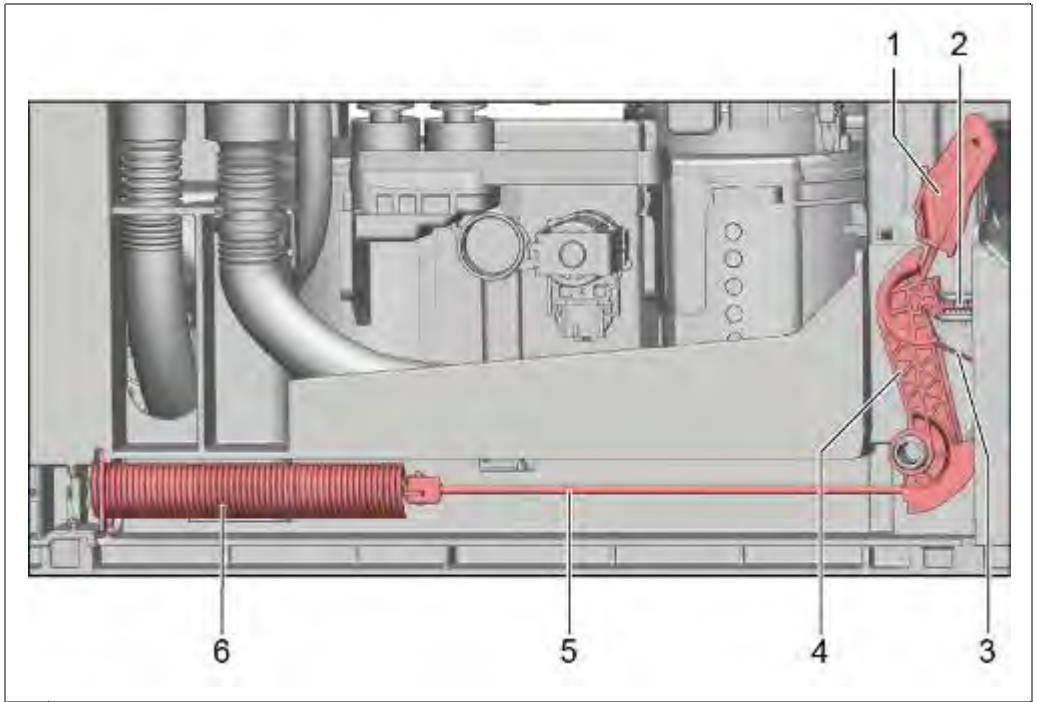
1	Door spring	3	Deflection lever
2	Tension cord	4	Holder for tensioning cable

The following alternate construction can also be used:



1	Holder for tensioning cable	3	Tension cord
2	Deflection lever	4	Door spring

Spring system for machines with the door opening assistant:



1	Halter Zugseil	4	Umlenkhebel
2	Einstellschraube Türöffnung	5	Zugseil
3	Vorspannfeder Türöffnung	6	Türfeder

With the adjustment screws (2), the distance the door automatically opens when pressed can be adjusted.

Über die Einstellschraube (2) wird der Spalt der Türe eingestellt, den sich die Türe automatisch beim Betätigen öffnet.

Adjustment screws

► The adjustment screws have **no effect** on the amount of spring force delivered to hold custom furniture panels

3.34 Variable hinge

3.34.1 Description

The variable hinge enables fully integrated dishwashers to be installed in kitchens with a low base.

The device moves the decor front upwards when the door is opened. As a result, the overhang at the bottom is smaller and passes over the base.

The gap between the base and furniture door can be reduced. If appliances are installed higher, the visual appearance is significantly improved.

3.35 Foot adjustment

Depending on the design, the appliances feature 3 or 4 appliance feet. The adjustable heights vary.

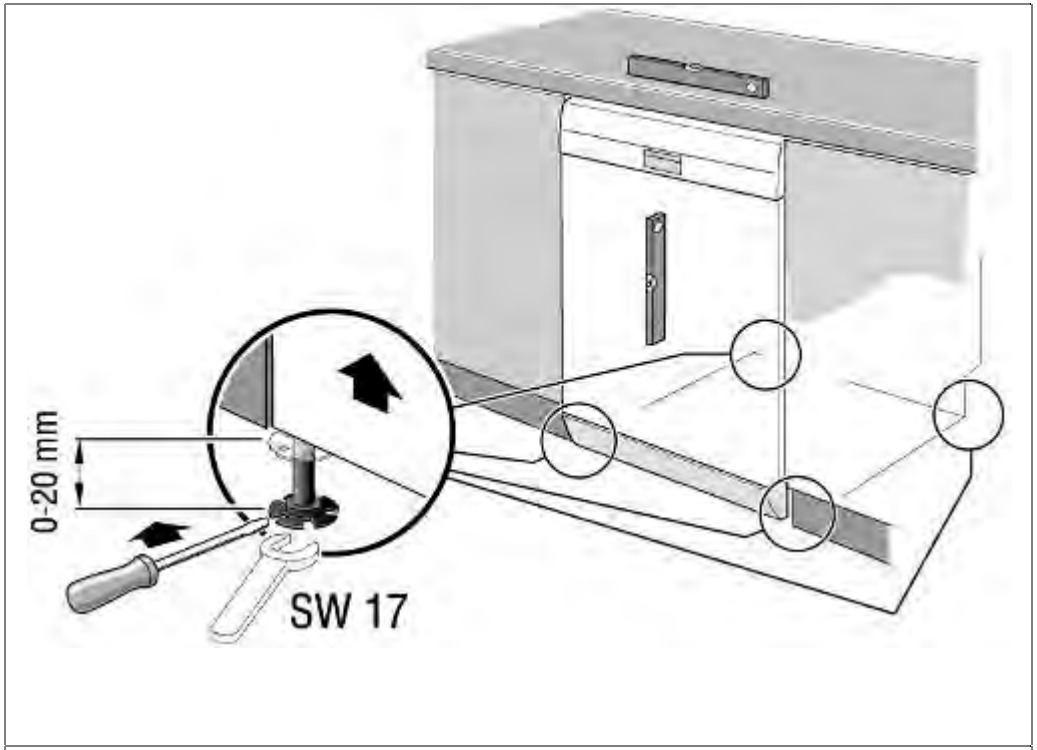


Illustration 1: Free-standing appliance

Devices with zeolite heating system is system-dependently shortened the adjustment foot of the equipment back.
In order to adjust those the adjustment height of the rear foot, an adapter is to be put on the foot.

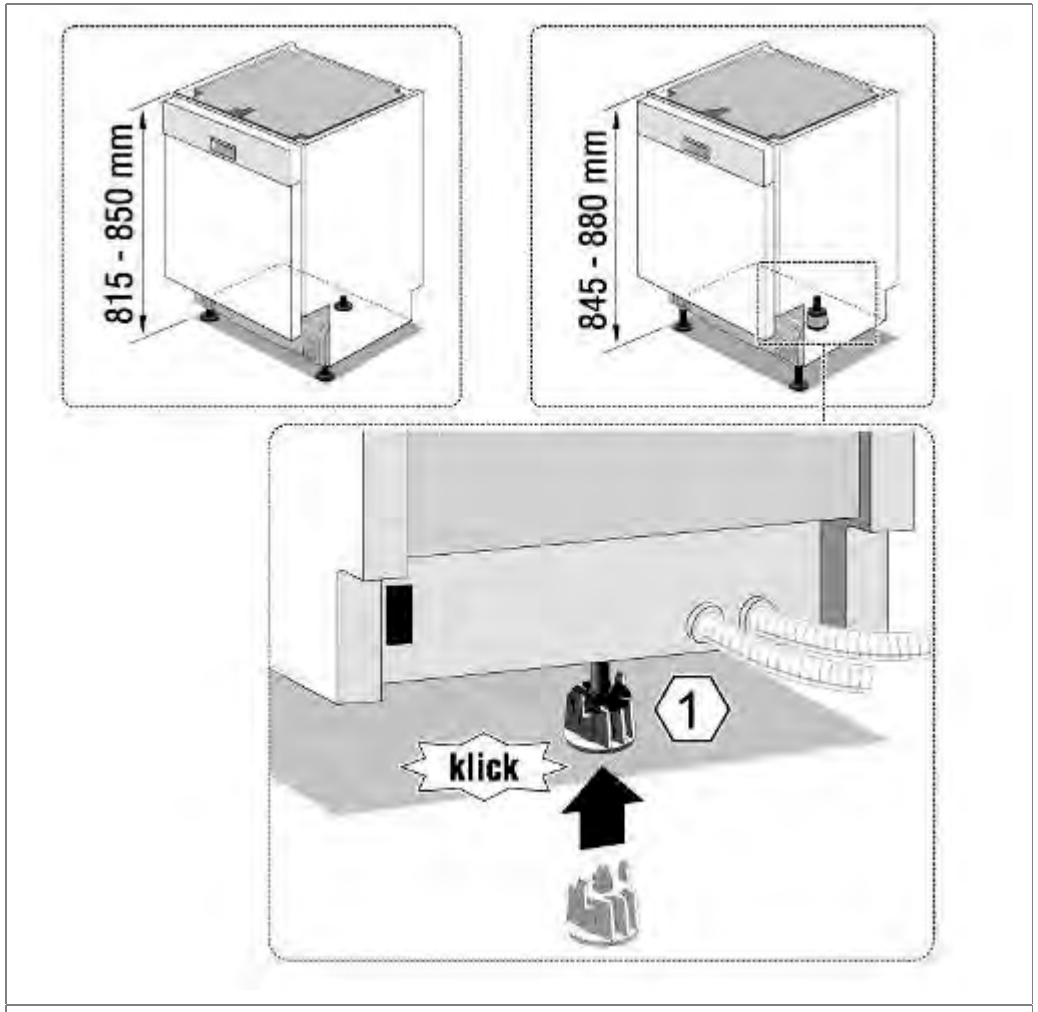


Illustration 2: Built-in & built-under appliance with adaptor 1

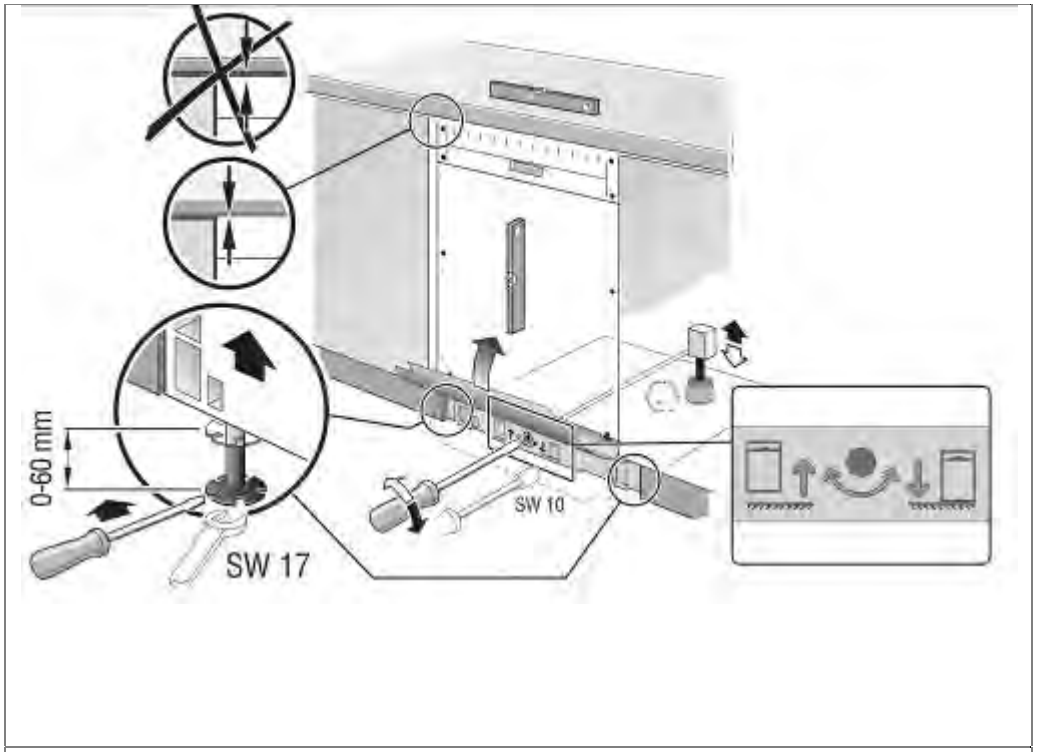
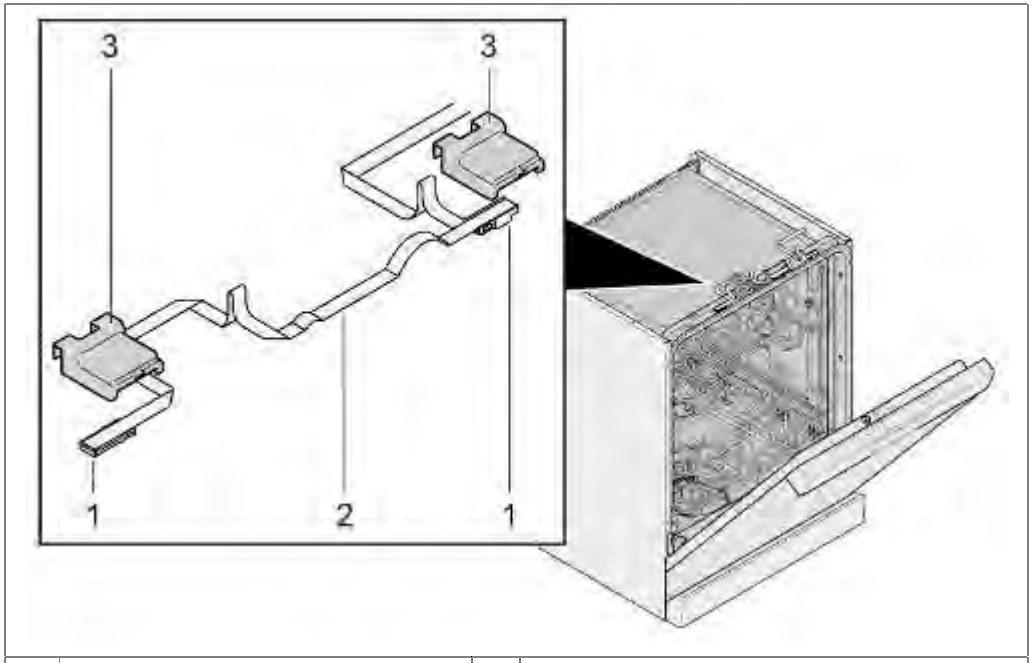


Illustration 3: Built-in & built-under appliance with adaptor 1

3.36 Emotion light (optionally)

Emotion light is an internal light.



1	LEDs	3	Cap
2	Ribbon cable		

If the “Emotion Light” function is activated in the appliance menu, 2 LEDs light up when the door is opened.

The interior light (Emotion Light) comes on when the door is opened irrespective of whether the ON/OFF switch is switched on or off. When the door is closed the light is off. If the door is open for longer than 60 min., the light switches off automatically. The interior light is lit only when the set value P:00 is selected.

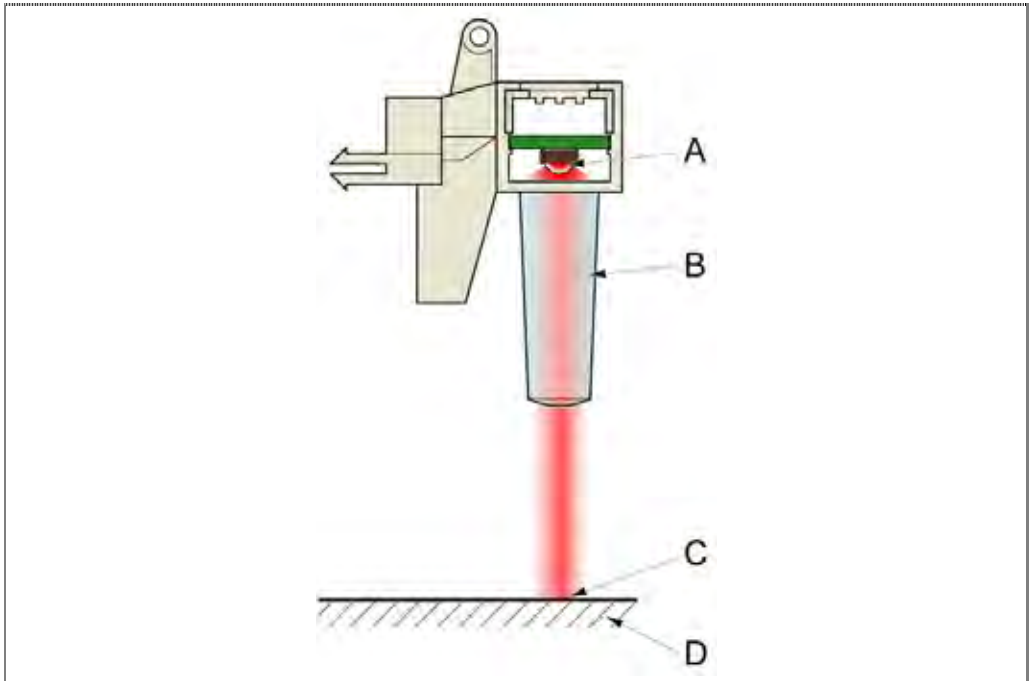
3.37 Info light (optional)

The user is provided with additional information by fully integratable models with a programme status display visible from the outside (info light).

The info light consists of an LED and a fibre-optic cable. The light is bundled via the fibre-optic cable and is projected as a red light spot on the subsurface in front of the dishwasher while the programme is running.

The info light is attached between the inner and the outer door on the right hinge plate and is actuated by the module.

There are, depending on the brand, different colors available



A	LED	C	Light spot
B	Fibre-optic cable	D	Subsurface

3.38 TimeLight (optional)

TimeLight projects user information about the operating state of the appliance for fully integrated models onto the floor in front of the appliance.

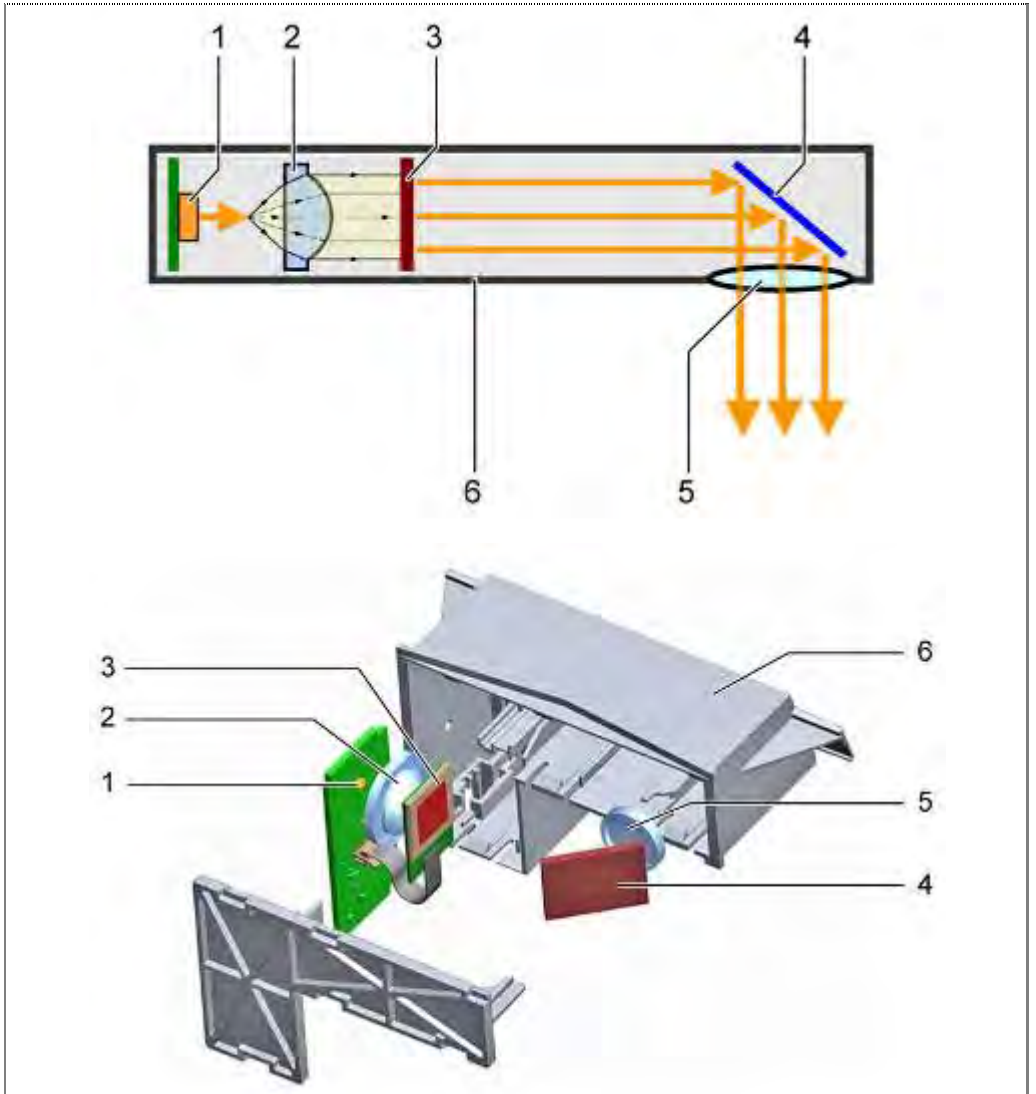
Function:

An LED radiates light which hits a condenser lens. The function of this lens is to collimate the incoming light to ensure that the LCD panel is evenly illuminated.

The LCD panel has a resolution of 34 x 34 pixels.

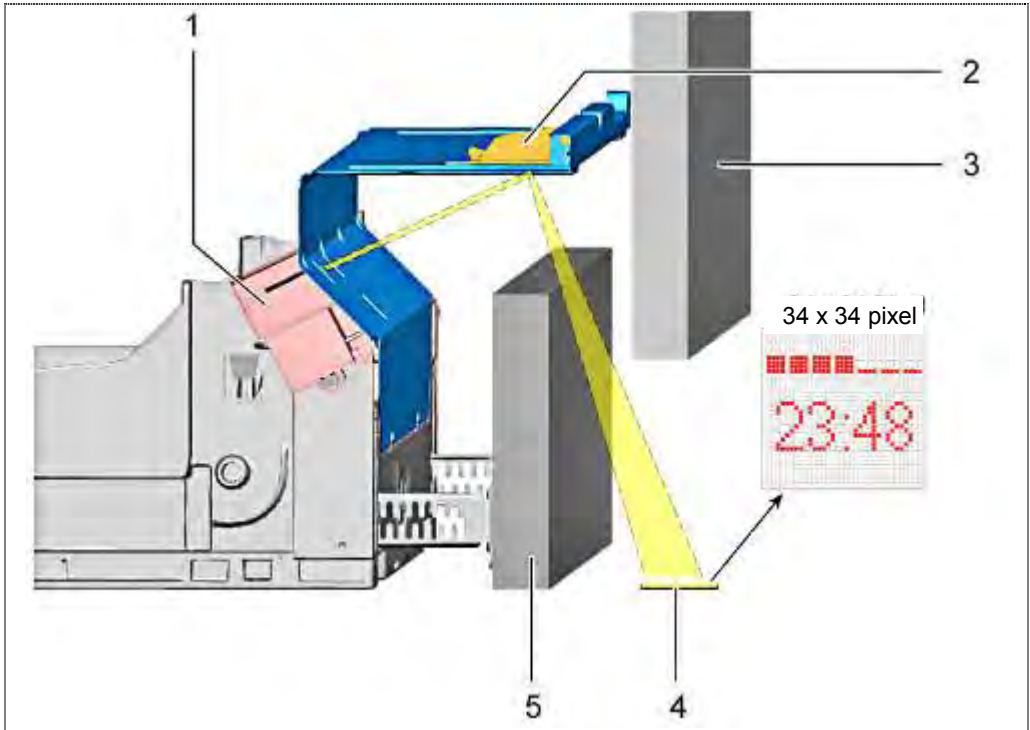
The graphic information is deflected via mirrors.

The TimeLight projection module is available only as a complete module.



1	LED	4	Mirror
2	Condenser lens	5	Projection lens
3	LCD panel	6	Housing

Projection process:



1	Projection module in the base plate	4	Projection surface
2	Deflection mirror in the base plate	5	Base panel
3	Outer door		

3.39 Power module

3.39.1 Position of the components

The power module is connected to the power grid.

In the dish washer, the electrical components are connected via coded plugs to the power module.

The power module is the core of the dishwasher and has many features:

Generating the supply voltages for all electrical components.

Protection of different voltages with respect to the power grid.

Control of the electrical components.

Optional: Galvanic isolation to controls.

Communication of "intelligent" components via D-Bus 2.

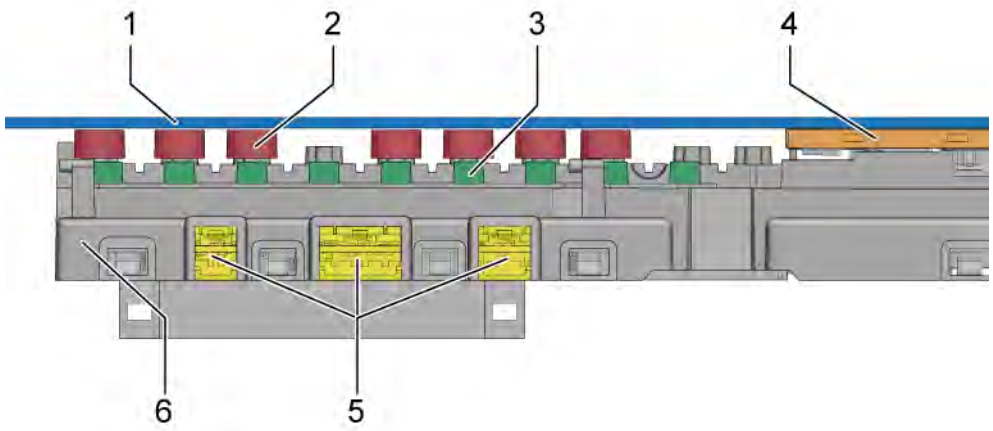
Storing the software for wash programs.

Storing the diagnostic software programs.

Fault code storage.

3.40 Operating module CapaTouch

Devices with CapaTouch have a flat control panel with no physical pressure switch. The user interface responds to touch. Under the user interface the operating module is mounted. Capacitive switching elements detect the contact and convert these into switching pulses.
Right and left of the screen are up to 10 switching points option.

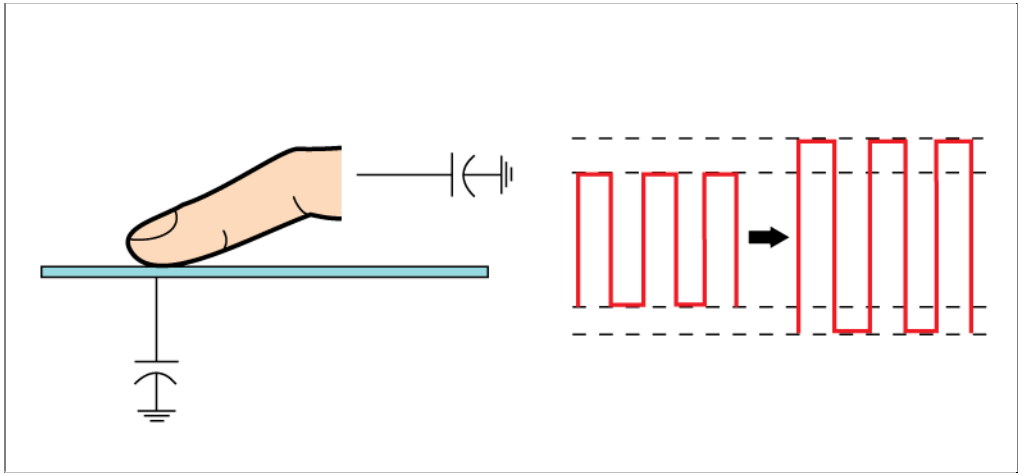


1: Control panel	4: Display
2: Sensor surface	5: Holder
3: Display-LED´s	6: Operation module housing

3.40.1 Fundamentals of CapaTouch

The material and the printing of the user interface has a defined permeability for magnetic fields. This property is referred to as permittivity or dielectric conductivity.

In the electric field, the material is polarized. Positive charges move to the field and negative off the field. The panel thus acts as the plate of a capacitor. Human fingers have their own capacity, which changes the capacitance of the button. When a key is touched by a finger, the sensor detects a larger capacity, which is measured by the controller.



The capacity depends on the print and the strength of the materials of the control panel. To ensure a safe response of buttons, each control module must be adapted to the aperture. This is done via the software with specific parameters.

Software

- It is always the special software to flash on the control module, or
- to order a specially programmed module for this device.

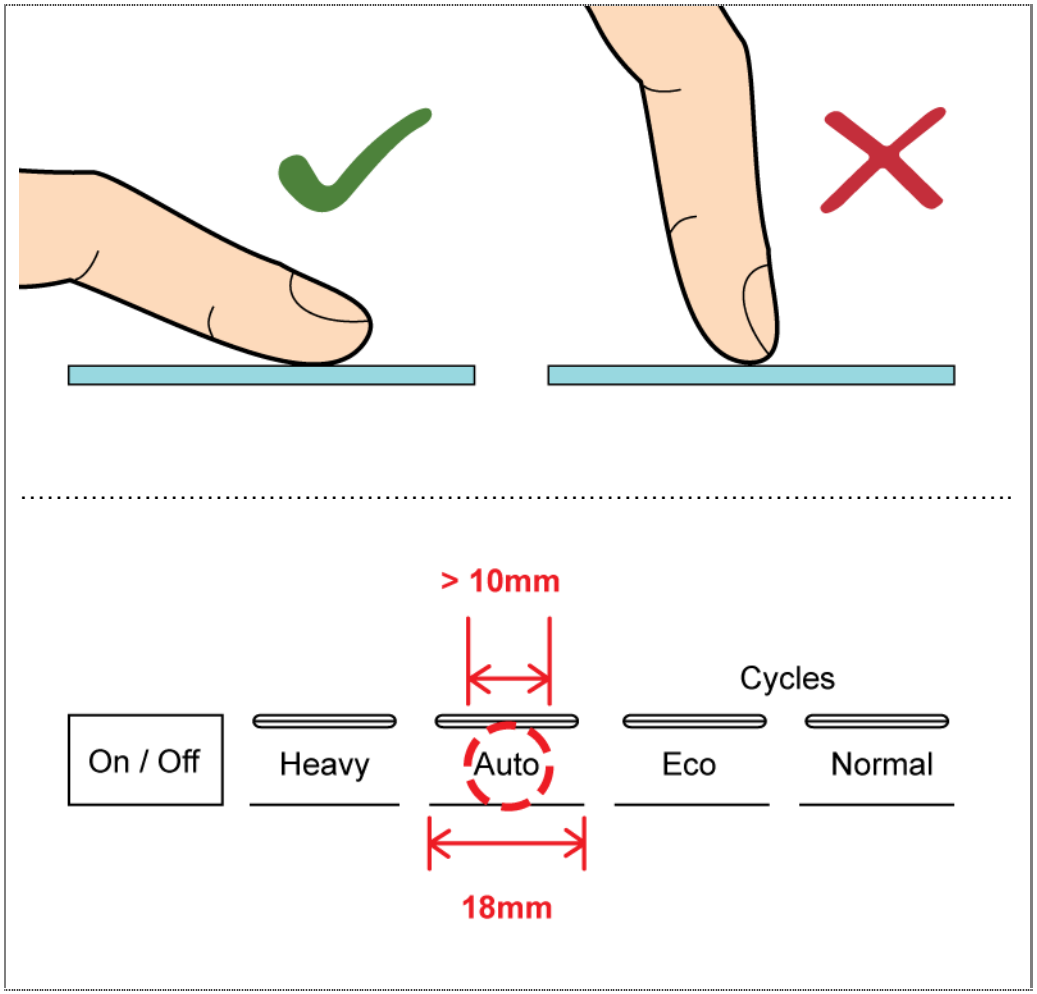
Each coating or dirt on the keys can affect the capacity and function. It is essntial to keep the keys clean.

Because the system is based on the capacity of human fingers, gloves should be avoided for operating.

A tone sounds when a key is touched. This sound can not be turned off and warns customers when a key is touched accidentally.

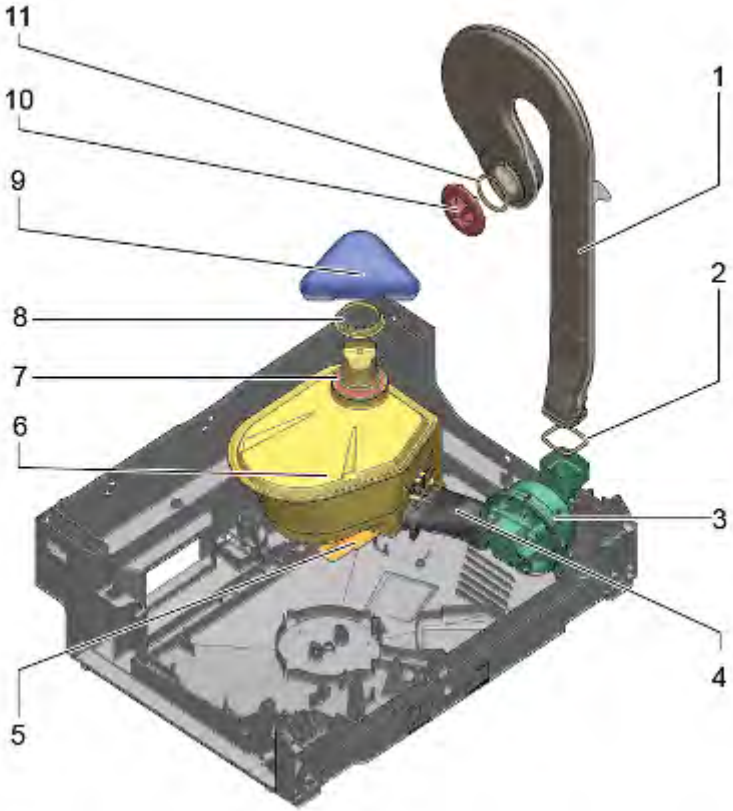
To turn on the unit, the operating module is always supplied with a bias voltage of 14.4 V DC. If the On / Off area is touched, the entire device and operating module is switched on.

In order to ensure safe operation, the key should not be touched with the fingertips.
The button requires a capacitive area of at least 10 mm.



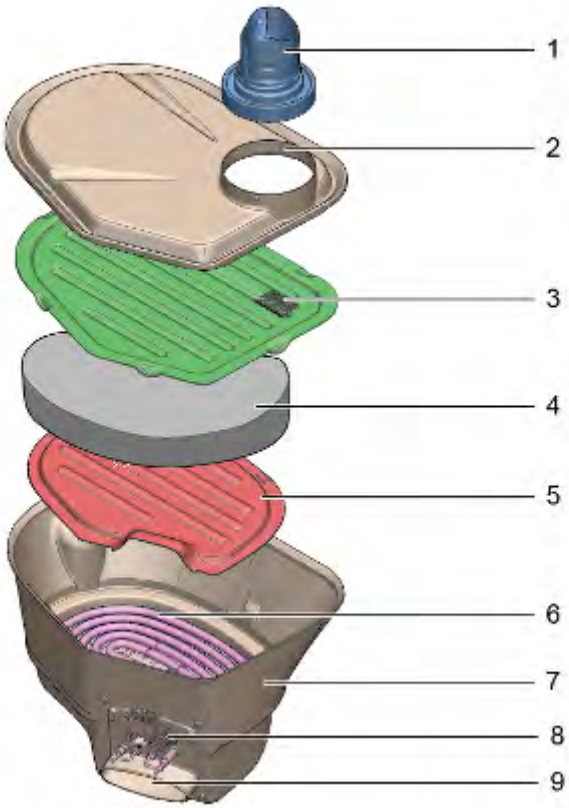
3.41 Zeolite drying system

3.41.1 Construction – entire system



1	Intake duct	7	Seal Discharge cap
2	Seal for cover sieve	8	Zeolite container srew
3	Fan housing with fan motor	9	Zeolite container cap
4	Air duct	10	Cover for intake duct
5	Heat protection shield	11	Seal
6	Zeolite container		

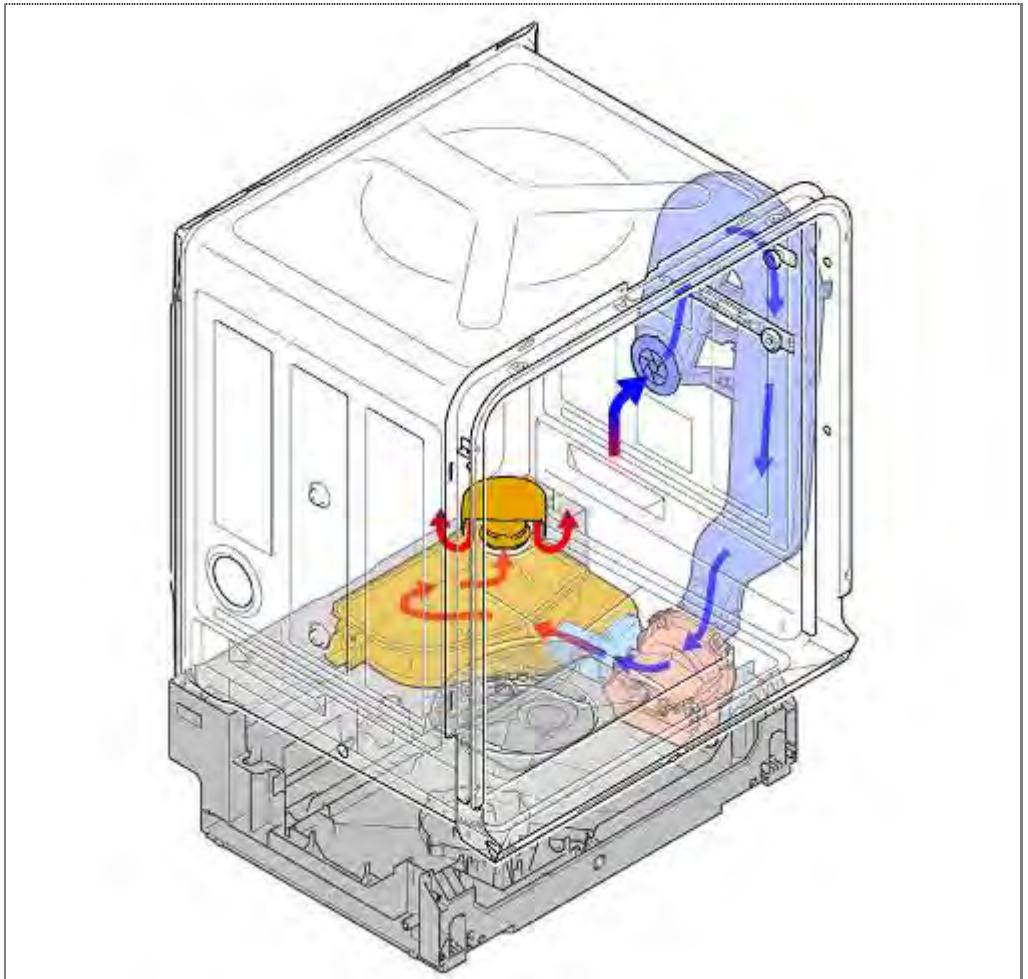
3.41.2 Construction - zeolite container



1	Outlet	6	Heating element
2	Container top	7	Container bottom
3	Upper mesh cover	8	Connection for heater and thermal protection
4	Zeolite particles	9	Inlet
5	Lower filter		

3.41.3 Function of Zeolithsystem

The fan sucks in air via the intake duct from the washing container.
This is blown through the heating element and the zeolite granulate.
On the discharge cap returns the air into the washing container.
The heating element is inserted between the fan and the zeolite container.
When the water sensor detects moisture in the heating area, the cycle will continue without heating. An error code is stored.



Airflow in the zeolithsystem

3.41.4

3.41.5 Properties of zeolite

"Zeolite" is a name for a group of minerals with a crystalline structure that is capable of adsorbing (taking up, binding to the surface) and desorbing (releasing) molecules.

The name "zeolite" is derived from the Greek words *zeein* which means "boiling" and *lithos* which means "stone".

This material heats up when water is absorbed which explains why it is sometimes also referred to as "boiling stone".

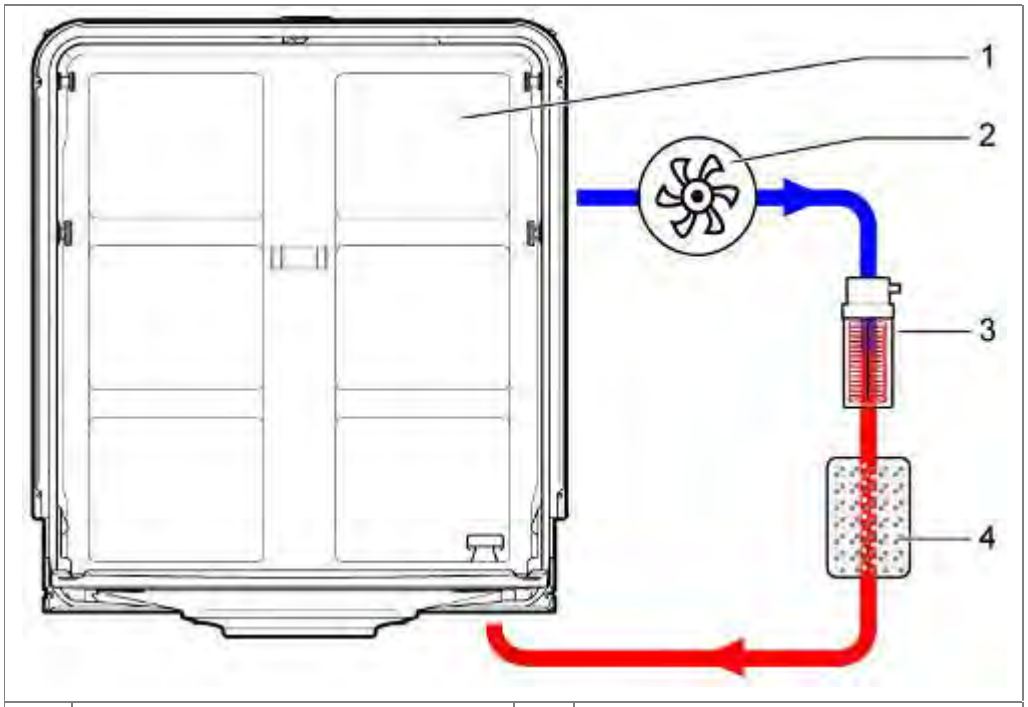
Zeolites are crystalline silicate minerals that are found naturally in many forms but they can also be synthetically manufactured. They are made up of a microporous framework structure. Depending on the type of structure, a structure is produced consisting of pores and/or channels of the same shape in which substances can be adsorbed.

Only substances whose molecules have a smaller kinetic diameter than the openings of the pores in the zeolite structure can be adsorbed. The arrangement of the hollow spaces and channels in the material produces a very high internal surface area. This can be > 1000 m² per gram of zeolite.

Zeolite minerals can store up to 40% of their dry weight in water, depending on the type.

Adsorbed water is released when the material is heated.

3.41.6 Cleaning phase, desorption



1	Dishwasher cavity	3	Air heating
2	Fan	4	Zeolite container

The zeolite must be dried before the system can absorb moisture once again. This takes place during the cleaning phase.

Air is drawn out of the interior of the container assisted by the fan, then passes through the container filled with zeolite granules once it has been heated by a heating element.

The zeolite releases the moisture which it has stored and is now ready to absorb moisture once again in the next drying phase.

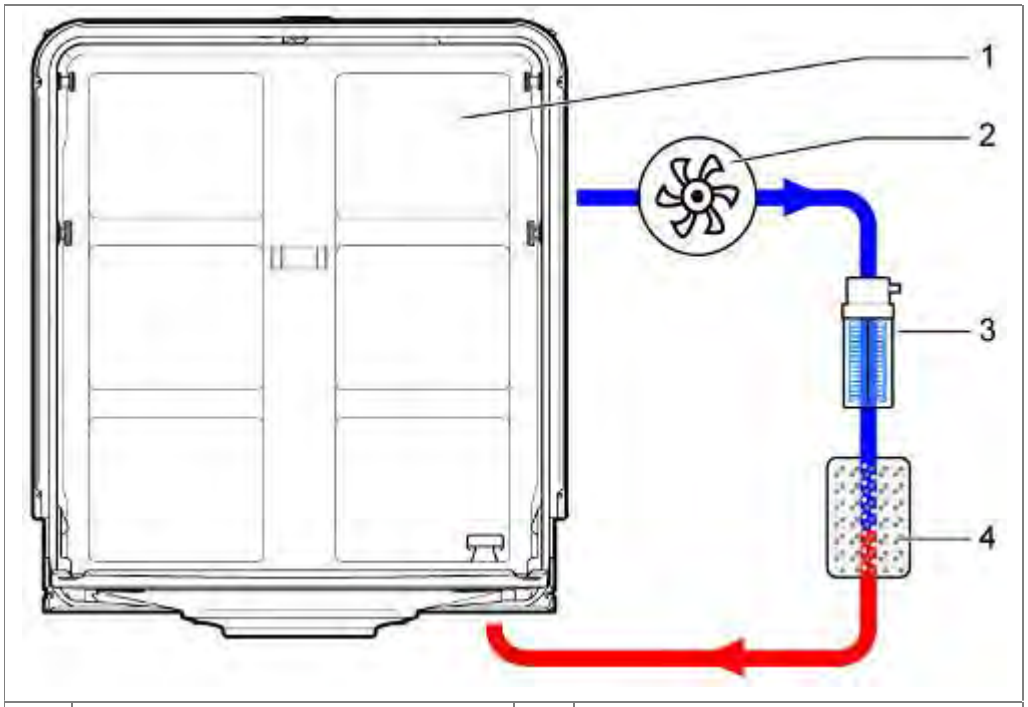
This process is known as desorption (release of stored material).

Warm and moist air is channelled back to the interior and supports the heating of the dishes.

The desorption procedure time-steered and to the respective program adapted.

This process is repeated for every washing cycle in which the zeolite heating is activated.

3.41.7 Drying phase, adsorption



1	Dishwasher cavity	3	Air heating
2	Fan	4	Zeolite container

The dishes are heated up to 35°/45°C following rinsing with rinse-aid.. The interior now contains warm moist air.

The moist air is drawn out of the interior assisted by the fan and passes through the container filled with zeolite granules.

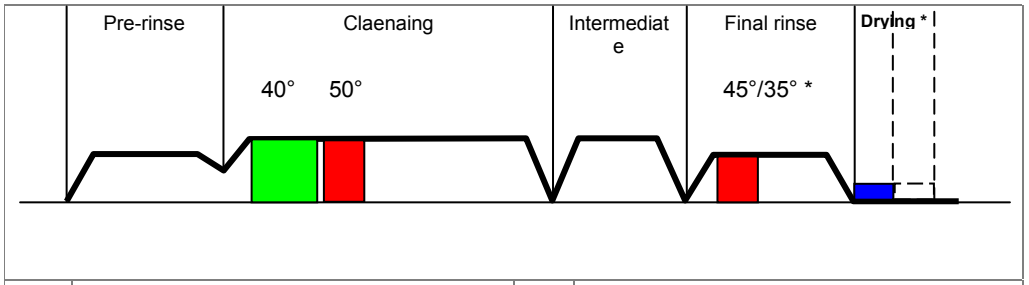
The moisture is absorbed immediately. Energy is released and the zeolite heats up. The dried air is also heated by the energy released from the zeolite.

This process is referred to as "adsorption" (binding of molecules to surface).

The hot dry air is fed back to the interior.
This drying process is much faster than with standard dishwashers equipped with condensation drying systems.

Liquid rinse-aid assists the drying function of the air dehumidification system. When using combi products (tabs), the drying result may be found to be insufficient.

3.41.8 Temperatures in the program sequence



	Desorptionphase, heating with Zeolithcontainer + fan active		Adsorptionphase, fan active
	Heating with heating pump		

Depending on the program, the washing time may be shortened, or the energy used for washing may be reduced.

* With the rinse-aid program, the system only heats up to a temperature of

- 35°C in energy-saving mode and
- 45°C in time-saving mode.

3.42 Power cords – country versions

3.42.1 Power cord

The power cord has a cold appliance system connection and is enclosed with the appliance. When the appliance is switched on for the first time, the cable must be connected to the back of the appliance

3.42.2 Country versions

Different power cords are offered as optional accessories via Sales.

WARNING

Incorrect connected loads!

Destruction of the appliance

- If a power cord is replaced with a power cord with a different plug, check the connected loads of the appliance with the supply voltages and frequencies of the particular country.

3.42.3 Extension leads

3 metre extension cables are available from customer service. These are currently released by PG.

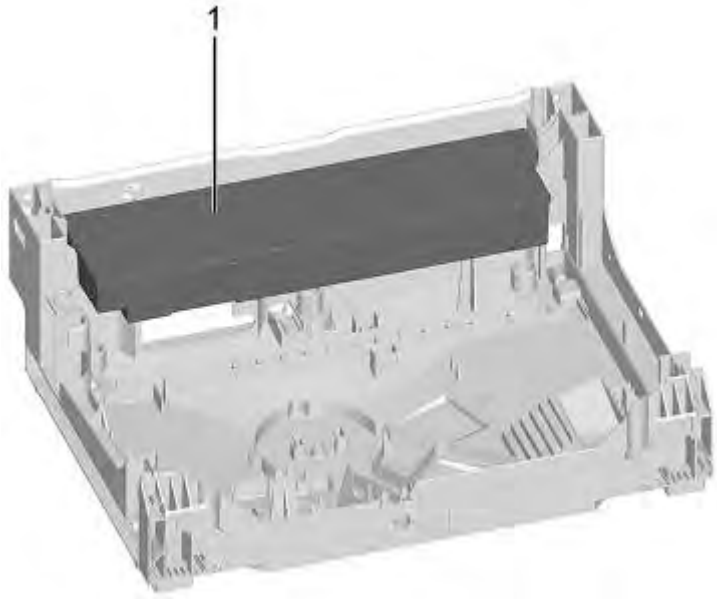
Material number EU version: 644533

Material number GB version: 644534

3.43 Weight

Free-standing appliances have a weight in the rear area of the base pan. This prevents the appliance from tipping over if the door is opened and the baskets pulled out.

The weight is 2,4 Kg.



1	Counterweight		

3.44 D-bus2 / appliance software

DANGER

Exposed live parts

Danger to life caused by electric shock!

- ► Disconnect the appliance from the power supply.
- ► Do not touch housing, frame or components.
- ► Use residual-current-operated circuit-breaker if tests have to be conducted while the appliance is live.
- ► Ensure that the resistance of the protective conductor does not exceed the standardised values.

Communication between the electronically components is via a D-bus2.

The D-bus2 consists of a 3-pole line system. The 3 lines are connected as follows:

- 13,5 V d.c. via GND
- GND (possibly power potential)
- Data line

The software can be manually imported (flashed). A connection with the D-bus2 is established via the UDA.

CAUTION

Voltage peaks with the release/connecting the plug contacts

Destruction of the control module or the piezo power supply unit (optional) by net potential on the ground wire of the bus system.

- ► Disconnect the appliance from the power line before release/connecting plug connectors.

4 OPERATION

4.1 Customer settings CapaTouch

Requirement:

Appliance is switched on

4.1.1 Button layout

4.1.2 Selection of the customer settings

Press Info button for 3 seconds.

4.1.3 Selection ranges

The display shows the first setting option.

Use the < or > button, the setting range is selected.

Using the and buttons + and -, the setting is set.

4.1.4 Saving the setting

Press “Start” button

4.1.5 Possible settings

The setting will be displayed in plain text

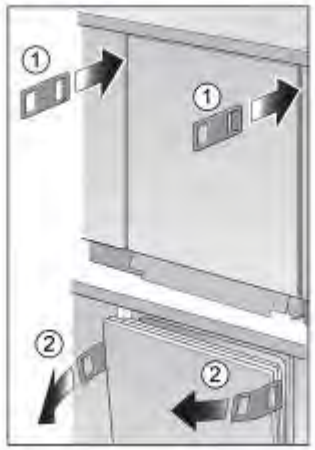
Area		Factory setting
Time setting		12:00
Timeformat		24:00
Time		Time
Language		German
Water hardness		Medium , 13°-16° dH
Rinse aid dispenser		Setting 5
Aquasensor setting		Standard
Extra dry		Off
Water connection		Cold water
Eco forecast		off
Auto Power Off		After 1 minute
EmotionLight		On
Frontdisplay		On
Timelight		On
Infolight		On
Start program		Eco 50°
Tone volume		Setting 2
Button Volume		Setting 2
Childproof lock		Off
Eco drying		On
Greeting		On
HomeConnect		On
Factory setting		Confirm/Back, Resetting to the factory setting.
		Depending on the features of your dishwasher

Additional information about each setting are displayed by pressing the info button.

5 DIAGNOSTICS

5.1 Malfunction

Fault	Cause	Fault correction
No function after replacement of CapaTouch operating module	CapaTouch module unprogrammed, or installed with the wrong software.	Flash the software (see chapter "Software upload") or install programmed operating module.
Bad response of the keys	Pressing keys correctly.	
Unmotivated response of the keys.	Dirt / moisture on the user interface.	Clean with a soft cloth. Do not use aggressive household cleaners or scouring pads.
Program will stop, can not be started, cycle interruption	Door lock is not properly closed because the door lock lever snaps. Closing force too high .	Close the door so firmly, that the latching works normally again. Closing force reduction by replacing the upper door sealing.
Door does not open when activated.	Malfunction of devices with door opening module.	Measure supply voltage; replace door opening module. Open the door with the attached auxiliary tool.
	Device without main power	Check power cord and fuse.
		Fix the provided emergency release upper right and left on the furniture drive and open the door by pulling the door slight (img 1).
	Door is not adjusted properly.	Adjust the door correctly by using the assembly instructions.
	Automatic door opening is not in home position.	After closing the door to wait for one second until it can be opened again .

Door does not open when activated.	Door and door sealing dirty.	Clean the door and the door seal with a damp cloth and a little detergent.
Door can not close.	Automatic door opening is not in home position..	Adjust the door correctly by using the assembly instructions.
Door does not open automatically at the end of Eco 50 ° Program.	Eco drying deactivated.	Activate eco drying.
	Childlock activated.	Deactivate childlock.
	Eco 50° program not selected.	Select Eco 50° program.
	Additional functions seleted..	Switch off additional functions.
	Extra dry selected.	Switch off extra dry .
	Door is not adjusted properly.	Adjust the door correctly by using the assembly instructions .
	Dirty door and door sealing.	Clean the door and the door seal with a damp cloth and a little detergent.
Img. 1		
Emotion Light does not lihgt up.	Emotion Light deactivated.	Enable function in the customer settings.

Emotion Light does not lihgt up.	Door open longer than 60 minutes.	Close the door and re-open.
Error code "P0 Switchmirror 1" or color bars on the display in devices with capacitive operation "CapaTouch"	1. Incorrect key to entry into the test program were pressed . 2. Steam fender mounted. Operating module is too close to the steam fender. CapaTouch reacts.	3. Switch unit off and switch on again. 4. Ensure a distance between the operating module and steam fender of min. 4 mm
Time jumps in the remaining time display in 45 ° program .	5. The software displays temporarily a longer duration.	6. Software will be modified. If an update is available, an ATI will be published.

5.2 Noises

Fault	Cause	Fault correction
Running noises in Zeolith operation	· By mechanical changes in the enterprise it´s possible that the fan motor of the zeolite heating becomes audible · Fan motor out of balance. This resonates heat shield	1. Replacing zeolite fan motor. 2. Zeolite fan motor swap. 3. Bend the heat shield mechanically, that it touches the zeolite container firmly
10 KHz sound when heat pump is in use	Heat pump .	Change heat pump
Buzzing noise from the rear side	When the water switch is rotating (changing from the lower spray arm to the upper spray arm), it is possible a humming noise can be heard. Tolerances on the docking point between the upper spray arm and feeder pipe.	Exchange feeder pipe and upper spray arm. Repair kit for 81 cm: 11008316 Repair kit for 86 cm: 11008317

5.3 Result faults

Fault description	Cause	Remedial action
Unsatisfactory washing result in the bottom basket of zeolite appliances	Lower spray arm blocked on the blow-out cap of the zeolite container	Check that the cap is secure. It must be locked all the way.
Poor rinsing result.	· Tablet does not fall into the basket handle on 86 cm appliances. · Spray arm stiff, sticking. · non-return valve defectively/blocked/clogs · Dispenser does not open, because Tab blocks the dispenser cover, Tab upright inserted · Remainders in the dispenser · Missing cover of water softener in AU models · Poor washing and drying result because rinse cycle without heating in conjunction with error code E:31 in Zeolite models with tubular heating element	· Insert tablet chute (material number 614935) into top basket. · Check that the spray arms function (Use of glass door, material number: 81 cm: 341333; 86 cm: 341334) -> replace spray arm. · Examine, release it · Advise customer, insert Tab correctly · Spraying arm blocked, dishes, smell donors in grip cap - > advise customer · AU models are partially coated with a "dummy" - equipped softener. Screw on lid. · Water runs via the discharge cap into the Zeolite container Replacement of the following components: - Discharge cap 00614933 with sealing 00614930 - Zeolite heating element - Zeolitecontainer Ensure cap for correct fitting. Screw cap until endstop and check the lower spray arm rotates past freely and with clearance > 1.5 mm on the cap. Remove water from the Zeolite system. Exchange Zeolite heating element. Exchange Zeolite container. Check the installation. Appliance not be operated tilted back, see instruction manual -> Horizontal installation!
	Less water pressure	· See chapter “check water inlet”

On account of an increased number of enquiries concerning the washing result of the series GV640, the possible reasons for the “poor washing result” complaint and information on possible remedies are listed below.
Faults which can be clearly attributed to operating faults, as well as inadequate maintenance, must not be claimed under the warranty.
Appropriate use and maintenance instructions can be found in the indicated chapters in the Instructions for use and Quick reference guide & .

From experience it is important to scrutinise not only the fault description but also the circumstances of the occurrence on acceptance of the order and to mention these in the order.

- Does the problem persist, sporadically or at specific intervals?
- Were different programmes or detergents used or tested?
- Has the problem been occurring since a specific time (new utensils, change in detergent, ...)?
- Are only utensils in certain areas (only top/bottom basket, only corner areas, ...) affected?

The performance test must be conducted in the customer service test programme using the “glass door”.

1. Residue on the utensils:

Fault description	Cause	Remedial action
Food remnants or sandy residue	Utensils placed too closely together, overfilled	Observe correct arrangement of utensils (arrange according to Fig. 1, Fig. 2 and Fig. 3).
	Spray arm blocked by utensils or cutlery.	Arrange utensils so that spray arm can rotate without obstruction. (arrange according to Fig. 2 and Fig. 3); *see & Utensils*
	Utensils precleaned too intensely; sensors therefore decide on weak programme sequence. Stubborn soiling cannot be completely removed	Do not prerinse utensils; remove only large food remnants. Programme recommendation Eco 50°.
	Filter not locked in the pump sump or incorrectly inserted	Insert and lock filter correctly; *see & Maintenance and care*
	Spray arm nozzles, roof shower head blocked (e.g. lemon pips, etc.).	Clean nozzles and roof shower head and insert/lock filter correctly; *see & Maintenance and care*
	Coarse, micro and fine filter dirty.	Clean filters; *see & Maintenance and care*
	Spray arm bearings do not move smoothly (dirt around the bearings).	Clean parts, show customer how to insert filter correctly.
	Spray arm or supply pipe deformed -> spray arm strikes the basket or the docking site.	Replace spray arm.
	Waste-water pump blocked.	Check waste-water pump; *see & Eliminating faults yourself*
	Dirty water runs back into the appliance -> re-soiling.	Check draining, check non-return valve for leaks.
	Top basket on right and left not set to same height.	Set top basket to same height using side levers.
	Utensils unfavourably arranged (very large utensils e.g. pans in the bottom basket), avoid contact points, prong rows bent.	Arrange utensils so that spray jets can reach surface of utensils (arrange according to Fig. 2 and Fig. 3).
	Tall narrow receptacles are not rinsed adequately in the corner area.	Do not place tall narrow receptacles too obliquely or in the corner area (arrange according to Fig. 2 and Fig. 3).

Fault description	Cause	Remedial action
Detergent residue	Detergent dispenser cover blocked by utensils (cover does not open fully).	Check detergent dispenser function, detergent cover must not be obstructed by utensils. Do not place any utensils or aroma dispensers in the dosing assistant.
	Detergent dispenser cover is blocked by the tablet.	Advise customer, insert tablet correctly (flat, not upright).
	Tablets used in the Quick or Short programme. -> Dissolving time of the detergent is not reached in the selected short programme.	Advise customer, dissolving time of the tablets too long. Use detergent powder or select a more intensive programme.
	Detergent residue in final rinse; detergent-solution carry-over.	Check draining, check non-return valve for leaks.
	Detergent very lumpy, washing effect and dissolving performance are reduced after a prolonged storage time.	Advise the customer. Always insert tablet just before the programme starts.
Water stains on plastic parts	Droplet formation on plastic surface is physically unavoidable. Plastics do not store heat. After drying, substances in water are visible.	- Use more intensive programme (more water changes); *see & Programme overview* - Note inclination when arranging utensils. - Use rinse aid, if required increase see & Rinse aid. - If required, increase softening setting; *see & Water softening system*
Water residues	Wrong loading	Correct sequence for eliminating consider Fig 4
Coloured (yellow, orange, brown), easily removable, soapy residue in the interior	Soap-like layering of ingredients of food residue and lime. Because of tolerances for combined detergents (3 in 1 or higher) can make it necessary to use the water softener already at a water hardness of 16 ° dH.	Advise customer and contrary to the indication of the detergent manufacturer activate the water softener additionally
Residue in the pull-out rails	Detergent and food remnants are deposited due to design.	Clean by hand, - for the upper basket use the modified pull-out rails with mat.no. 708086 - for the cutlery drawer use mat.no. 687970

2. Coatings:

Fault description	Cause	Remedial action
Wipe-clean or water-soluble coatings in the container or on the door	Detergent substances are deposited. These coatings cannot usually be removed with chemicals (appliance cleaner, ...).	Change detergent brand. Clean appliance mechanically.
	Water softening system set marginally; fault description occurs cyclically "White coating on container floor".	Increase softening setting and change detergent if required.
	Regeneration salt on the utensils: - Leaking salt dispenser cover. - Leaking regeneration valve.	Advise customer, eliminate leak. Check regeneration valve or valve seat (customer service programme).
	Detergent residue in the final rinse; detergent-solution carry-over. Wrong programme selected. (Quick programme selected)	Check detergent dispenser function, detergent cover must not be obstructed by utensils; Select suitable programme. *see & Programme overview*
	Initial clouding of glass -> can only apparently be wiped off.	Damage to utensils
White, stubborn coatings; limescale on the utensils, container or door	Detergent substances are deposited. These coatings cannot usually be removed with chemicals (appliance cleaner, ..).	Change detergent brand. Clean appliance mechanically.
	Hardness range incorrectly set or untreated water hardness greater than 50 °dH.	Check residual hardness in the cleaning and final rinse cycles and set water softening system according to instructions for use. Top up salt; *see & Water softening system*
	Water softening system is not being regenerated.	Check function of the regeneration valve in the customer service programme.
	3in1 detergent or bio/eco detergent not effective enough.	Set water softening system according to instructions for use; use separate agents (proprietary detergent, salt, rinse aid); *see & Water softening system*
	Detergent in the salt container (proof with minilab Mat.Nr. 340070)	Change water softerner

Fehler	Ursache	Fehlerbehebung
Starch deposits on the utensils	Underdosage of detergent (verification with Minilabor mat. no. 340070).	Advise customer; increase detergent dosage, change detergent.
	Wrong programme selection (programme too weak) selected.	Advise customer; correct programme selection; *see & Programme overview*
Tea or lipstick residue on the utensils	Too low rinsing temperature.	Select programme with higher washing temperature; *see & Eliminating faults yourself*
	Too little detergent.	Use suitable detergent at correct dosage.
	Utensils precleaned too intensely; sensors therefore decide on weak programme sequence. Stubborn soiling cannot be completely removed.	Do not prerinse utensils; remove only large food remnants. Programme recommendation Eco 50°.
	Unsuitable detergent.	Change detergent.
Coloured (blue, yellow, brown), difficult to remove to non-removable coatings in the container or on the door	Film formation consisting of ingredients from vegetables (e.g. cabbage, celery, potatoes, noodles, ..) or the tap water (e.g. manganese).	Can be partly removed with machine cleaner (mat. no. 311313) or mechanical cleaning. Coatings are harmless.
	Film formation caused by metallic components. Known for silver or aluminium utensils.	Can be partly removed with machine cleaner (mat. no. 311313) or mechanical cleaning.

3. Discolouration:

Fault description	Cause	Remedial action
Coloured (blue, yellow, brown), shimmering, difficult to remove to non-removable discolouration in the container or on the door	Film formation consisting of ingredients from vegetables (e.g. cabbage, celery, potatoes, noodles, ..) or the tap water (e.g. manganese).	Can be partly removed with machine cleaner (mat. no. 311313) or mechanical cleaning. Mechanical removal with “Vienna chalk” (mat. no. 311136) usually possible. Coatings are harmless.
	Film formation caused by metallic components. Known for silver or aluminium utensils.	Can be partly removed with machine cleaner (mat. no. 311313) or mechanical cleaning.
Discoloration on plastic parts	Wash programme too weak.	Select different wash programme; *see & Eliminating faults yourself*
	Too low rinsing temperature.	Select programme with higher wash temperature.
	Utensils precleaned too intensely; sensors therefore decide on weak programme sequence. Stubborn soiling cannot be completely removed.	Do not prerinse utensils; remove only large food remnants. Programme recommendation Eco 50°.

4. Streaking on glasses and cutlery:

Fault description	Cause	Remedial action
Removable streaking on glasses and cutlery Glasses with metallic appearance	Too much rinse-aid.	Set rinse-aid amount to lower level; *see & Rinse aid*
	No rinse aid added or setting too low.	Add rinse aid and check dosage (recommendation level 4-5); *see & Rinse aid*
	Non-return valve leaking.	Check non-return valve for leaks.
	Detergent residue in the final rinse. Detergent dispenser cover blocked by utensils (cover does not open fully).	Check detergent dispenser function, detergent cover must not be obstructed by utensils. Do not place any utensils or aroma dispensers in the dosing assistant.
	Utensils precleaned too intensely; sensors therefore decide on weak programme sequence. Stubborn soiling cannot be completely removed.	Do not prerinse utensils; remove only large food remnants. Programme recommendation Eco 50°.

5. Damage to utensils/water-insoluble residue

Fault description	Cause	Remedial action
Initial or existing irreversible **clouding of glass**	Glasses not adequately dishwasher-proof (glasses are usually only suitable for dishwasher).	Advise the customer. Reduce main causes of glass corrosion: - Use dishwasher-proof glasses. - Avoid long steam phase (standing time after wash cycle ends). - Use programme at lower temperature. - Set water softening system according to the water hardness (if required one level lower); *see & Water softening system* - Use detergent with glass protection function.

6. Rust

Fault description	Cause	Remedial action
Rust marks on cutlery	Cutlery not adequate corrosion-resistant. Knife blades are frequently more severely affected.	Use corrosion-resistant cutlery.
	Cutlery infected by extraneous rust from rusting parts (metal lid, damaged utensils basket, etc.).	Do not wash rusting parts.
	Salt content in the rinsing water too high, as salt dispenser lock not fastened firmly or salt was spilled while being refilled.	Fasten salt dispenser lock firmly or remove spilled salt (by prerinsing cycle).
Stains on the cutlery	Large contact surfaces between cutlery and too little inclination of e.g. spoons prevent the water from draining and cause staining.	Arrange cutlery so that there are as few contact surfaces as possible. (Arrange according to Fig. 1 and Fig. 2).
	Coarse, micro and fine filter dirty.	Clean filters; *see & Maintenance and care*
	No rinse aid added or setting too low. (Combination detergents have a lower final rinsing effect than separate rinse aids).	Add rinse aid and check dosage (recommendation level 4–5); *see & Rinse aid*
	Hardness range incorrectly set or untreated water hardness greater than 50 °dH.	Check residual hardness in the cleaning and final rinse cycles and set water softening system according to instructions for use. Top up salt; *see & Water softening system*
	Minor discolouration or residue at the contact points are physically induced and unavoidable.	Minimisation possible by means of the points stated in this section.

Figures:

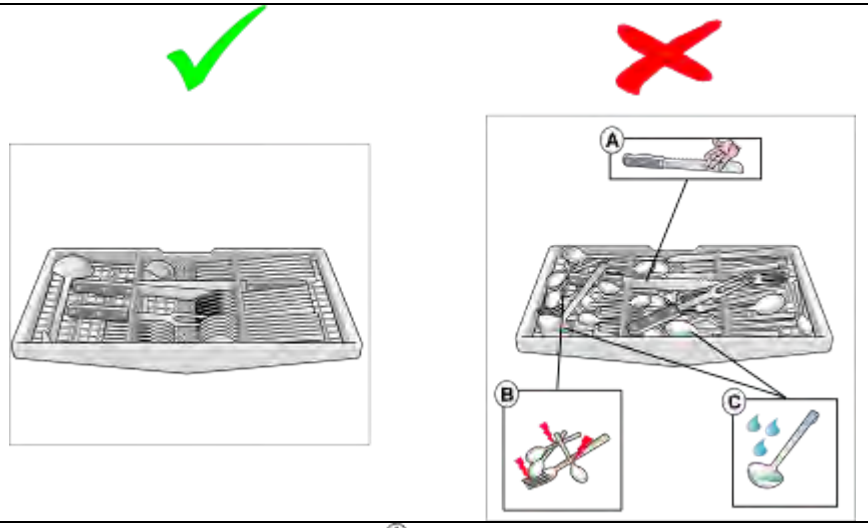
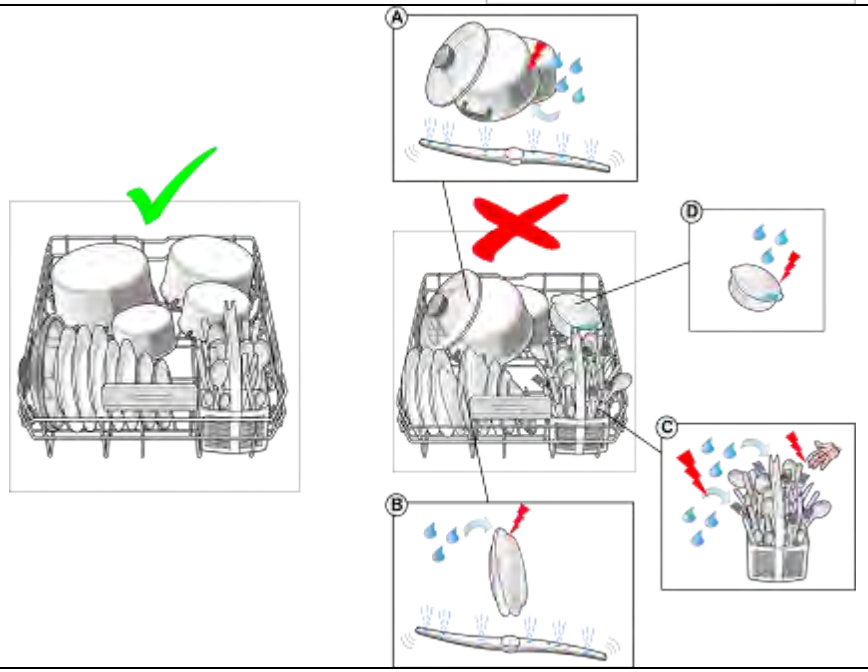
Fig 1 **A** – Arrange knives and other sharp-edged or pointed cutlery with the blades face down to prevent accidental injury. **B** – Do not place items of cutlery on top of each other. Correct arrangement certainly aids stain-free cutlery. **C** – Arrange spoons and ladles at an incline. This will prevent accumulation of water and stains.	
Fig 2 **A** – Do not place utensils on top of each other. Otherwise, parts on top will not be sprayed from below with adequate water. **B** – Avoid large contact points between utensils. This prevents food remnants and stains on the utensils. **C** – Do not overload cutlery basket. Minimise contact points between items of cutlery. This ensures stain-free cutlery. **D** – Arrange hollow receptacles in such a way that water cannot collect inside. Do not let utensils project through the utensils basket. This ensures that the spray arm is not blocked.	

Fig 3

A – Arrange hollow receptacles in such a way that water cannot collect inside.

B – Do not place utensils on top of each other. Otherwise, parts on top will not be sprayed from below with adequate water.

C – Arrange cups and bowls at an incline. This prevents water from accumulating in their base area.

D – Do not place hollow receptacles too obliquely and do not place directly in the corner area. This ensures that they can be flushed out properly.

E – If appliances feature a tablet collecting tray, do not load it with utensils or aroma dispensers, otherwise the detergent dispenser will be obstructed.
Do not let utensils (e.g. small ladles) project through the utensils basket. This ensures that the spray arm is not blocked.

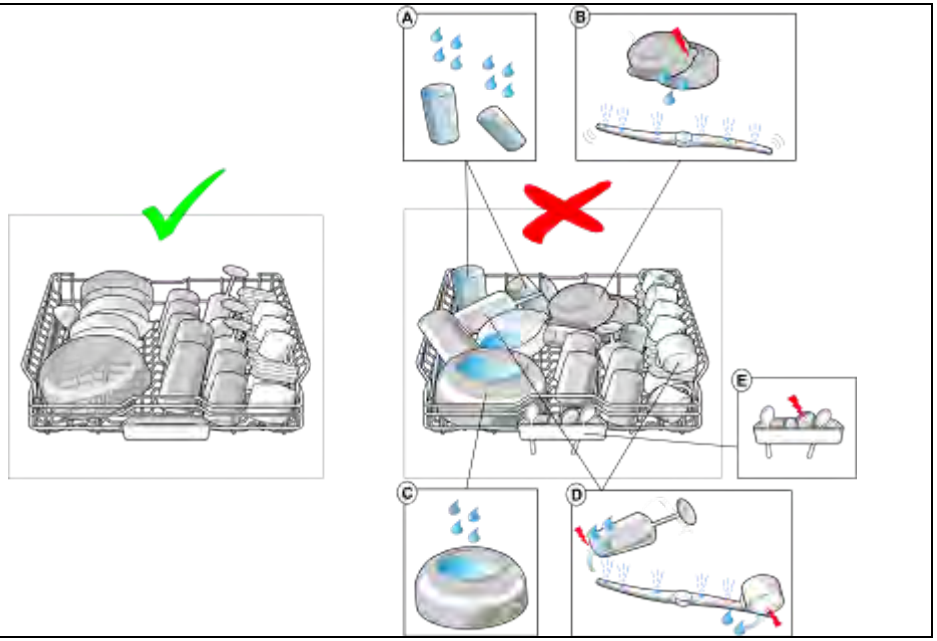


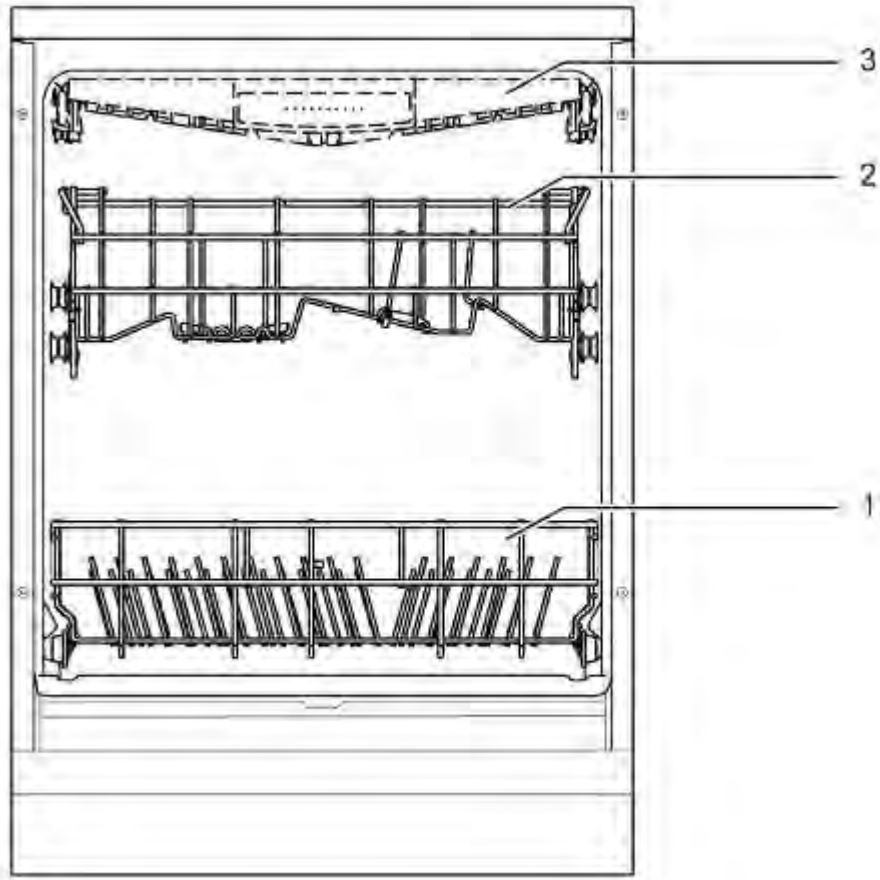
Fig 4

Eliminate the baskets in the following order:

1 – Lower basket.

2 – Upper basket

3 - cutlery drawer (optionally).



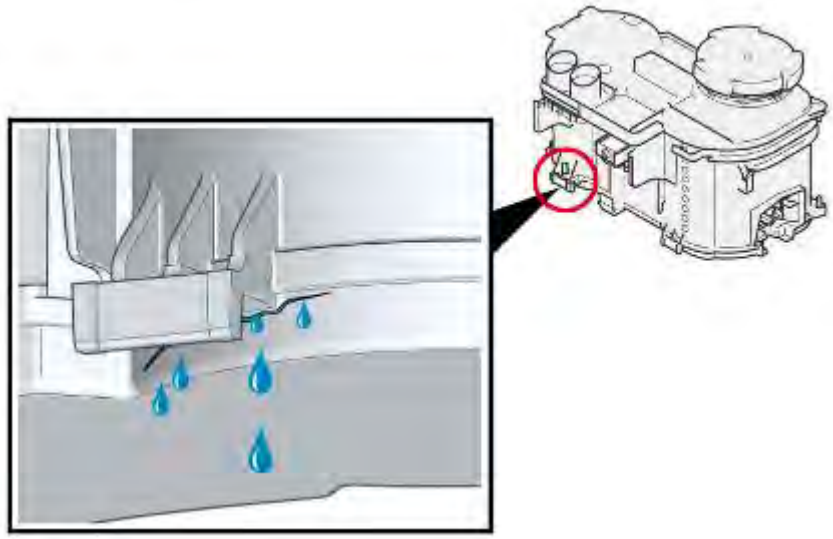
5.4 Electrical faults

Fault	Cause	Fault correction
Low salt indicator is constantly lit.	Salt tablets used.	Advise customer: do not use salt tablets.

5.5 Mechanical faults

Fault description	Cause	Remedial action
Door cannot be closed.	Catch locked by the door lock.	Close door firmly until the lock is functioning normally again.
Cutlery drawer clamps	FD 9006 to FD 9010 incl.	Change the pull out rails of the cutlery drawer (Mat.Nr. 668719).
Door falls down with less resistance	Due to tolerances in the rope manufacturing process, and in the the spring winding, the cable can solve from the rope. This affects units with "a new spring system" which were manufactured by FD 9208 to FD including 9310	If this error occurs, so must always: · the springs with two ropes in pairs exchanged . · repair kit, position 0199 used
Door does not open	For units with door opening module please refer to chapter dysfunction.	

5.6 Leaks

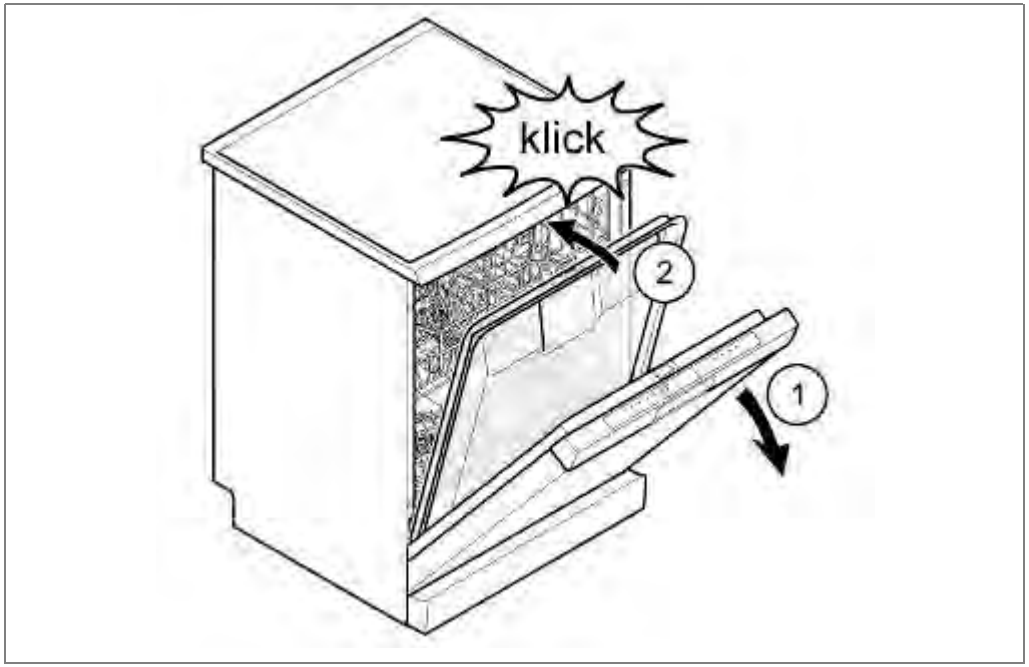
Fault	Cause	Fault correction
Leakage under heat exchanger	Expansion opening does not bolt correctly.	Consider the sequence when assembling the heat exchanger: · See also to chapter „ replacing heat exchanger”
Leakage under water storage tank	Duct opening does not bolt correctly	Consider the sequence when assembling the water storage tank: · See also to chapter „ replacing water storage tank”
Error E:15 generated from leakage under water softener in FD 9110 ~ 9205.	Minimal leakage in the water softener can generate error E:15 after many wash cycles. 	Change water softener complete: · See also to chapter „ replacing water softener system”
Leakage under pump sump.	Loosen pump sump.	· Use repair set, position 0199 from parts list · See also to chapter „ replacing pump sump”

5.7 Dishwasher functions / Software

Fault	Cause	Fault correction
After flashing appears the test program	After flashing was no power reset done. Device is in the factory test mode.	Do a power reset
After flashing appears “H” in the display	After flashing was no power reset done. Device is in the factory test mode.	Do a power reset

6 TEST AND REPAIR

6.1 Transparent door



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

Order numbers:

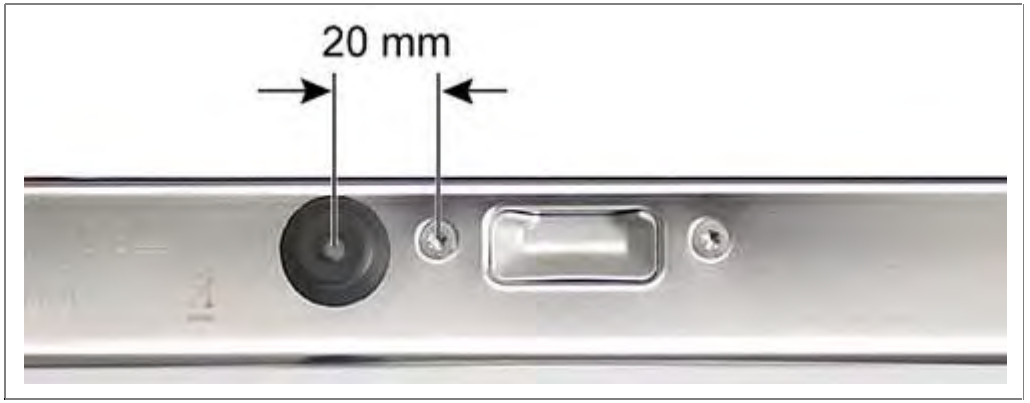
Transparent door 81 cm: 341333

Transparent door 86 cm: 341334

Magnet: 341332

Permanent magnet

- If using the transparent door, a permanent magnet must be positioned in the inside door. It is used to signal “door closed” to the door contact switch. The door contact switch responds to the direction of the magnetic field.
- If required, turn the permanent magnet until the appliance detects the magnetic field correctly.
- If the snap lock is locked manually, the system must be released again. To do this, close the door firmly



1. Attach suction button with magnet to the upper edge of the inner door.

6.2 Removing/installing the appliance

6.2.1 Required tools

Tools:	Material number:
Special tool for threaded ring on the salt dispenser; cover on the expansion opening; exhaust air channel, water storage tank, water inlet bolt.	341805

6.2.2 Removing water

- ► To drain the heat exchanger and water storage tank, start Eco xx programme. After checking the water impeller turn off the tap. Heat exchanger and water storage tank are drained. Then reset to pump out the residual water.
- ► Using the suction syringe, remove remaining water from the pump sump.

Dish washer with zeolite additional heating system

- ► With devices with zeolite additional heating system must be taken residual waters out of the equipment inside. Equipment residual water into the zeolite container, can be destroyed the material contained in it.

6.3 Testing water hardness in the appliance

Some faults require that the water hardness is determined in the appliance. Check the following beforehand:

Is regeneration salt used?

Has regeneration salt been added?

Is the water softening system switched on?

Has the correct degree of hardness been switched on?

Does the customer use tablets (which ones)?

6.3.1 Testing while the water softening system is active

Start test programme and let the appliance fill up to the first pause, checking visually.

Determine water hardness in the appliance using the water hardness test.

Approx. 5° to 7° dH should be measured provided the water softening system is intact and regeneration cycles have been set correctly.

If the value is significantly higher, test the water softening system.

6.3.2 Operating the appliance with the water softening system switched off

If the water softening system is deactivated, detergent tablets with salt replacement substances should be used. Note what is written on the packaging.

The chemical components of multifunction tablets bind the limescale in the water to themselves. These are effective up to approx. 21° dH. Note the product description of the manufacturer.

Test the water hardness of the supply water.

6.3.3 Advising the customer

If the water hardness is above the range within which the utilised tablets have a softening effect, advise the customer to use the regeneration system with regeneration salt.

If the customer uses tablets without salt replacement substances, suggest that special salt is used.

The appliance must be set correctly.

6.3.4 Checking water supply

The electronics check the water level in the appliance during the pre-rinse and wash cycles via the heating pump (uniformity check). If required, the water is topped up.

The filling capacity for the clear rinse is filled during the inter-mediate rinse cycle and stored in the heat exchanger. The capacity is measured via the pulses of the impeller flow meter only. A uniformity check during the final rinse cycle no longer occurs. If there is too little water left in the heat exchanger for the final rinse cycle, a poor cleaning and/or drying result can be expected.

Reasons for too little water may be:

► – Water pressure / - flow too low (supply hose kinked, angle valve calcified, flow rate Aquastop)

► – Heat exchanger drainage valve leaking

6.3.5 Heat exchanger drainage valve defective

If the drainage valve of the heat exchanger is leaking, the contents run prematurely into the rinsing tank. When drainage next occurs, the complete amount of water is not available in the tank.

The heat exchanger is filled during the wash cycle. The filling should be prewarmed and be available for the intermediate rinse or final rinse cycle.

6.3.6 Consequence

A filled heat exchanger is expected for the final rinse cycle (2.5 l of 3.1 l filling capacity). If water ran into the appliance for the reasons stated above, it was pumped out after the wash cycle.

The power consumption of the heating pump indicates whether there is too little water in the appliance. The programme continues running without heating and error E08 is stored.

In the worst case scenario the heating may function, but there is insufficient water in the appliance for adequate circulation. The appliance heats up, but the final rinse liquor does not completely reach the utensils. There is no pressure to wet and therefore to heat the utensils.

6.3.7 Diagnosis

1. Start customer service test programme and observe water inlet and filling of the heat exchanger.
2. Check heat exchanger drainage valve for leaks.

Remedial action:

► Provide adequate water supply pressure.

► Check shut-off valve.

► Check strainers in the Aquastop valve.

► Prevent kinked supply hose.

► Clean the drainage valve.

6.4 Checking power module

► Requirement:

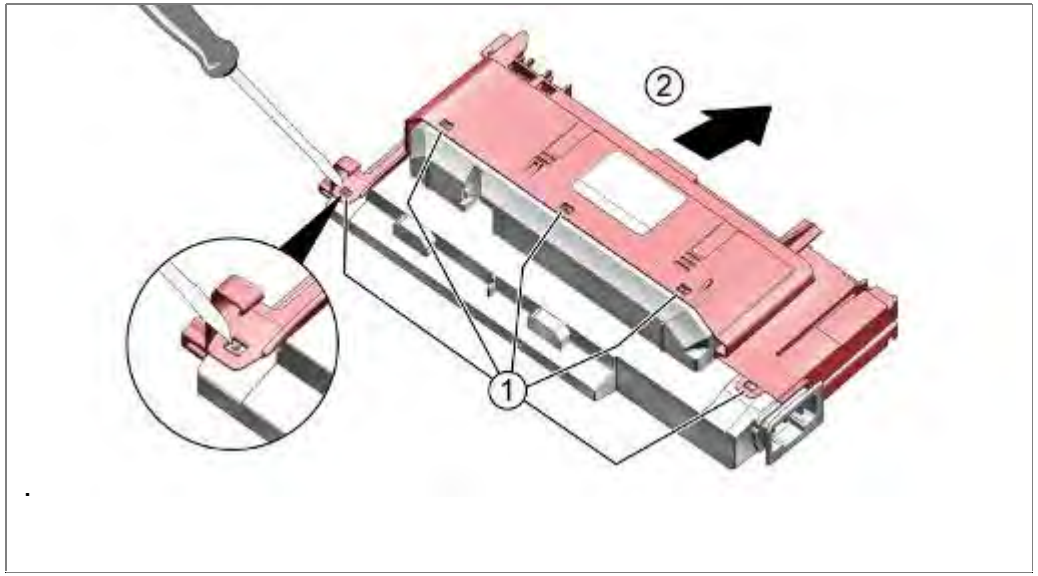
Power module removed

	NOTE **Components which come into contact with electrostatic voltage will be damaged beyond repair** ► Before carrying out any work, apply protective system to components susceptible to electrical discharge. ► Observe measures to protect the components susceptible to electrical discharge.

On power module only visual checks can be made.

Damaged parts may indicate defective equipment components.

6.4.1 Open power module



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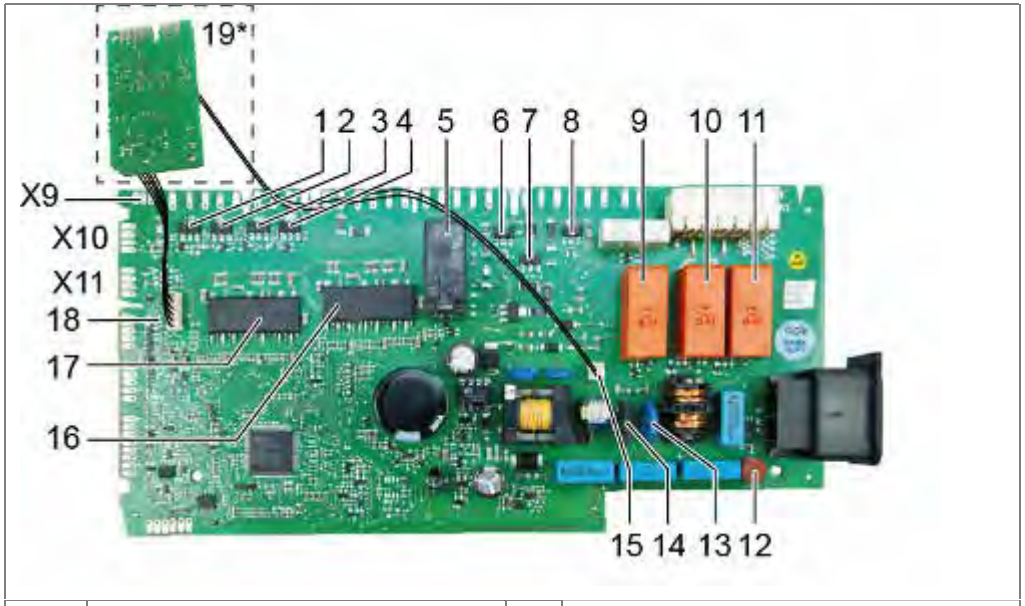
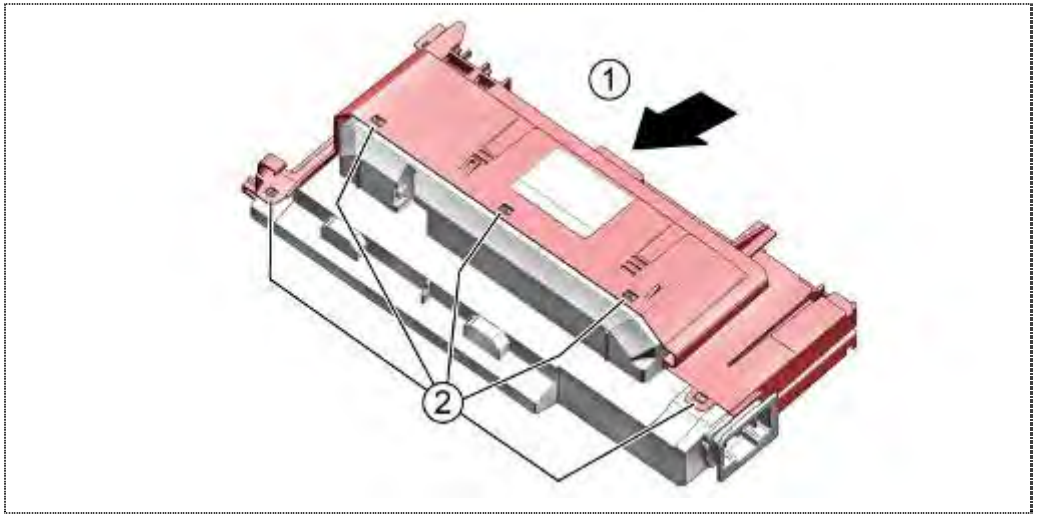
1. Solve Housing catches round
2. Separate the housing parts

6.4.2 Position of the components



1	TH401 = Water points	11	K303 = Heater (working relais)
2	TH402 = optional: Actuator water storage tank	12	F100 = Fuse
3	TH403 = filling valve / AquaStop	13	R119 = Varistor, overvoltage protection with thermal fuse
4	TH405 = Regeneration valve	14	R101 = NTC
5	Relais DP / Zeolith-Fan	15	Terminal bar for optional module
6	T324 = Valve-heat exchanger	16	V700 = BLDC-motor control (HP/Fan or HP/DP)
7	T325 = Drain valve heat exchangers, Dispenser	17	V200 = BLDC-motor control (HP)
8	T326 = Dispenser	18	Terminal bar for optional module
9	K302 = Zeolith heater (working relais)	19	optional modules with galvanic isolation
10	K301 = Zeolith heater (safety relays)		

6.4.3 Close power module



1. Push together the upper and lower housing part
2. Evenly lock

6.5 Checking door opening module

Requirement:

► Top panel access

6.5.1 Functional test doorway without bus

If supply voltage is present, the module opens the door with light pressure on the outer door.
If no function, door opening module replaced completely.

6.5.2 Functional test doorway with bus

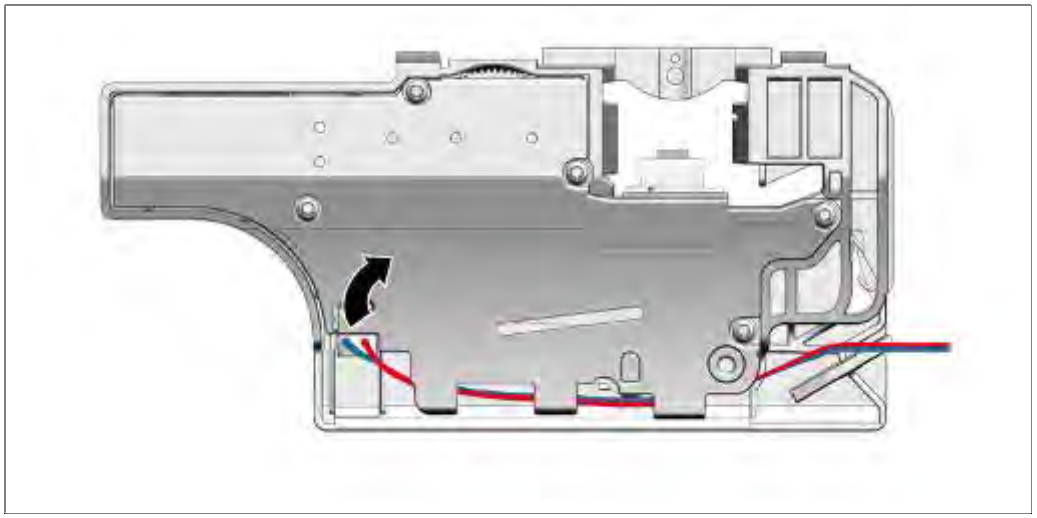
Check power module.

6.5.3 Functional test doorway with eco dry

At the end of the customer service test program-the door is automatically opened.

6.5.4 Measure Supply Voltage

For devices with internal electronics:

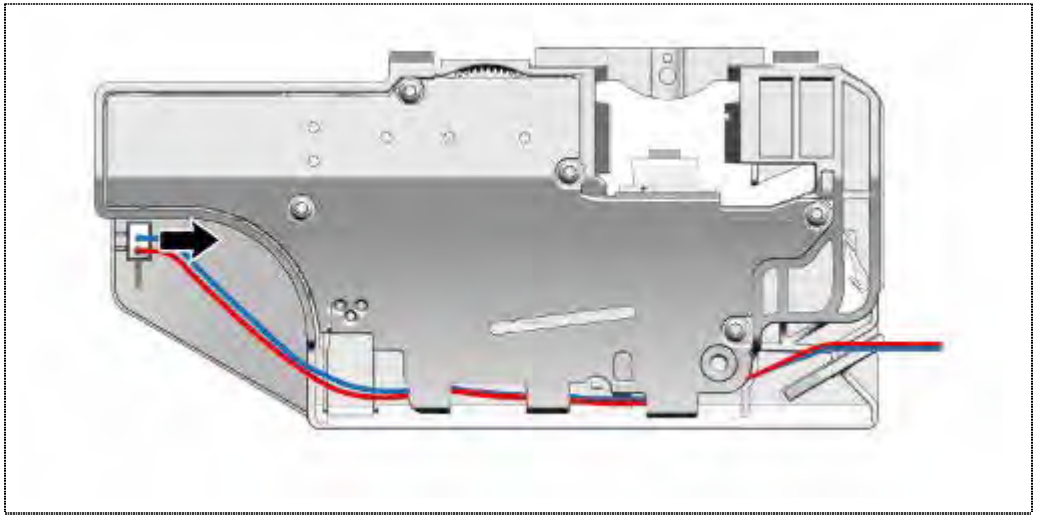


Remove doorway module. Disconnect cable connection.

Measure supply voltage at the plug of the cable connection.

For devices without internal electronics:

Start test program and measure power at the end in the actuation of the door opening..



Readings see circuit documents.

Restore cable connection.

6.6 Testing door sensor

Requirement:

- ► Outer door removed.
- ► Fascia removed.
- ► Right side panel removed.

6.6.1 Measuring the voltage

- ► Very carefully remove the plug from the door sensor. Do not pull on the wires.
- ► Measure voltage on both contact of the power cord.
- ► If 13.5 V DC is supplied to door sensor, the power module and the connection cable works properly -> replace door sensor.
- ► If this voltage is not applied, measure the voltage on the power module.
- ► No voltage -> replace power module.
- ► Voltage available -> measure resistance of the connection cables between power module and the connections of the component. Rectify interruption.

Measure voltage on the module

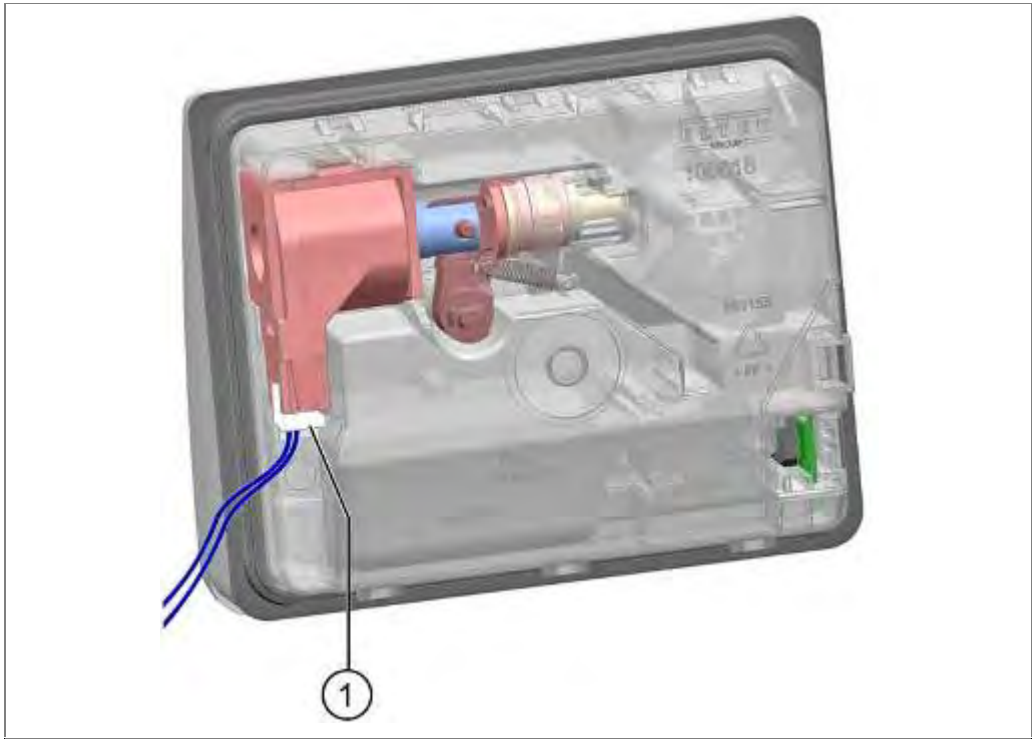
- ► When the plug is connected, the supply voltage can be measured from the front on the two yellow wires on the power module. When the plug is removed, the main switch is inoperative.

6.7 Testing dispenser electrically

Requirement:

- ► Outer door removed.

6.7.1 Measuring the coil



1. Disconnect plug-and-socket connection.

Measure resistance on the coil.

Technical specifications: see schematic diagram.

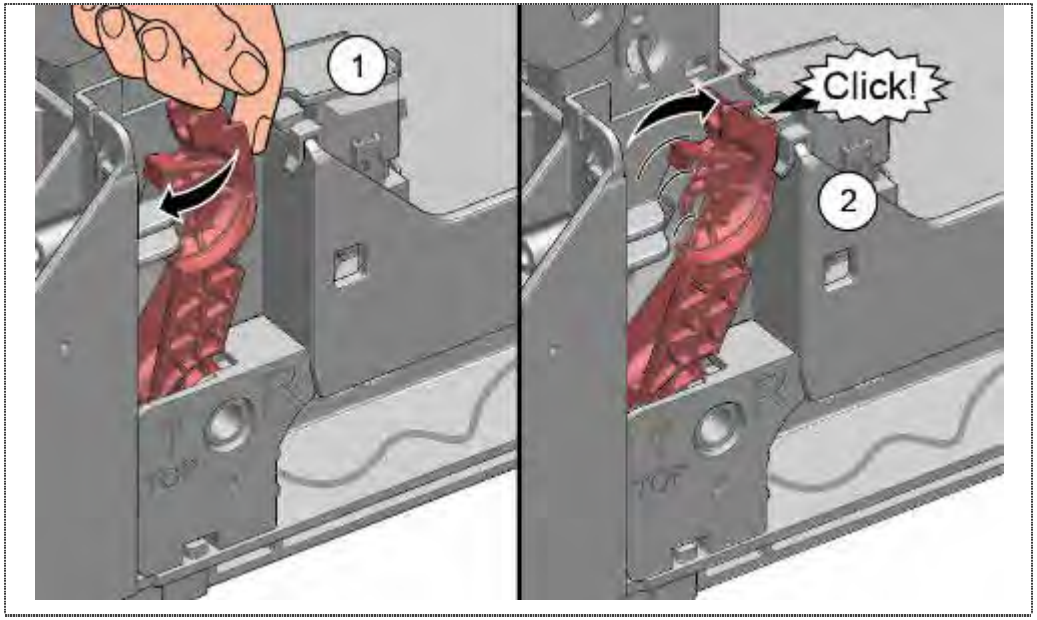
6.8 Inspecting Spring Safety System

Requirement:

- ► Machine is not connected to power source.
- ► Side walls are removed.
- ► Machine is uninstalled/removed from installation.
- ► Spring system is disconnected.

6.8.1 Mechanical Functional Check

Inspecting switch mechanically for proper movement and engagement



1. Move the glider carefully towards the front of the machine.
2. When the glider is released, the leaf spring should push the glider back in the direction of the switch. The engagement of the switch can be confirmed with a click sound.

6.8.2 Electrical Functional Check

- · Disconnect the wiring connector at the switch.

3. Measure the continuity through the switch:
   Resting position: Switch is closed.
   Glider pressed on switch: Switch is open.

6.9 Testing EmotionLight (optional)

Requirement:

- √ Side panel on right removed
- √ Housing upper section of the power module removed
- ► Measure voltage on the power module. Contacts see schematic diagram..

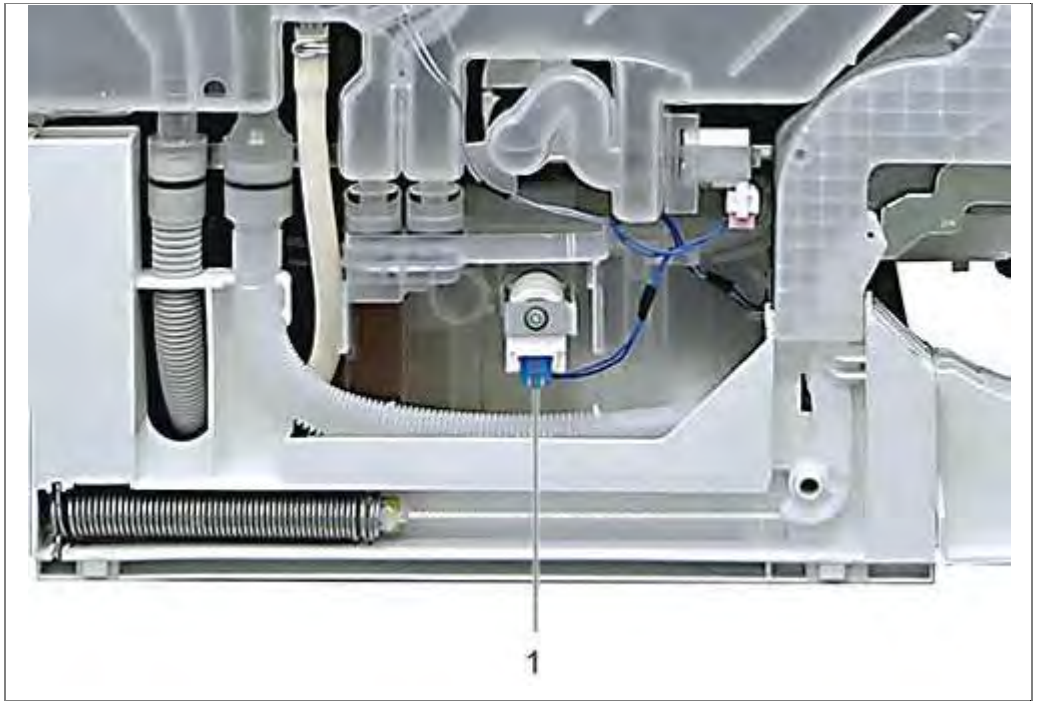
Technical specifications: see schematic diagram

6.10 Testing the regeneration valve electrically

Requirement:

► Side panel on left removed.

6.10.1 Measuring the coil



1. Disconnect plug-and-socket connection and measure the resistance.

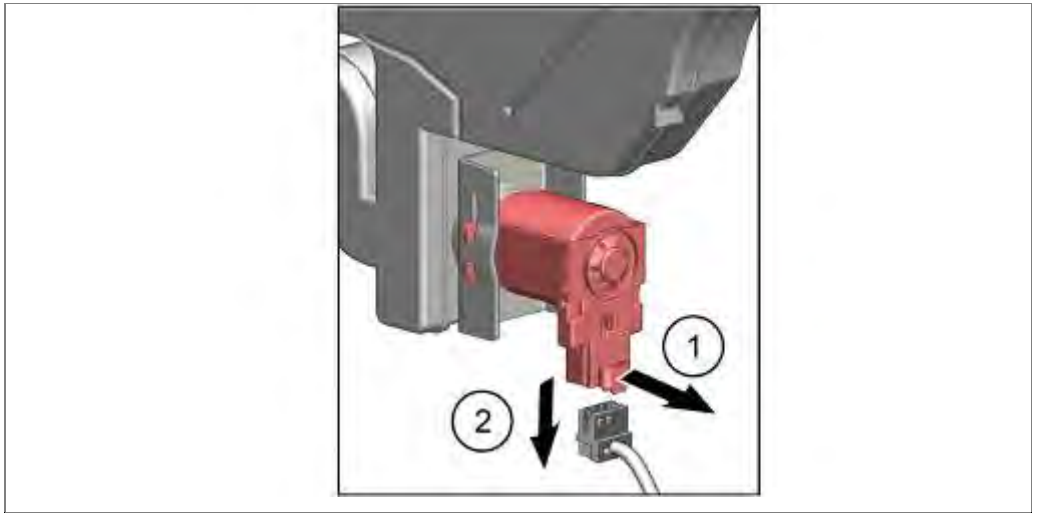
Technical specifications: see schematic diagram

6.11 Testing heat exchanger drainage valve electrically

Requirement:

► Side panel on left removed.

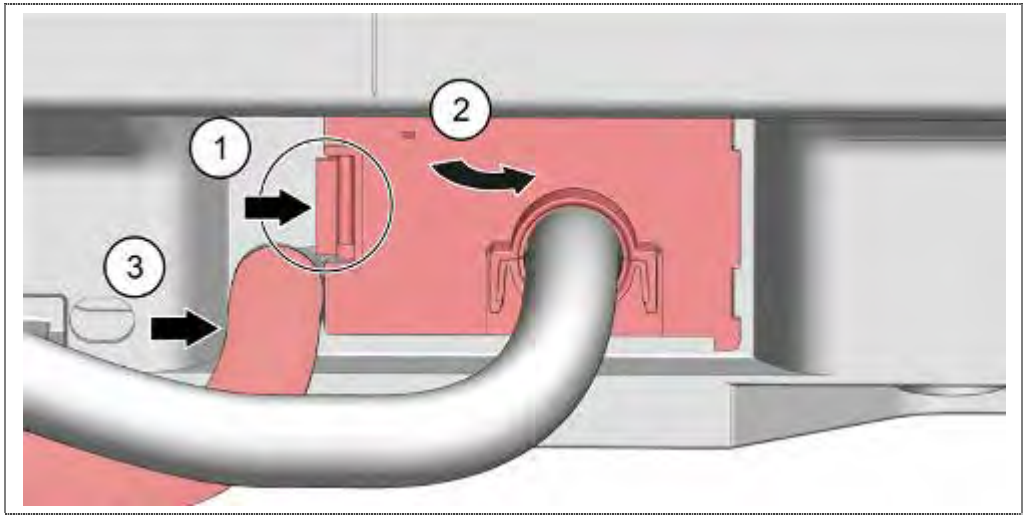
6.11.1 Measuring the coil



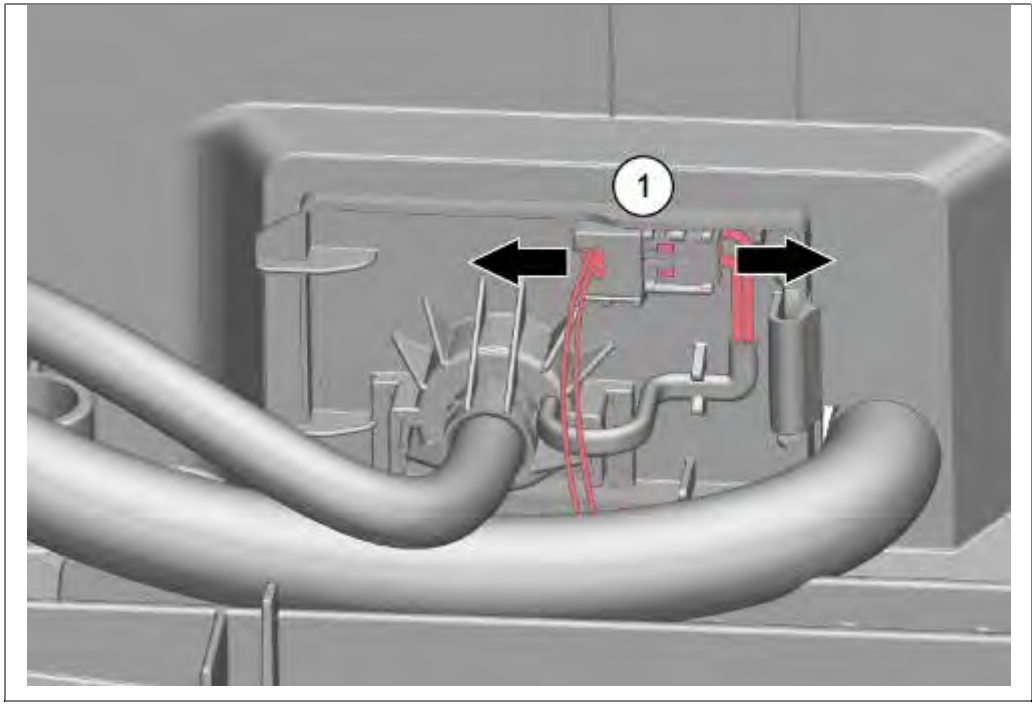
1. Disconnect plug-and-socket connection and measure the resistance.

Technical specifications are listed in schematic diagram.

6.12 Testing Aquastop valve electrically



1. Loosing locking lever
2. Fold the Cover with the inlet hose outward.
3. Not relevant

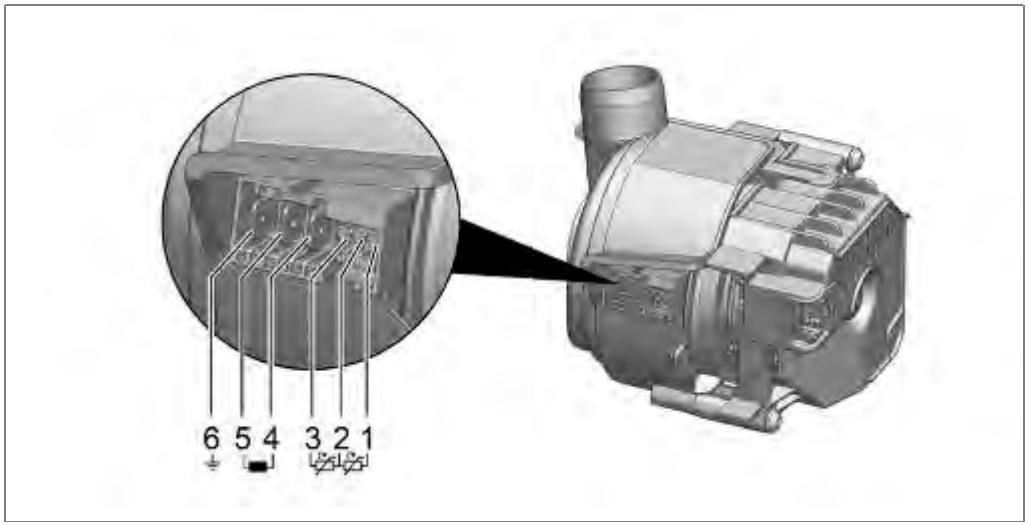


1. . Disconnect plug-and-socket connection.
4. Measure the resistance.

Technical specifications are listed in schematic diagram

6.13 Testing the heating pump

6.13.1 Measuring the heater resistance



The heater resistance is measured on the heating contacts of the heating pump.

Technical specifications are listed in schematic diagram

6.13.2 Measuring NTC resistance

The NTC resistance value is measured on the heating contacts of the heating pump at 25°C.

Technical specifications are listed in schematic diagram

Resistance measurement of the NTCs

► The measurement of the NTC must result in a symmetrical value.

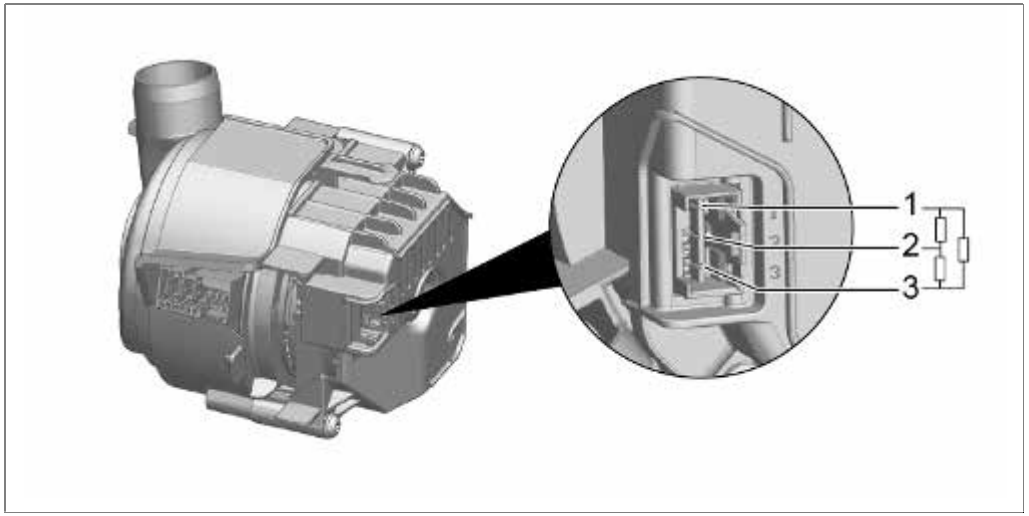
6.13.3 Heating power too low

The water should be heated by 1.5 °C/min. If heating takes longer, check the water hardness and the setting of the water softening system. Deposits may have formed on the heater.

Clean appliance with machine cleaner and, if required, descale.

Use descaler from the customer service offer.

6.13.4 Measuring winding resistance of the BLDC motor



Measure winding resistance on the winding contacts of the heating pump.

Technical specifications are listed in schematic diagram

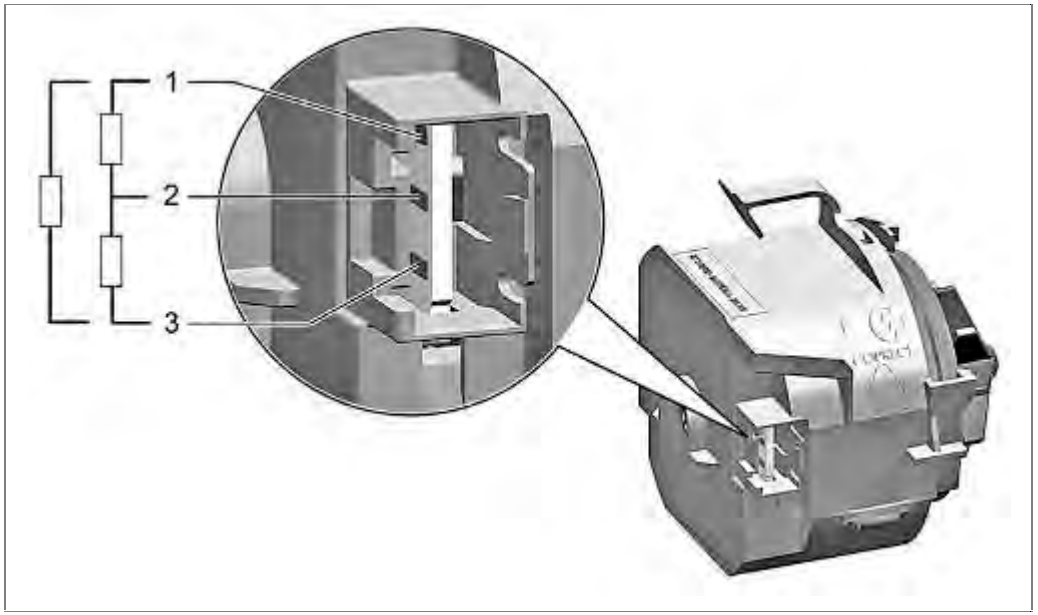
Resistance measurement

► The resistance values are approx. values.
There must be symmetry for all measurements
(same resistance values).

Resistance measurement

► The resistance values are approx. values.
There must be symmetry for all measurements
(same resistance values).

6.14 Testing the drain pump



6.14.1 Measuring winding resistance of the BLDC motor

Measure winding resistance on the winding contacts.

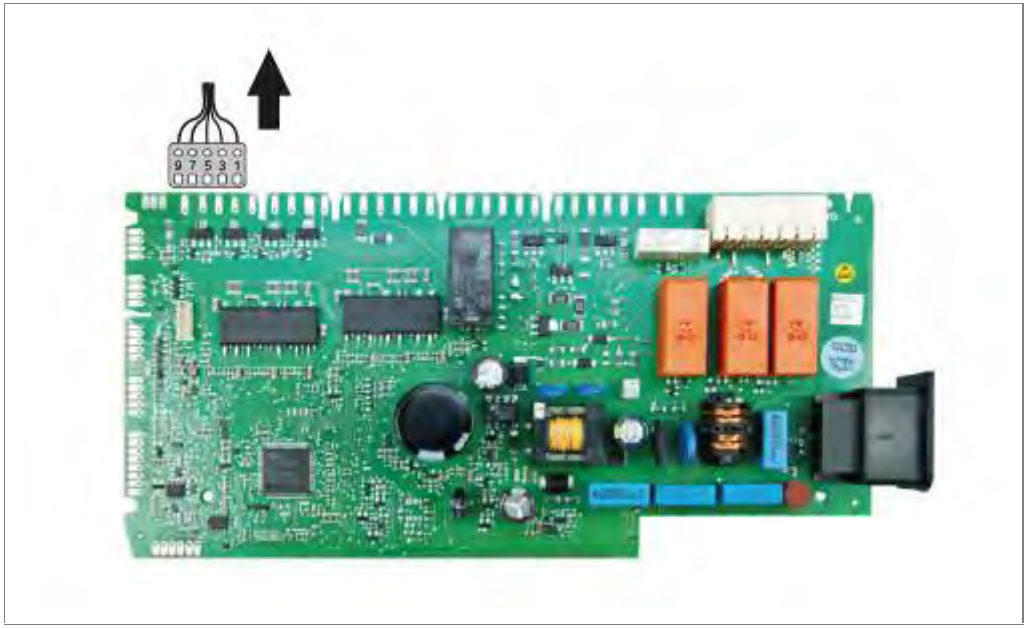
Technical specifications are listed in schematic diagram.

6.15 Testing the water points electrically

Requirement:

► Side panel on right removed.

6.15.1 Measure water points motor (simple measurement)



? Disconnect plug X2 from power module and measure resistance on the wires for the water points motor, contact 5 and 7.

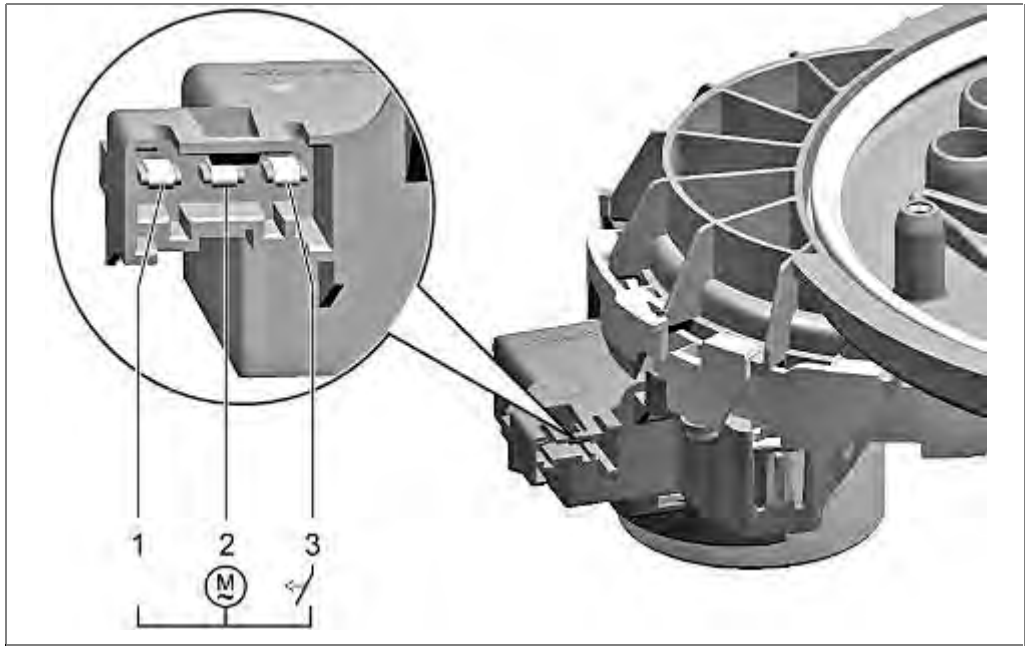
If the resistance value is ∞, check wires for interruptions and measure directly on the water points motor.

Technical specifications are listed in schematic diagram

6.15.2 Measuring water points motor (on the component)

Requirement:

► Rinsing tank folded down.



Technical specifications are listed in schematic diagram

6.15.3 Water points pulse transmitter

The water points pulse transmitter cannot be tested. Measure the resisitance of the feed cable.

If there is a fault on the pulse transmitter, the water points run continuously. There are no initialisation pulses.

6.16 Testing the capa touch electronics

Requirement:

√ Fascia removed

DANGER

Exposed live parts

Danger to life caused by electric shock!

- ▶ Disconnect the appliance from the power supply.
- ▶ Do not touch housing, frame or components.
- ▶ Use residual-current-operated circuit-breaker if tests have to be conducted while the appliance is live.
- ▶ Ensure that the resistance of the protective conductor does not exceed the standardised values.

CAUTION

Voltage peaks with the release/connecting the plug contacts

Destruction of the control module or the piezo power supply unit (optional) by net potential on the ground wire of the bus system

- ▶ Disconnect the appliance from the power line before release/connecting plug connectors.

CAUTION

Components which come into contact with electro-static voltage will be damaged beyond repair

- ▶ Before carrying out any work, apply protective system to components susceptible to electrical discharge.
- ▶ Observe measures to protect the components suscep-tible to electrical discharge.

The capa touch operating module is powered via a 3-wire bus line with power and data.

A fourth cable is required for the on-off switching function.

Measure voltages according to the circuit diagram.

Software

- ▶ The operating module works only correctly, when the aperture correction value was recorded by the software iService..
- ▶ After an exchange against an unprogrammed module this is flashing first. See flashing software.

6.17 Zeolith auxiliary heater

Requirement:

√ Auxiliary module zeolite freely accessible

6.17.1 Diagnosis options

The used material is appropriate for the life span of the dish washer.

It is not possible to take specific measurements of the material or humidity inside the tank with customer service means

as the general requirements (such as water quality, ambient temperature, brand of rinse-aid, load and contents being washed) are too complex, but play for the drying phase an important role.

The resistance of heating elements and fan motor can be tested.

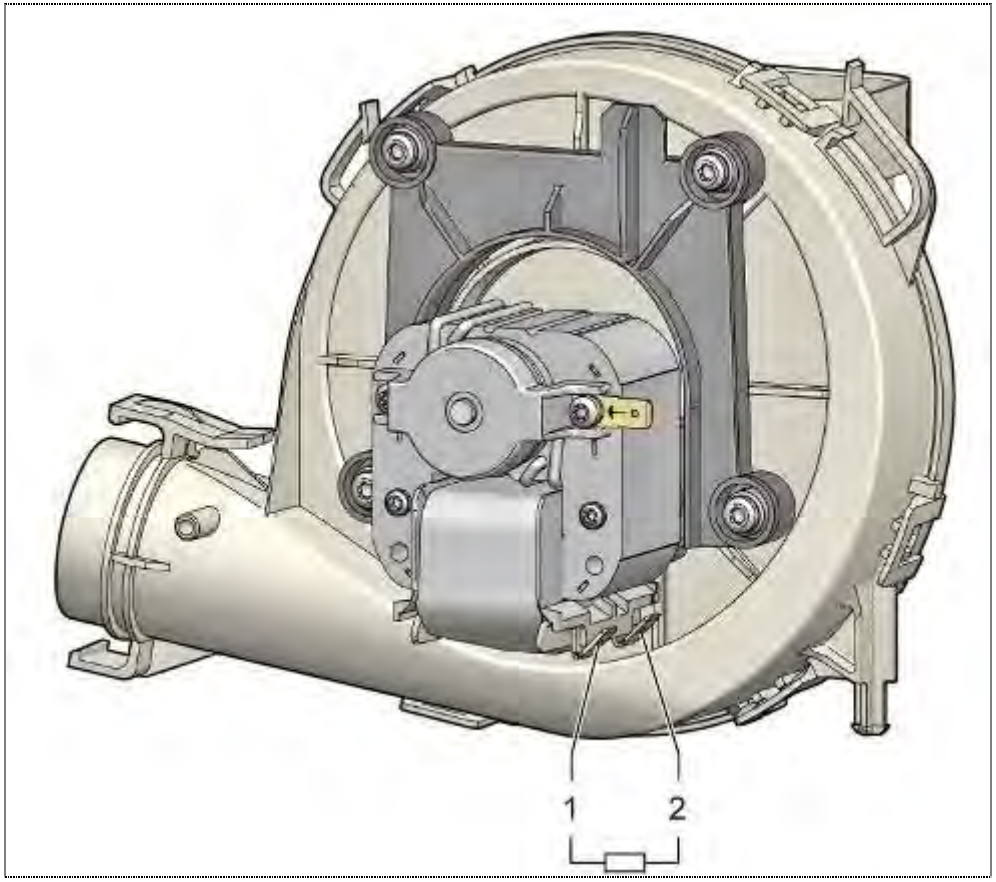
6.17.2 Test heater

- ► Connection 1 - 2: Zeolite container thermal safety cutout (continuity when functional)
- ► Connection 3 - 4: Zeolite tank clixon (continuity when functional)
- ► Connection 5 – 6: Zeolite container heating element**)**

6.17.3 Test fan

► Connection 1 – 2: Coil fan motor

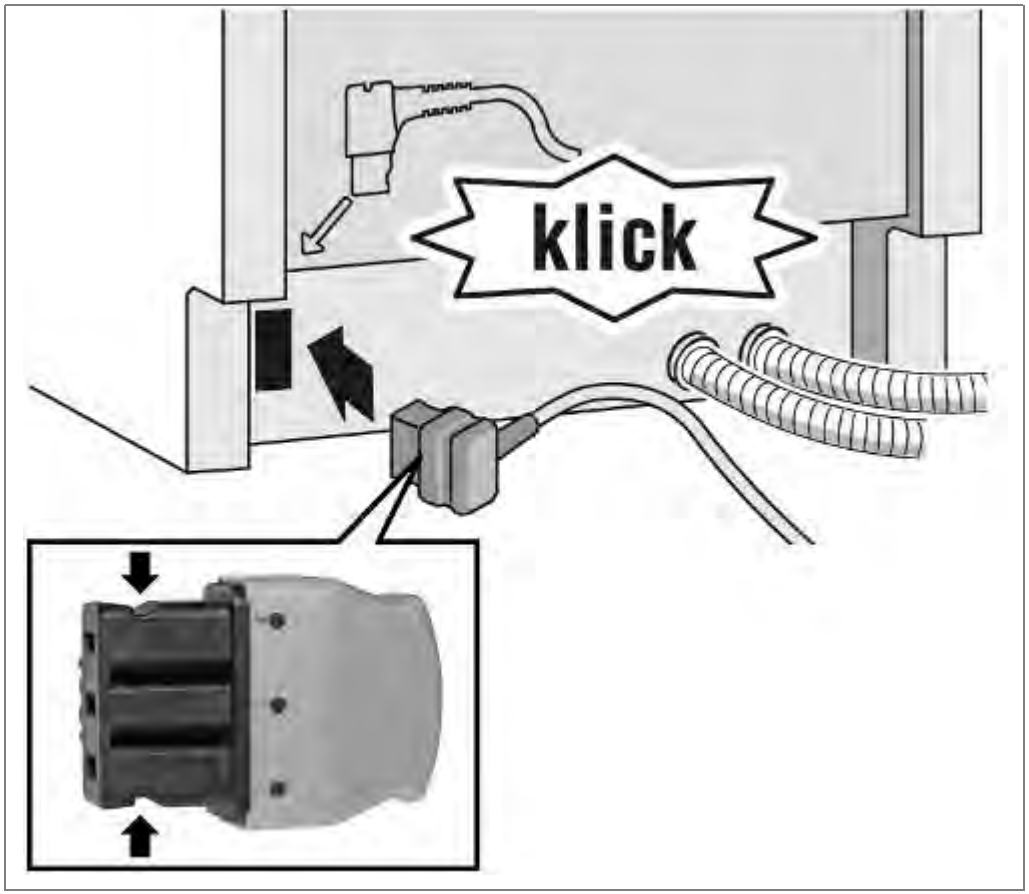
Technical specifications are listed in schematic diagram.



6.18 Power cord

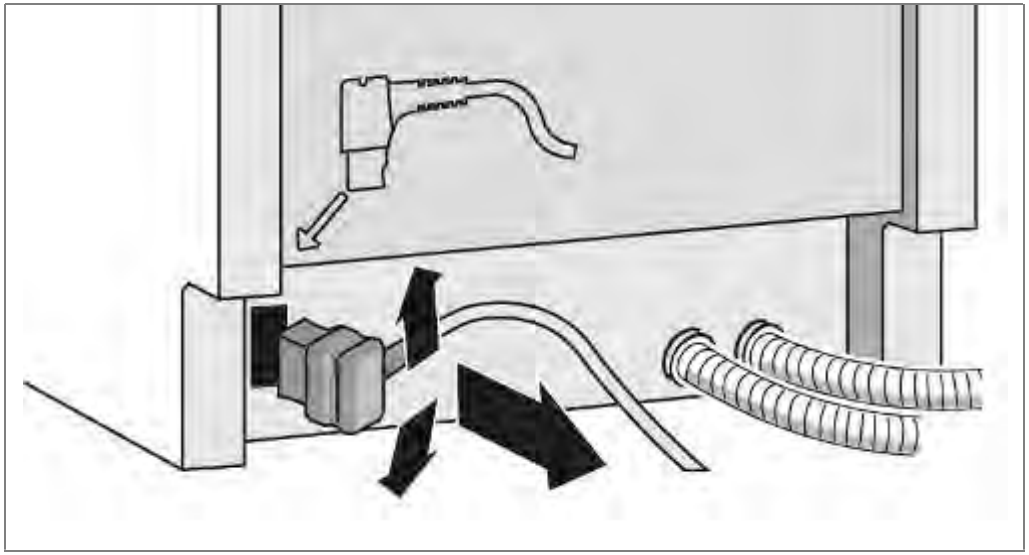
2 strong catch mechanisms on the sides prevent the plug from becoming loose or coming out of the appliance.

6.18.1 Installation



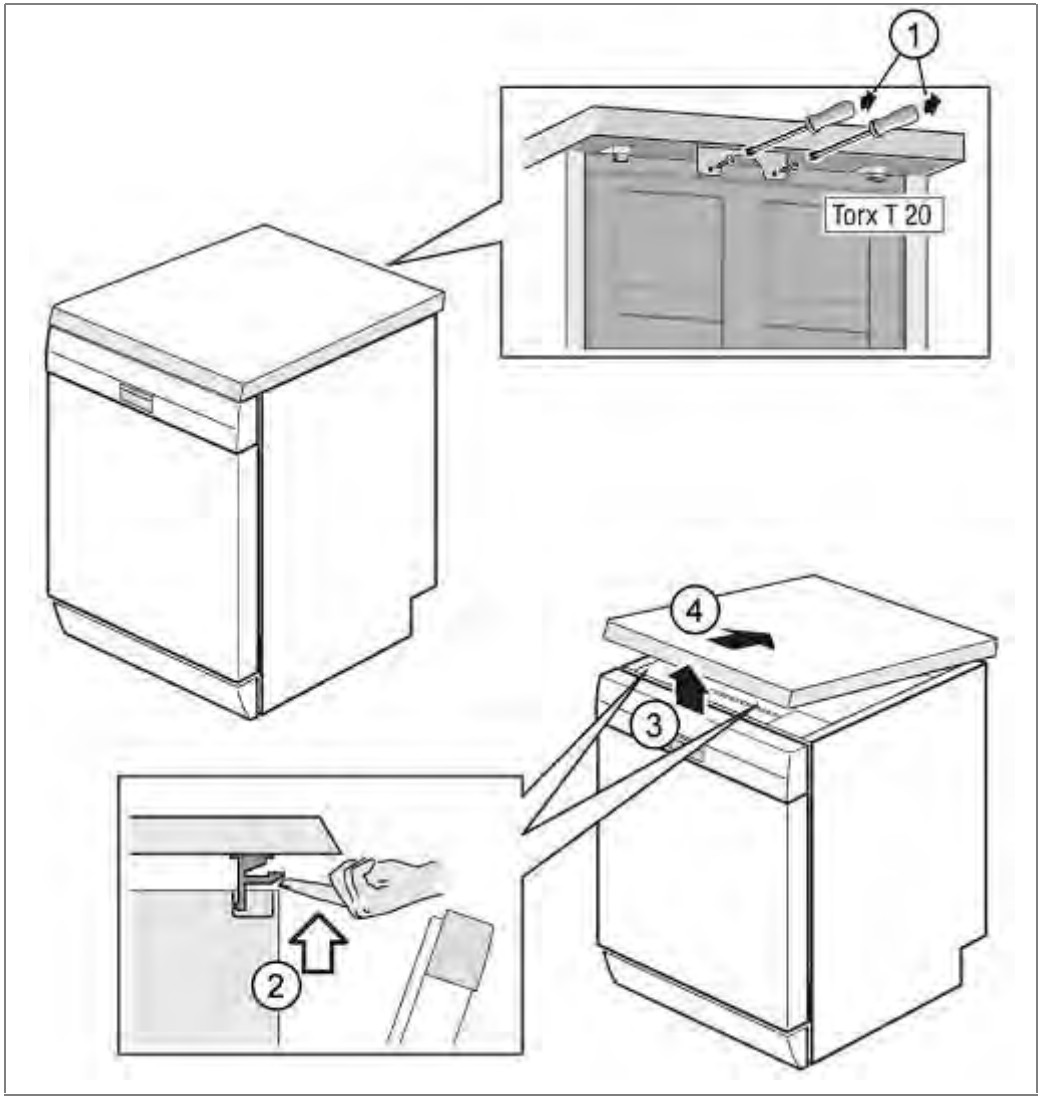
6.18.2 Removal

Disconnect the power cord from the appliance by carefully moving it up and down (not sideways!!) and simultaneously pulling the appliance plug.



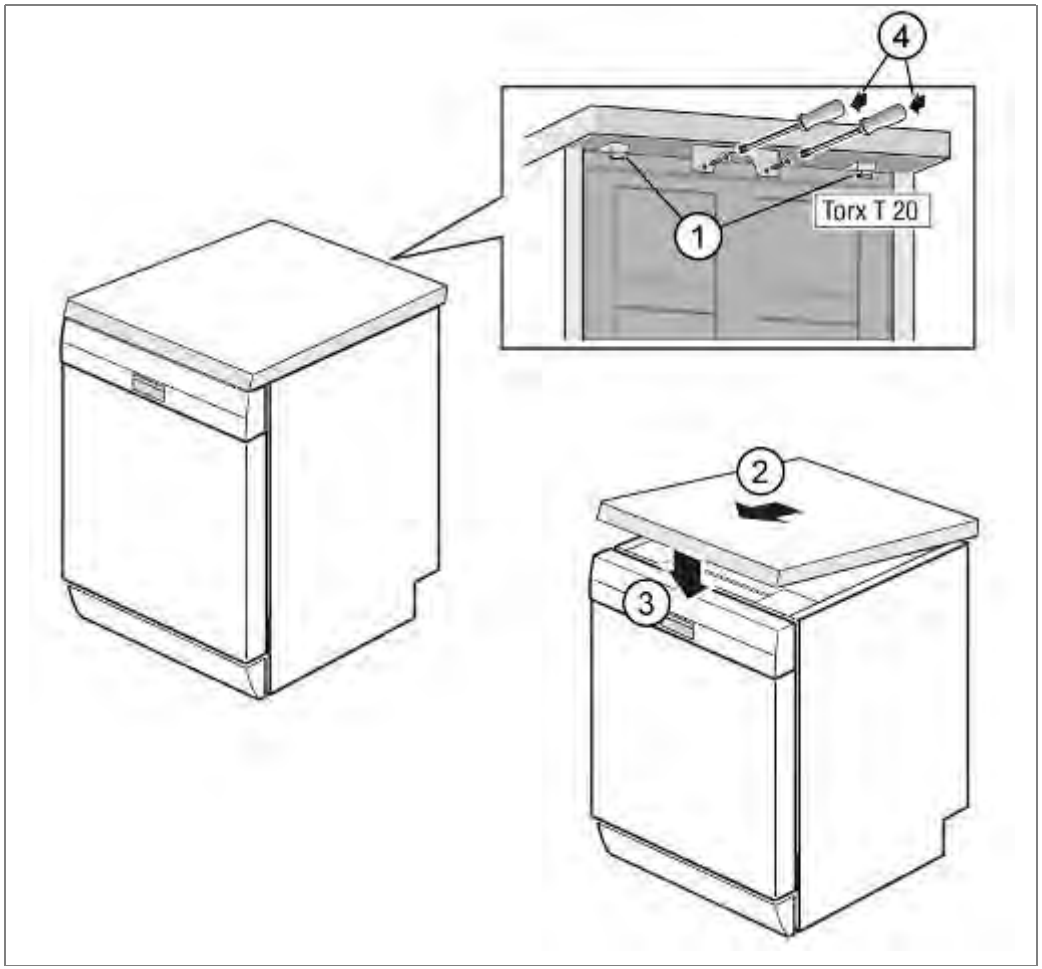
6.19 Removing the worktop

6.19.1 Removal



1. Remove two screws (optinally) at rear.
2. Press up both locking levers under the worktop.
3. Lift the front of the worktop slightly.
4. Push back the worktop and lift off.

6.19.2 Installation

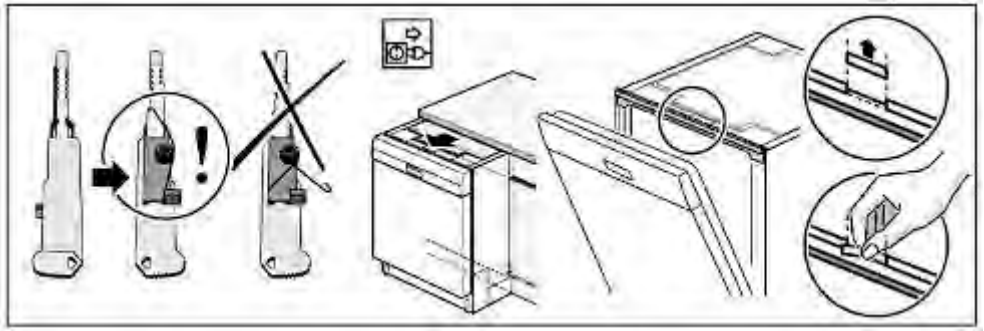


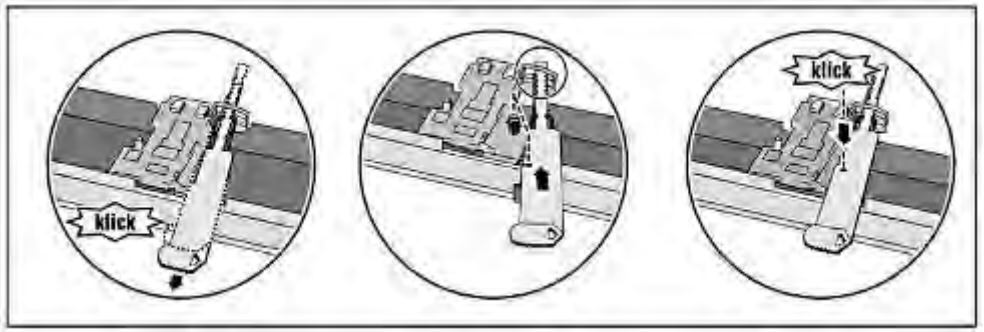
1. Lock back of worktop into the guides with the retaining lugs.
2. Push forwards.
3. Press down front of worktop until both locking levers click into position.
4. Screw the two screws (optinally) back in again.

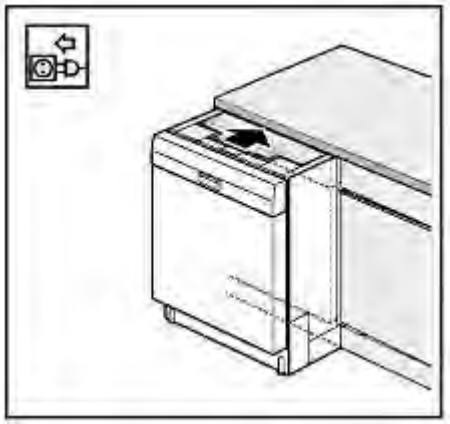
6.20 Installing childproof lock

Requirement:

► Worktop removed







6.21 Change door open module

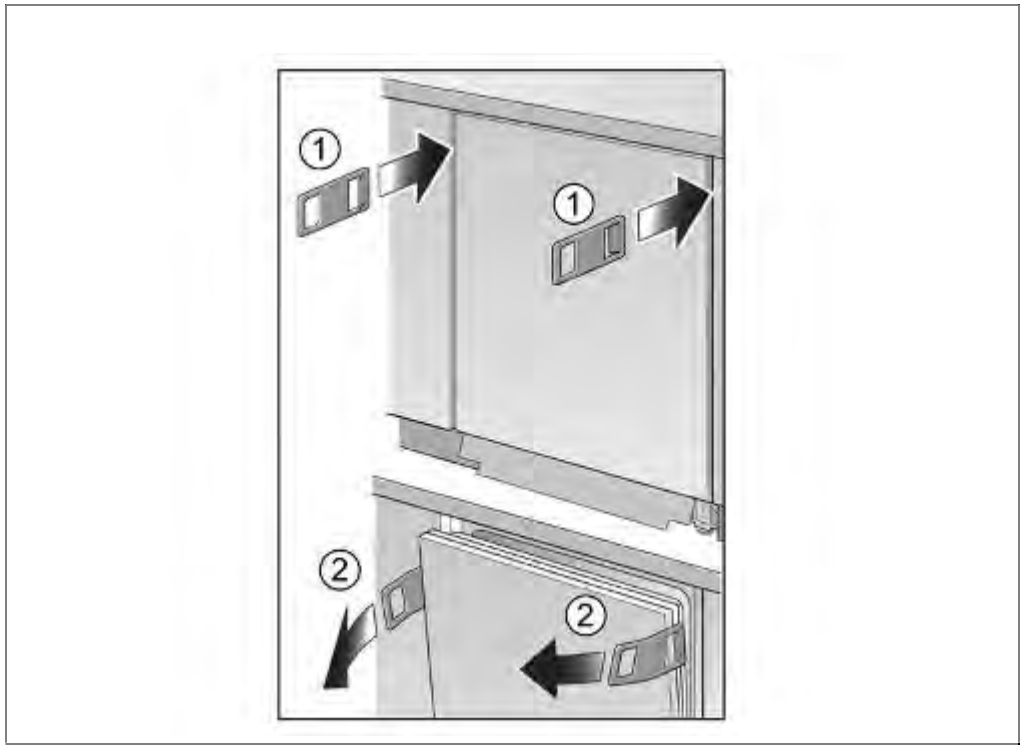
Requirement:

√ Worktop removed or

√ appliance pulled out as far as rinsing tank frame

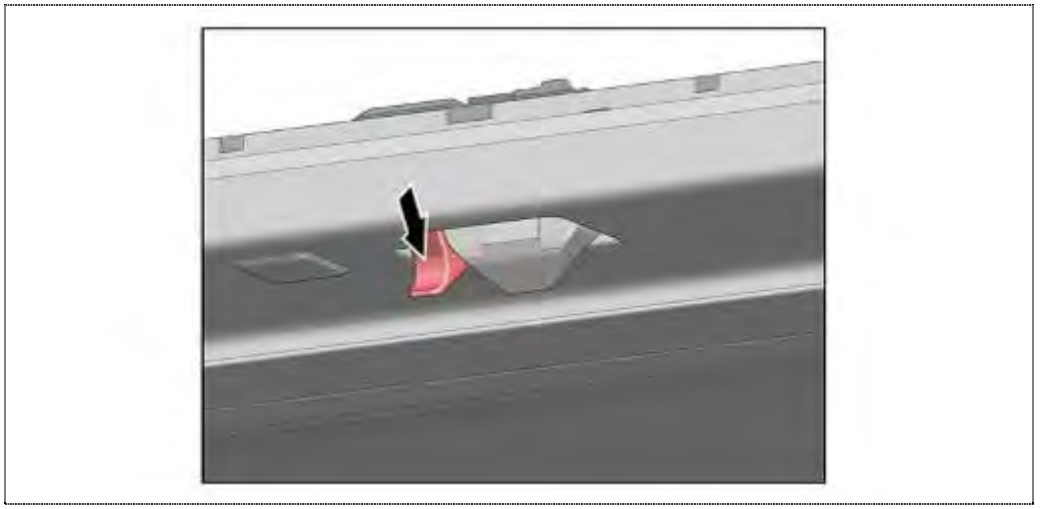
Automatic door opening is not possible

Use the included tools to open the door.

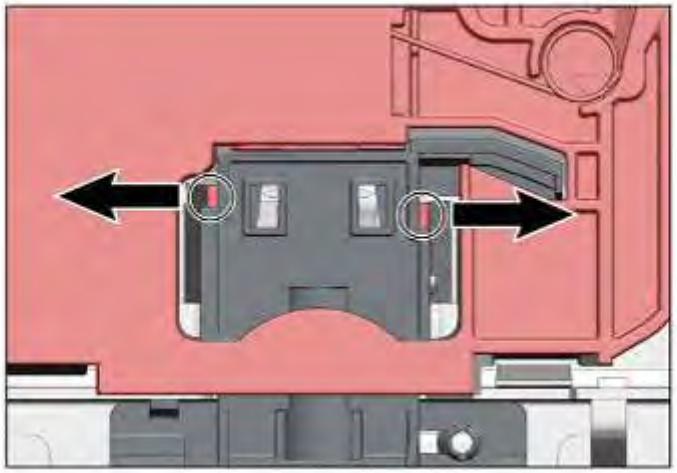


1. Insert the tools in the sides.
2. Open the door by pulling the tools.

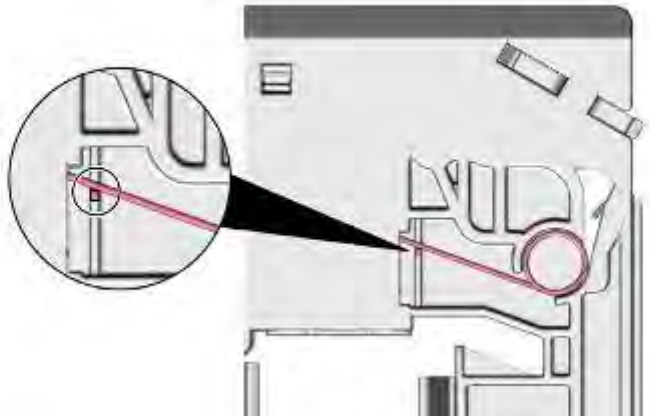
6.21.1 Removeal



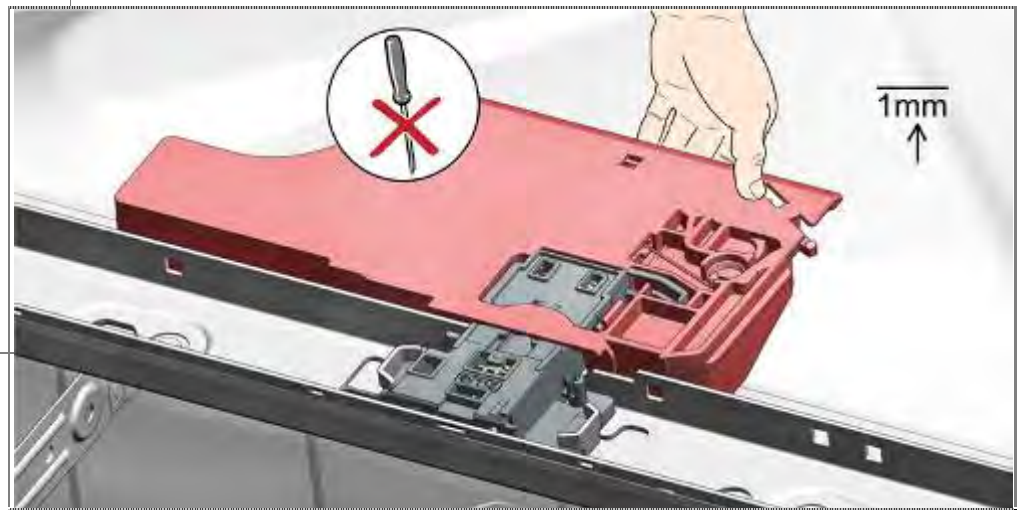
1. Press the lever to „closed“ position.



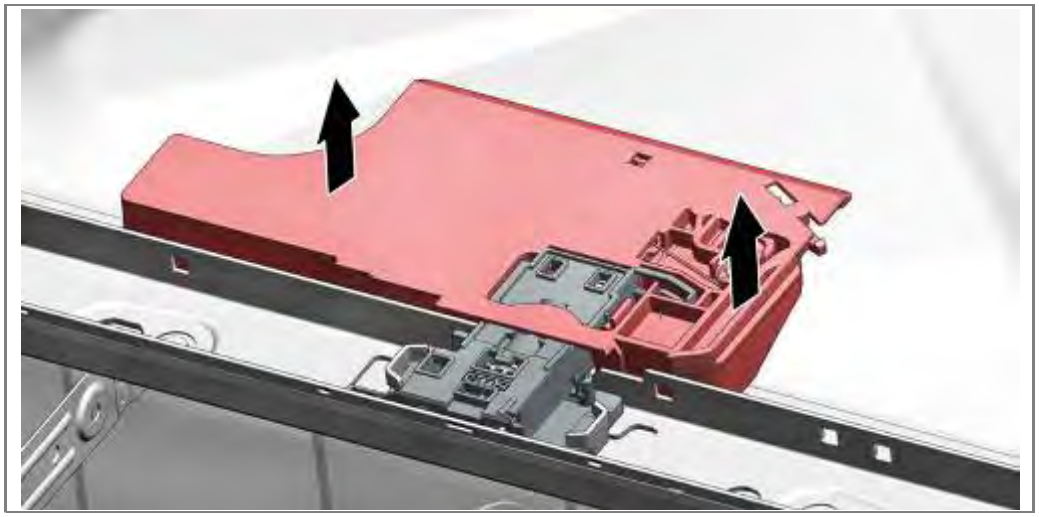
1. Loosen the two latches.



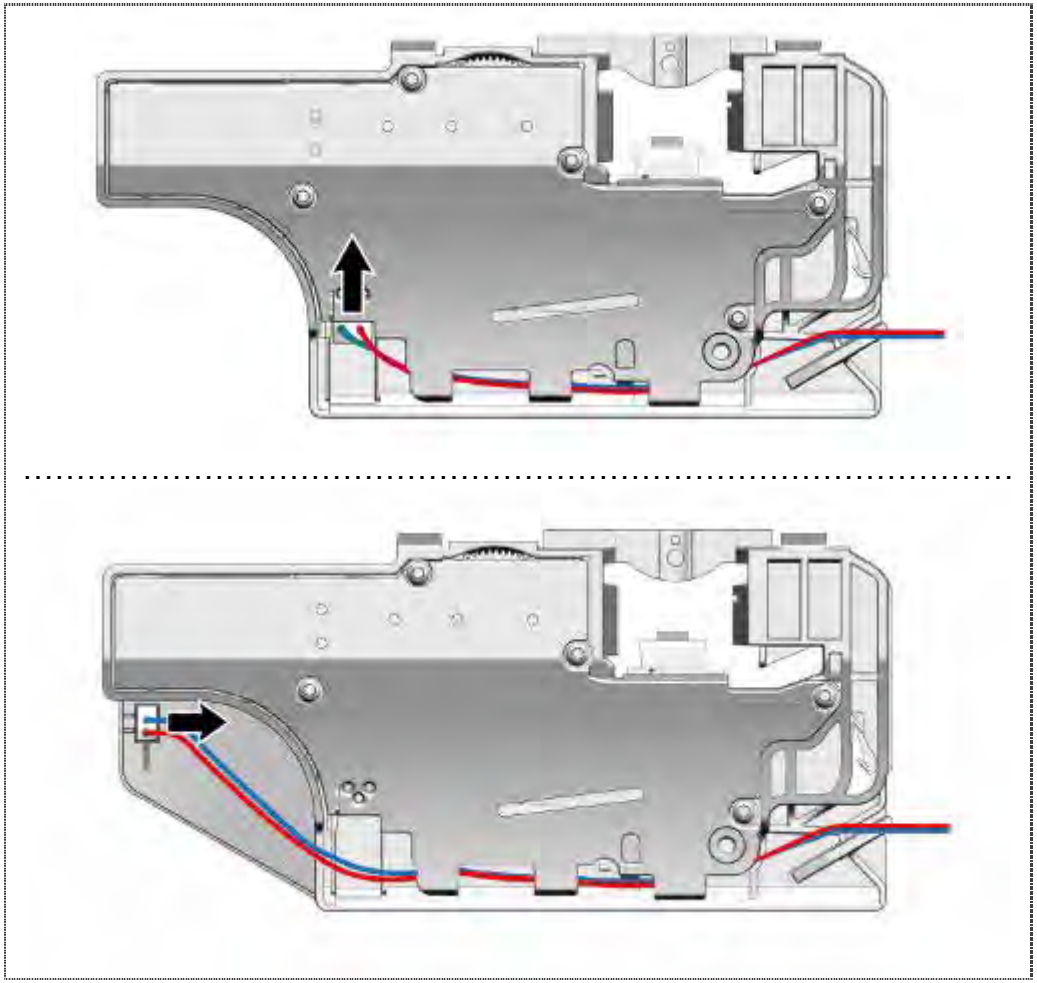
1. Rotate the spring.
2. Rest it on the catch.



1. The module may have become attached to the bitumen in which case it needs to be separated.



1. Remove the door opening module by lifting straight up.

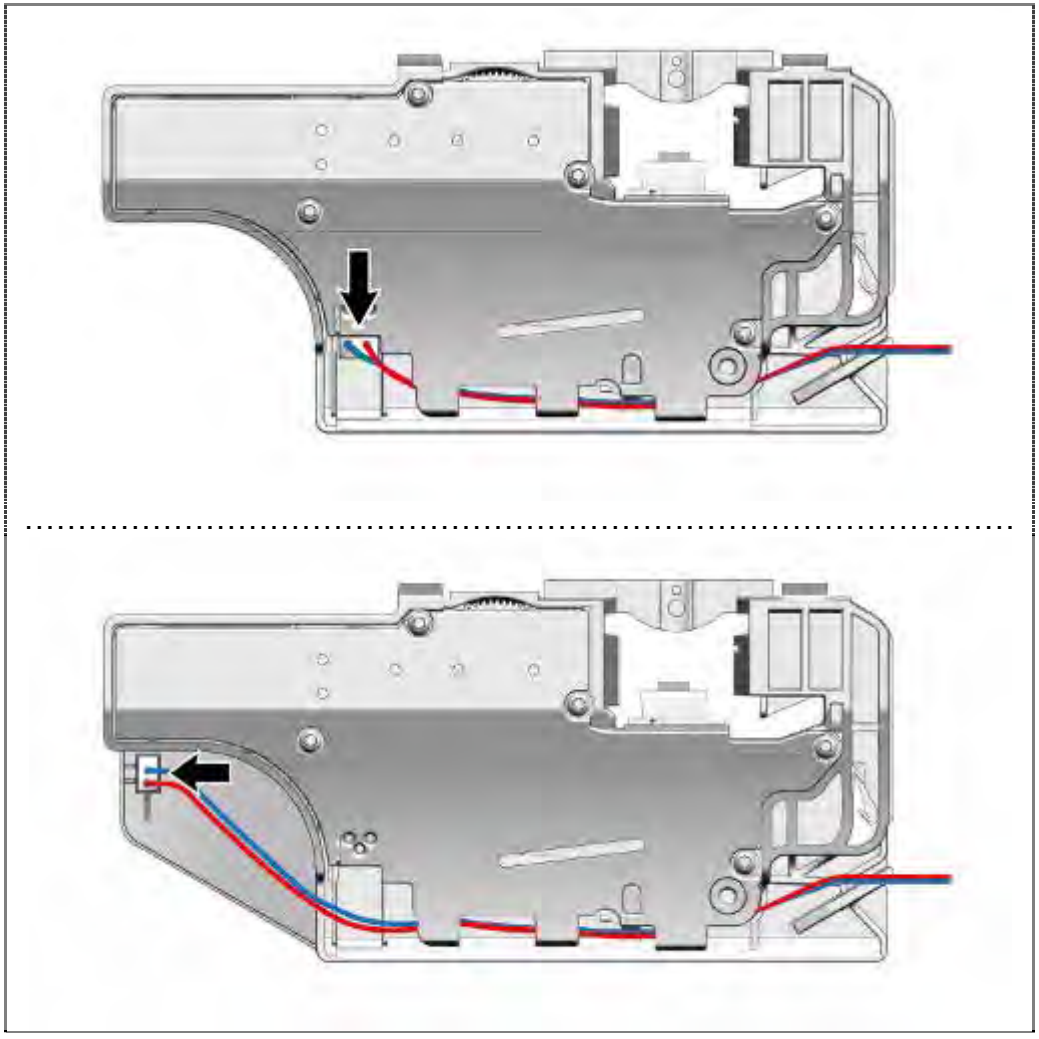


1. Disconnect the wires.

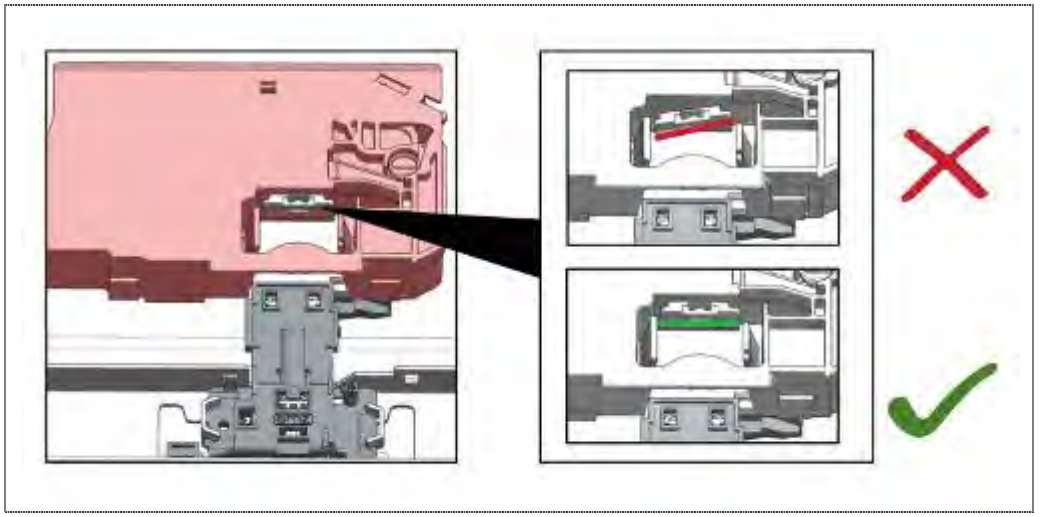
Module replacement

The door opening module is supplied as a complete spare parts and does not have to be built farther apart..

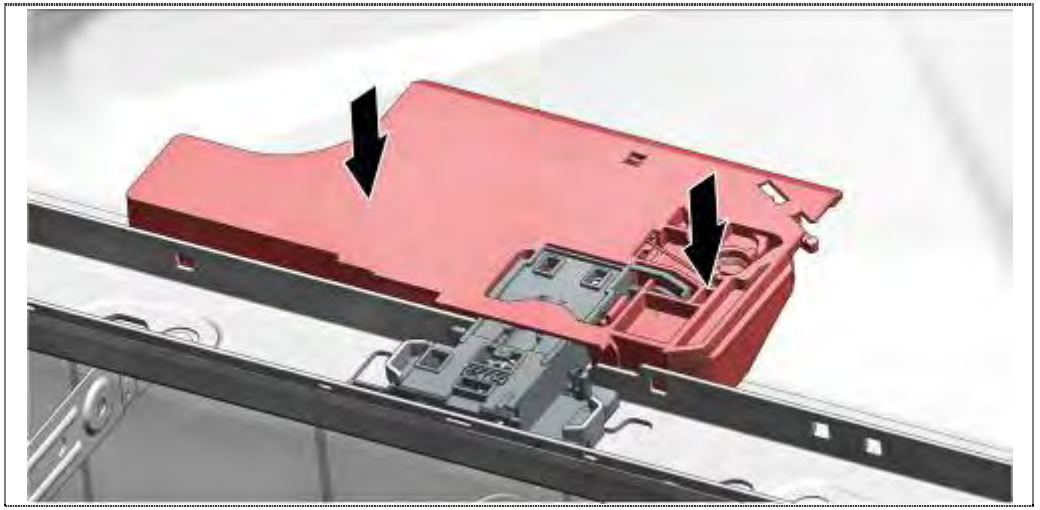
6.21.2 Installation



1. Connect the wires.



1. Align the sensor plate before installing.



1. Door open module just snaps into place from above.

6.21.3 Reset

If the door lock is manually engaged, the system must be unlocked. To do this, close the door firmly.

A strong mechanical resistance must be overcome!

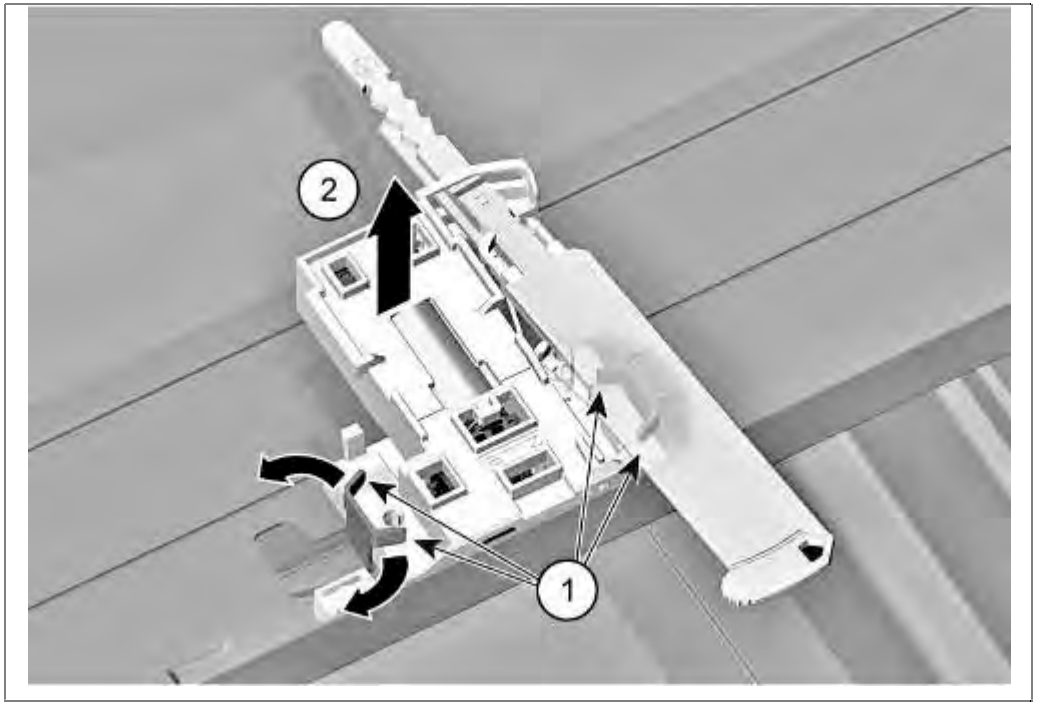
6.22 Replacing / resetting door lock

Requirement:

√ Worktop removed or

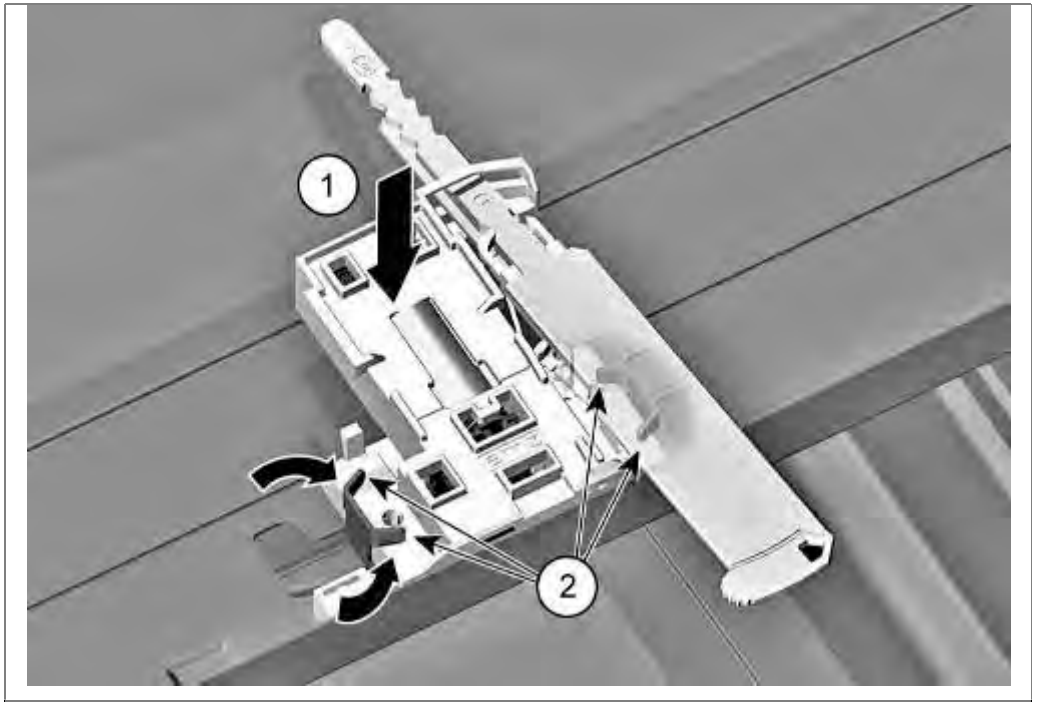
√ appliance pulled out as far as rinsing tank frame.

6.22.1 Removal



1. Straighten metal brackets on right and left of the door lock.
2. Lift off door lock.

6.22.2 Installation



1. Insert the new door lock.
2. Bend in the two metal brackets again to secure the door lock.

6.22.3 Reset

If the snap lock is locked manually (if required when using the transparent diagnosis door), the system must be released again. To do this, close the door firmly.

A strong mechanical resistance must be overcome!

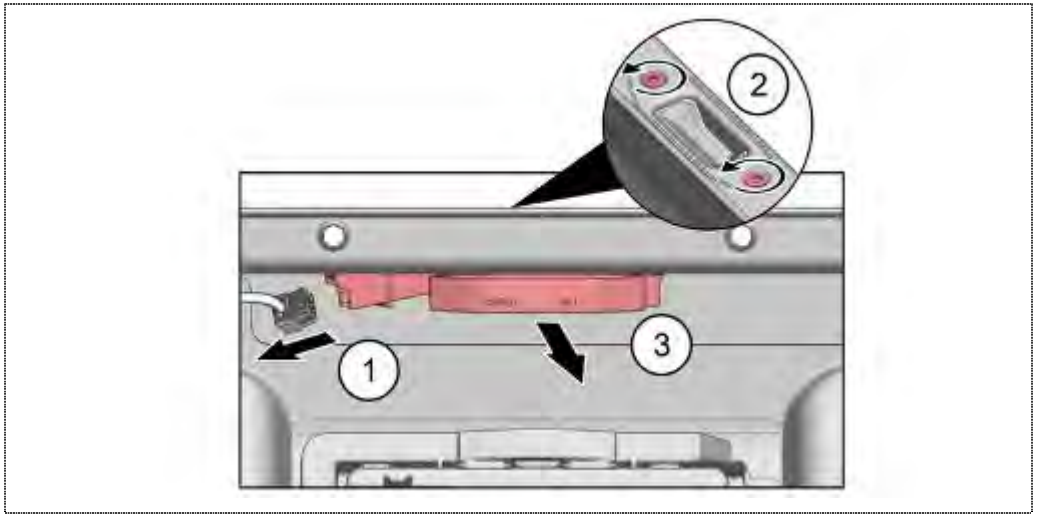
6.23 Replacing door sensor

6.23.1 Removing door sensor

Requirement:

√ Outer door has been removed

√ Fascia has been removed



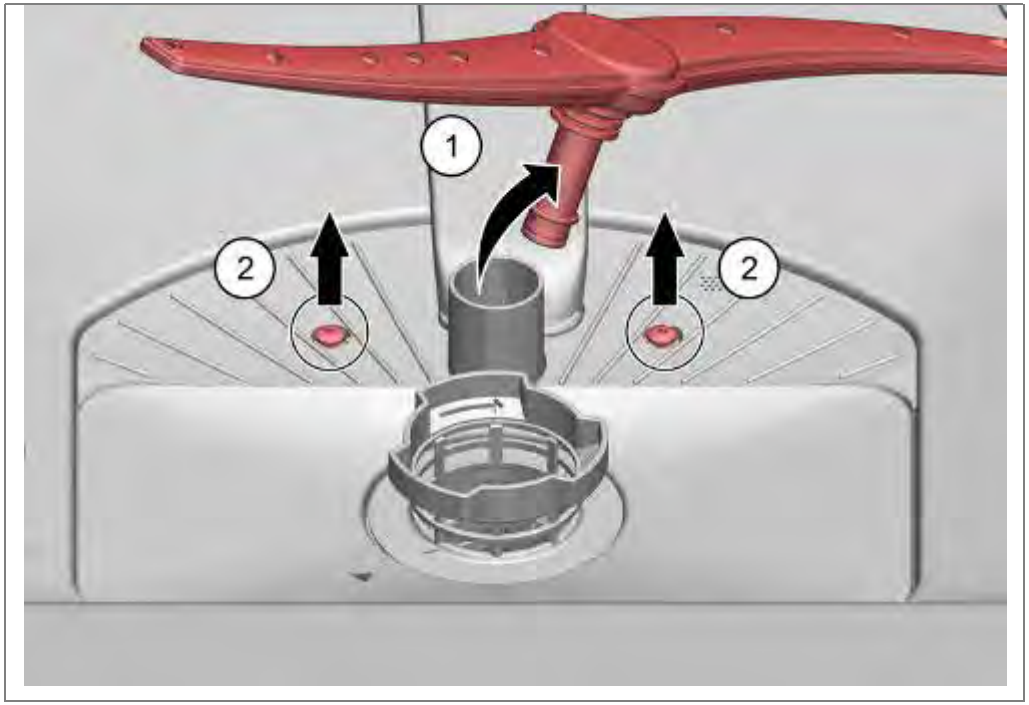
1. Carefully remove electrical connections (1).
2. Secure panel of the door closure recess to prevent it from falling down.
3. Remove screws (2) (Torx 10).
4.

6.23.2 Installing door sensor

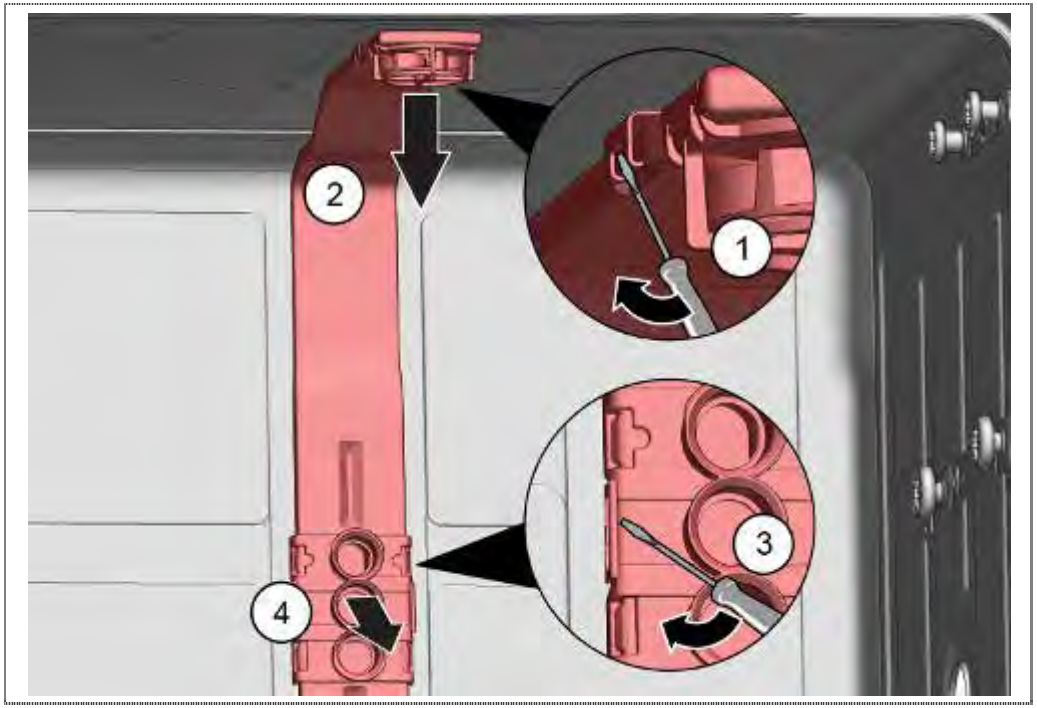
Install door sensor in reverse sequence.

6.24 Replacing feed pipe

6.24.1 Removal

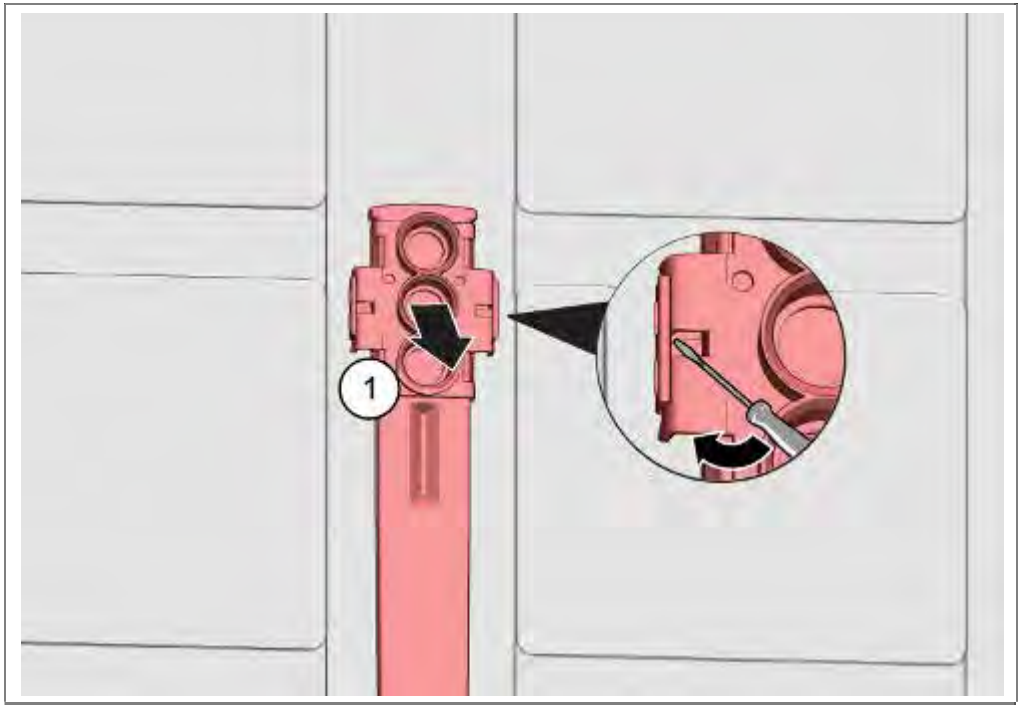


1. Pull off the lower spray arm with a slight jolt up the feed tube.
2. Unscrew both Torx - screws on the pump sump.



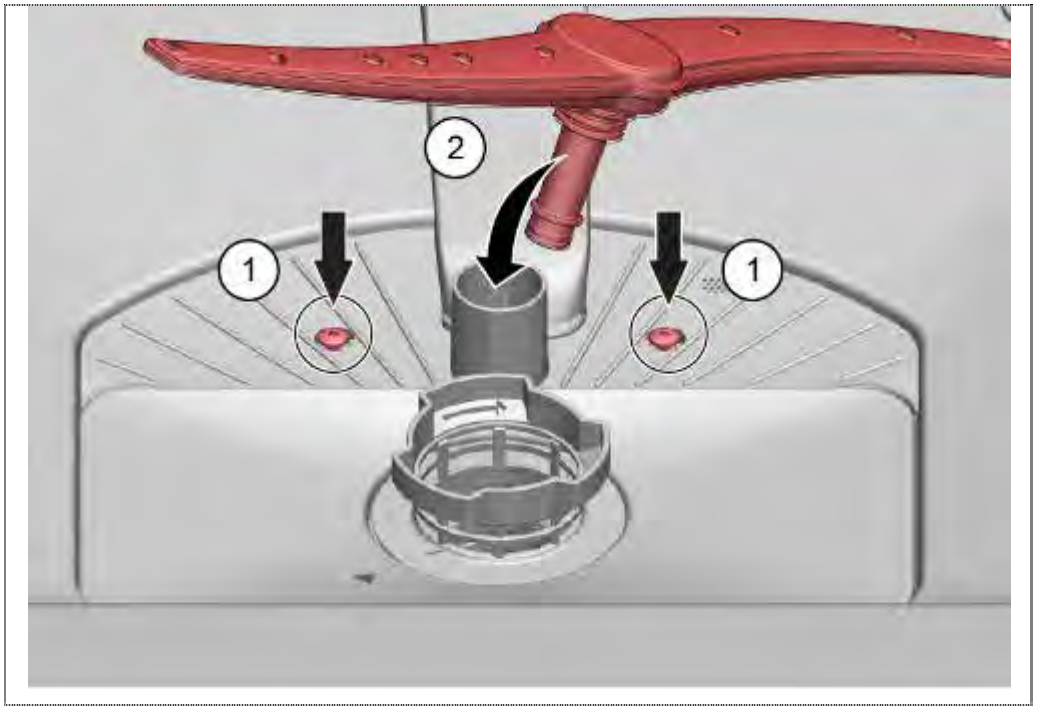
1. Loosen the upper catches on the optional sprinkler disc carefully.
2. Remove feeding pipe out of the holder.
3. Release catches in the area of coupling point.
4. Remove feeding pipe out of the holder.

Devices without sprinkler disc:

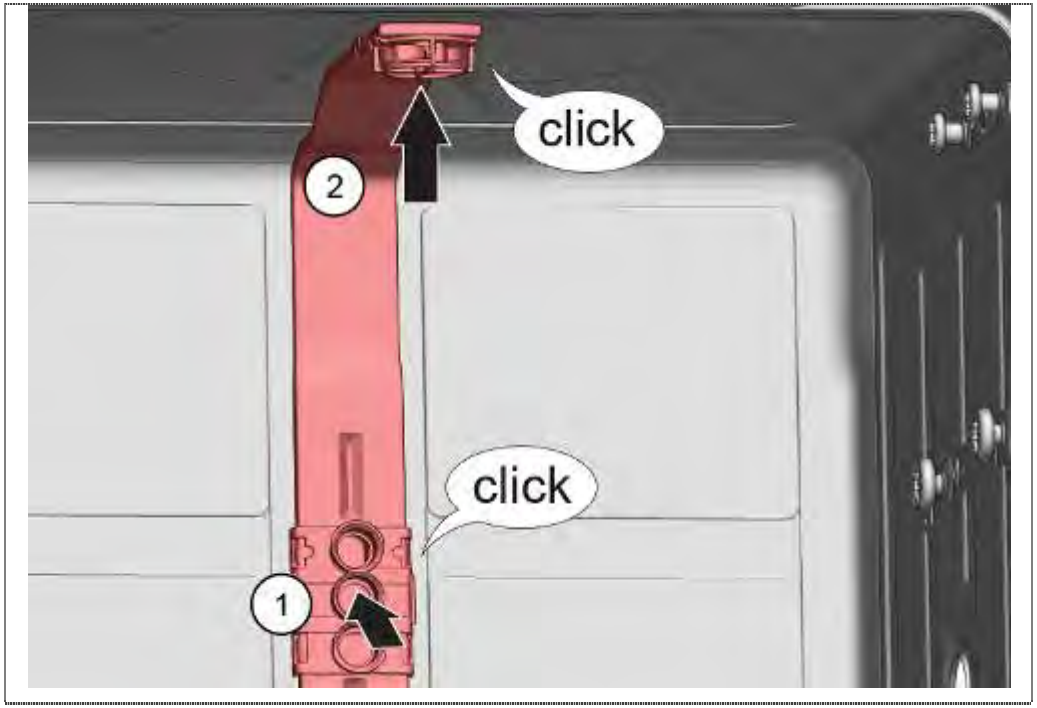


1. Release catches in the area of coupling point.

6.24.2 Installation

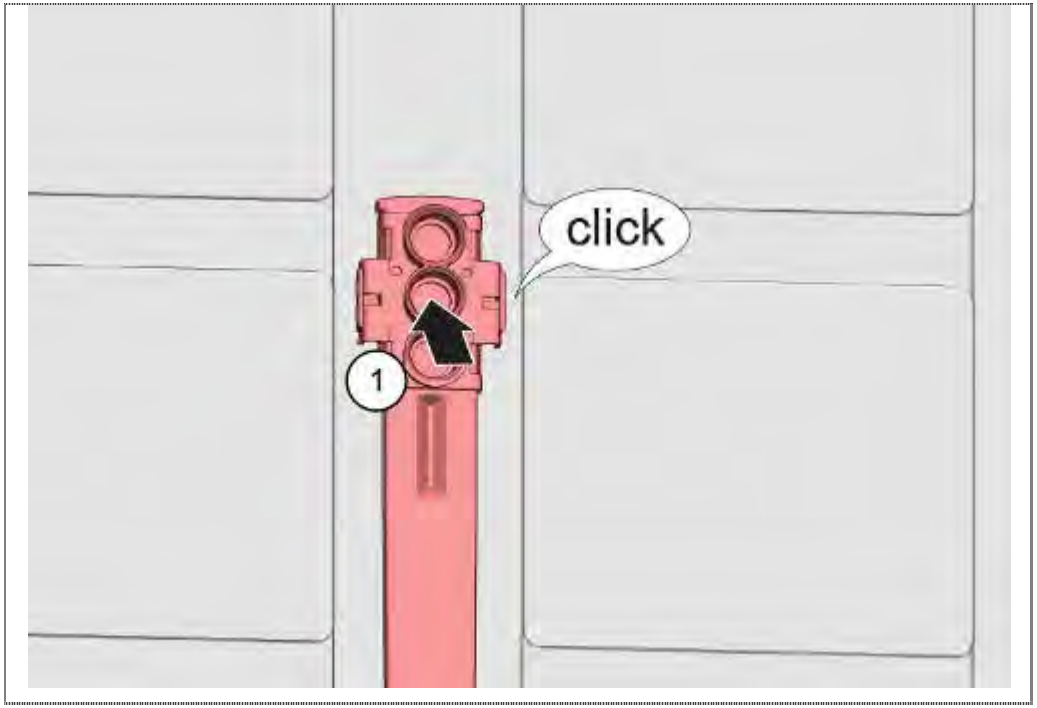


1. Screw both Torx screws to the pump sump.
2. Press the lower spray arm with gentle pressure in the supply pipe.



1. Lock the feeding pipe engage into the coupling site.
2. Lock the feeding tube in the top bracket lock.

Devices without sprinkler disc:



1. Lock the feeding pipe engage into the coupling site.

6.25 Smooth running pull-out rail for top basket (optional)

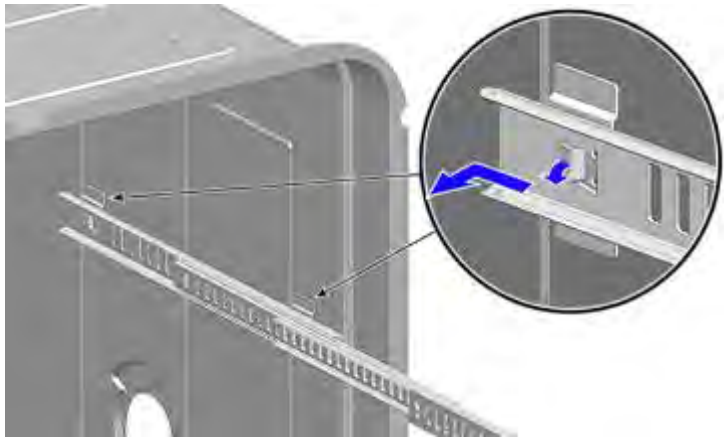
6.25.1 Removal

Fixing brackets may break off

► Carefully bend fixing brackets. If the fixing bracket breaks, the appliance can no longer be repaired.

► Slightly bend open both fixing brackets with a screwdriver

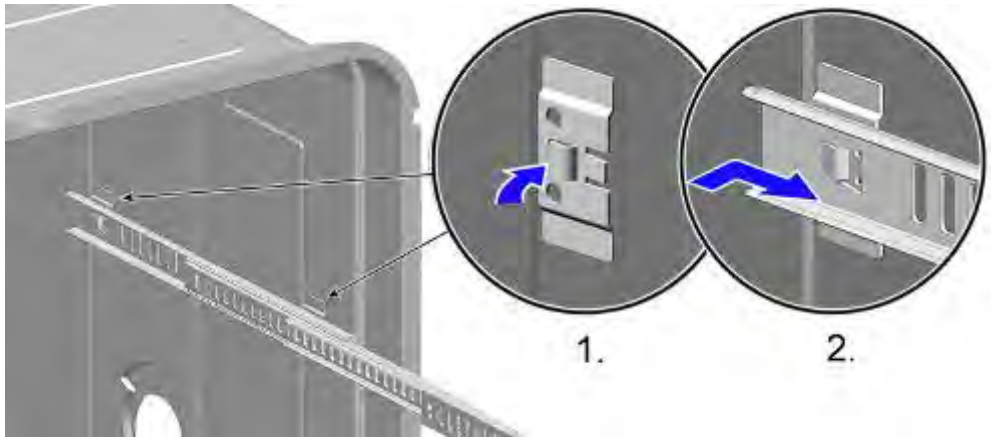
► Press pull-out rail backwards and remove inwardly



6.25.2 Installation

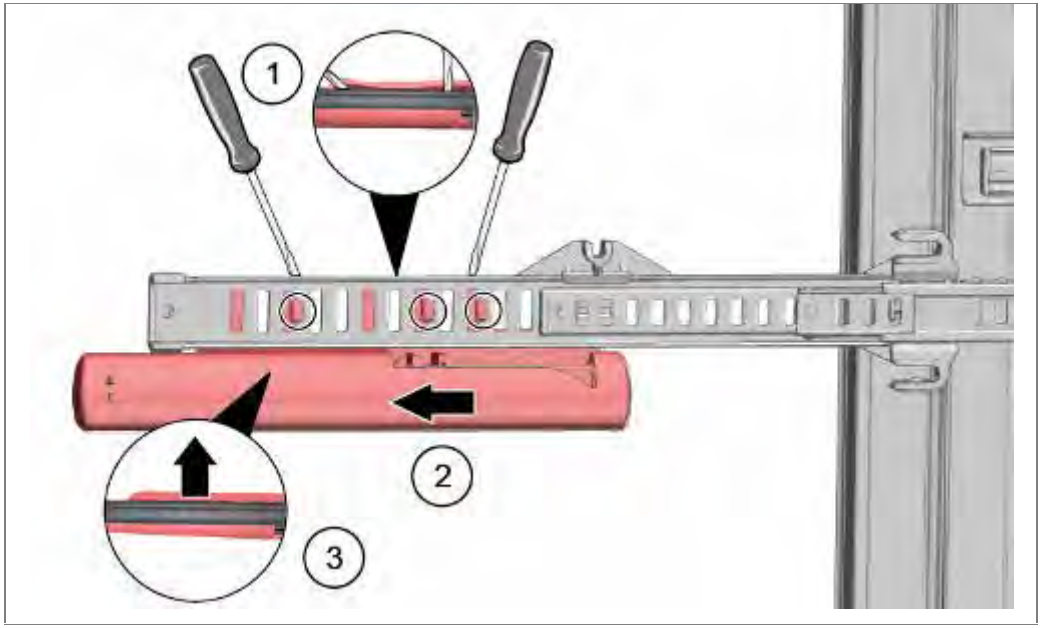
► Bend back fixing brackets

► Insert pull-out rail and press forwards until it engages



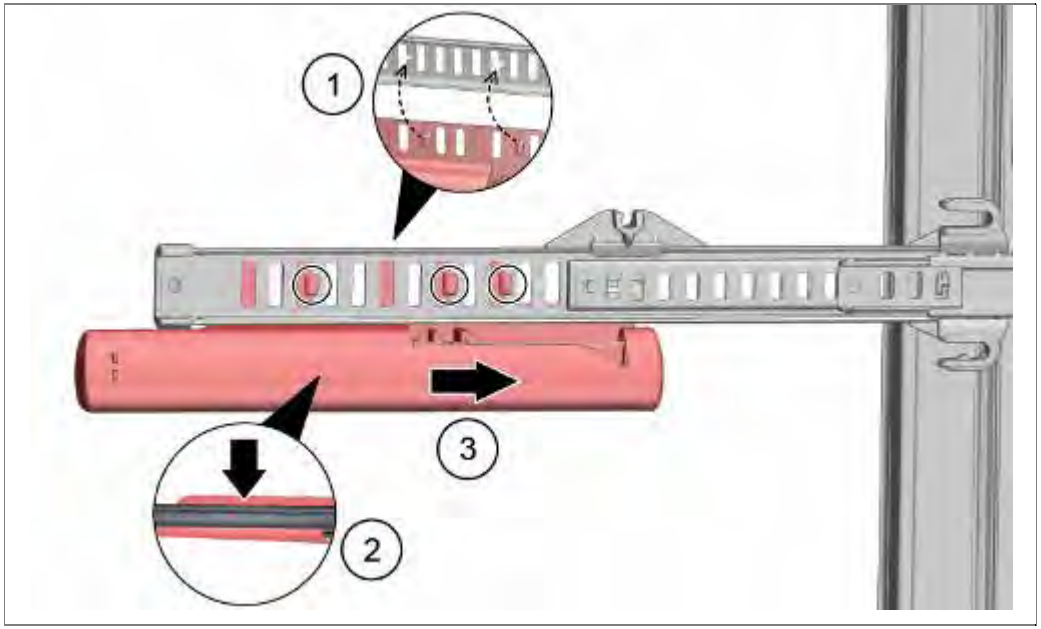
6.26 Assembling soft close mechanism

6.26.1 Disassembling soft close mechanism, upper rack



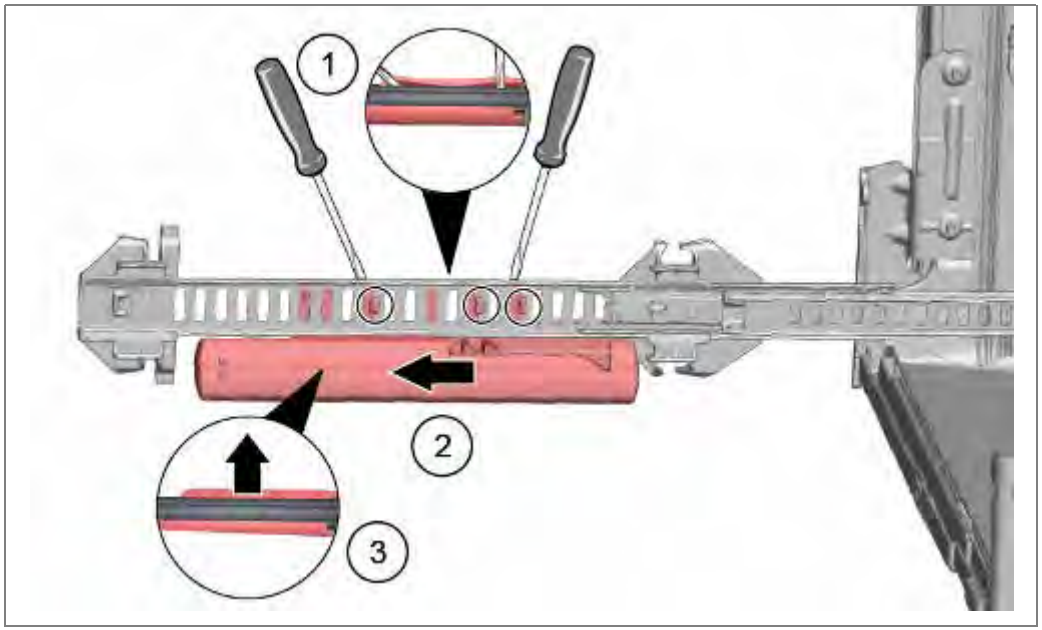
1. With a small screwdriver, carefully separate the latches from the glide.
2. Pull the soft close mechanism forward.
3. Remove the mechanism from the glide.

6.26.2 Assembling soft close mechanism, upper rack



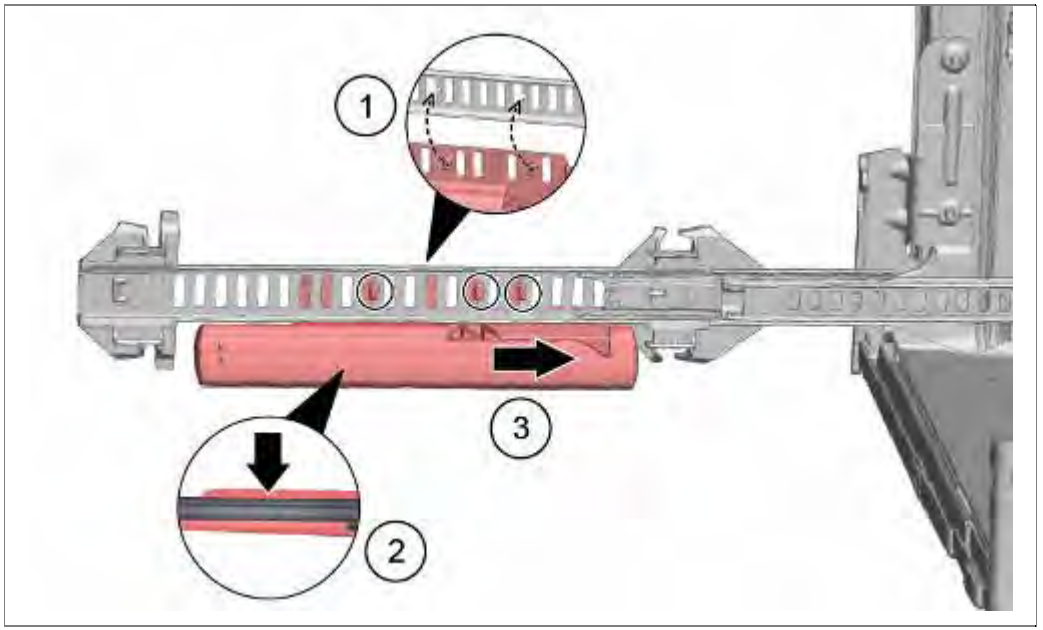
1. Align the soft close mechanism to the special cutouts in the glide.
2. Push the mechanism into the glide
3. By applying a force in the direction back into the machine, the latches will secure to the glide.

6.26.3 Disassembling soft close mechanism, lower rack



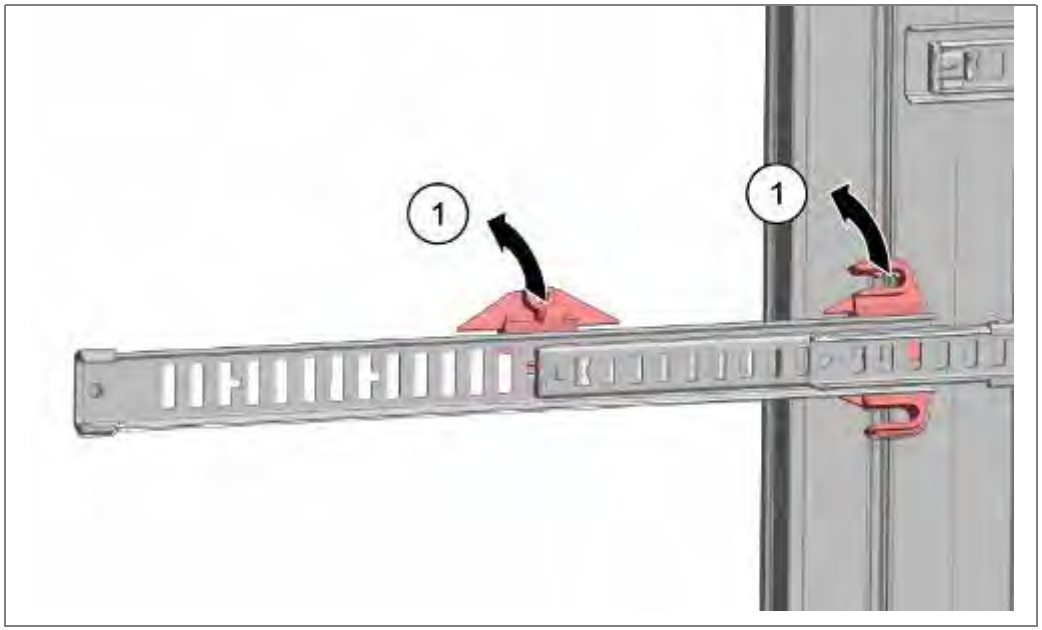
1. With a small screwdriver, carefully separate the latches from the glide.
2. Pull the soft close mechanism forward.
3. Remove the mechanism from the glide.

6.26.4 Assembling soft close mechanism, lower rack



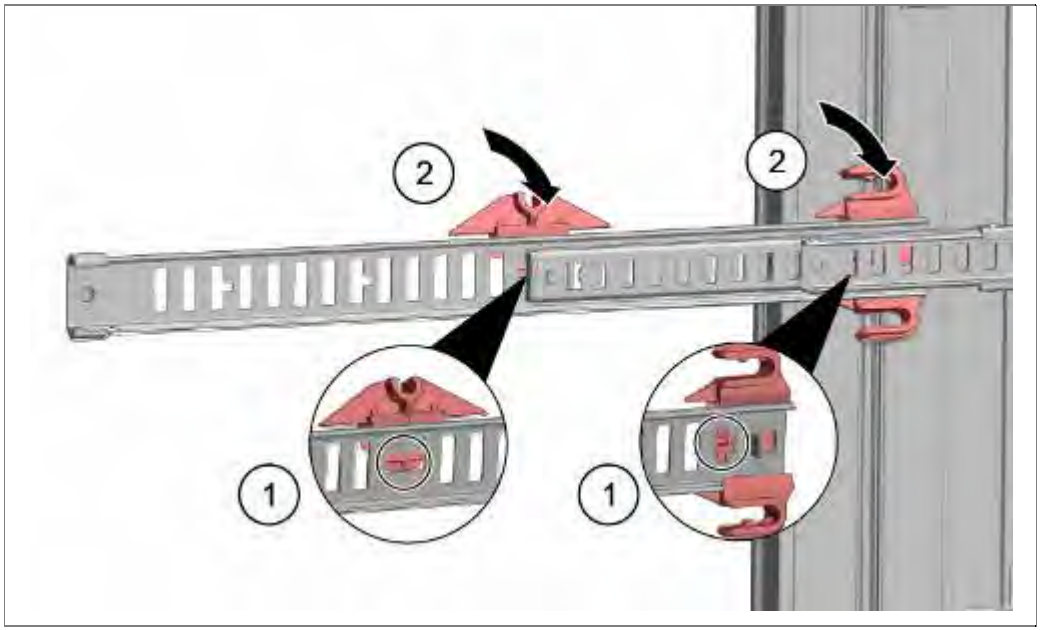
1. Align the soft close mechanism to the special cutouts in the glide.
2. Push the mechanism into the glide
3. By applying a force in the direction back into the machine, the latches will secure to the glide.

6.26.5 Disassembling rack holders, upper rack



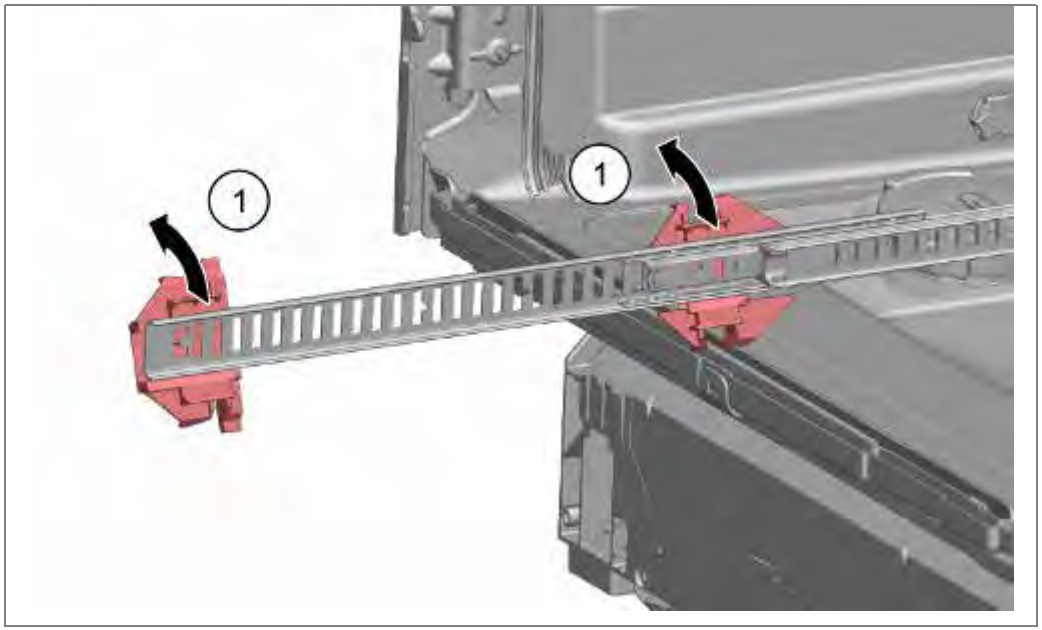
1. Snap the rack holder off the glides with an outward motion.

6.26.6 Assembling rack holders, upper rack



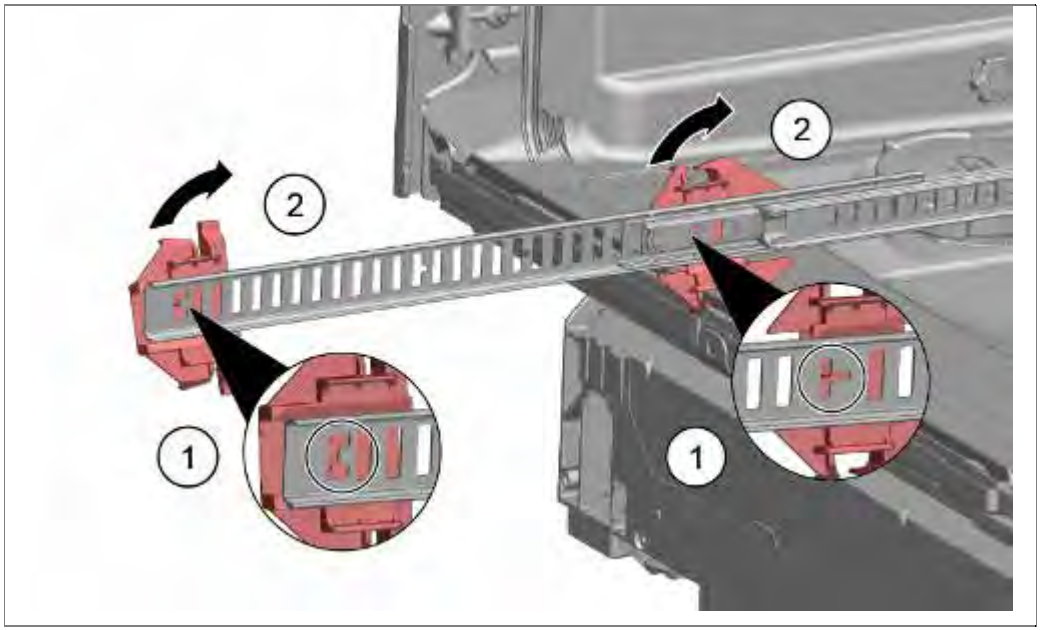
1. Align the rack holders to the cutouts in the glides.
2. Snap the holders to the glides until they are secured.

6.26.7 Disassembling rack holders, lower rack



1. Snap the rack holder off the glides with an outward motion.

6.26.8 Assembling rack holders, lower rack

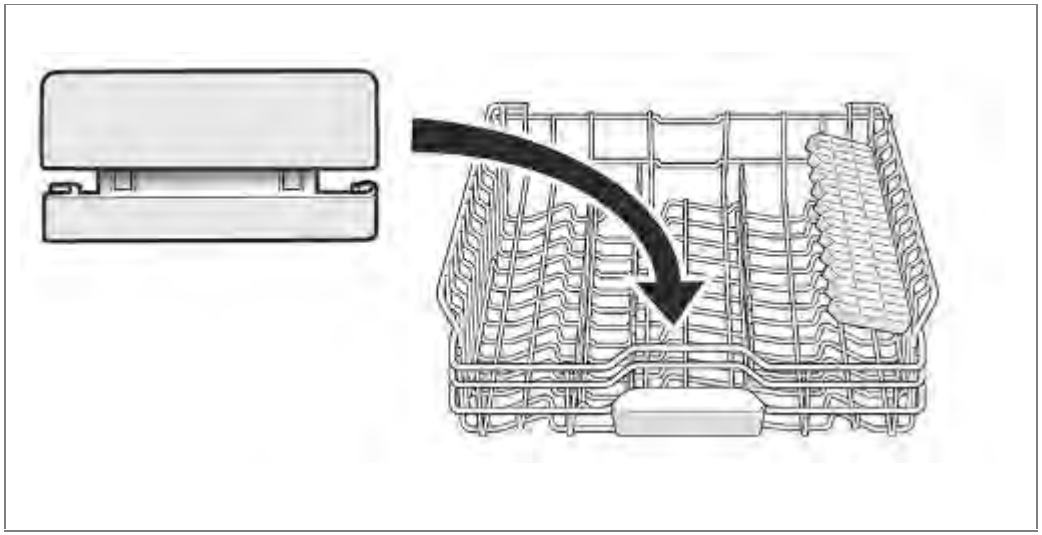


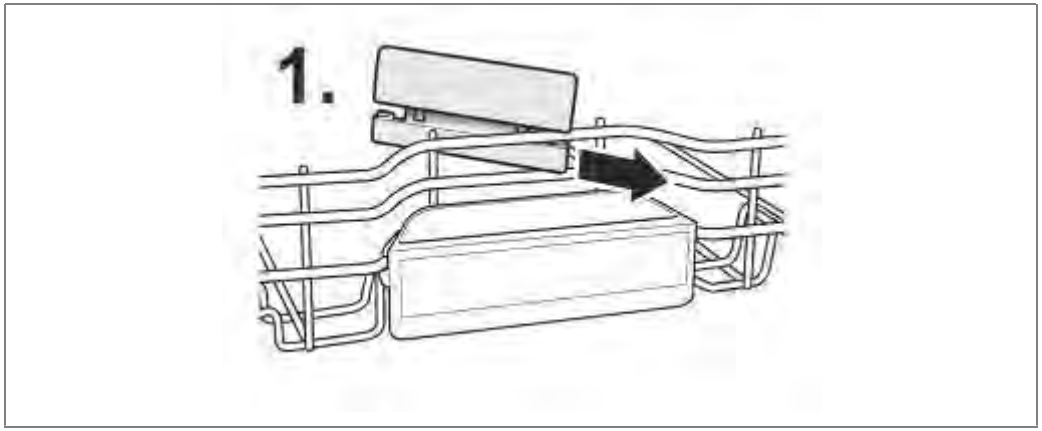
1. Align the rack holders to the cutouts in the glides.
2. Snap the holders to the glides until they are secured.

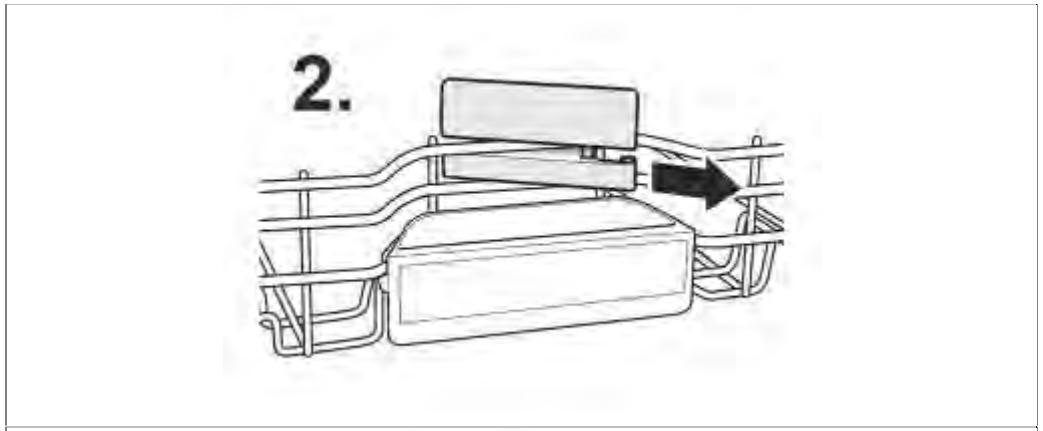
6.27 Installing optional elements in the baskets

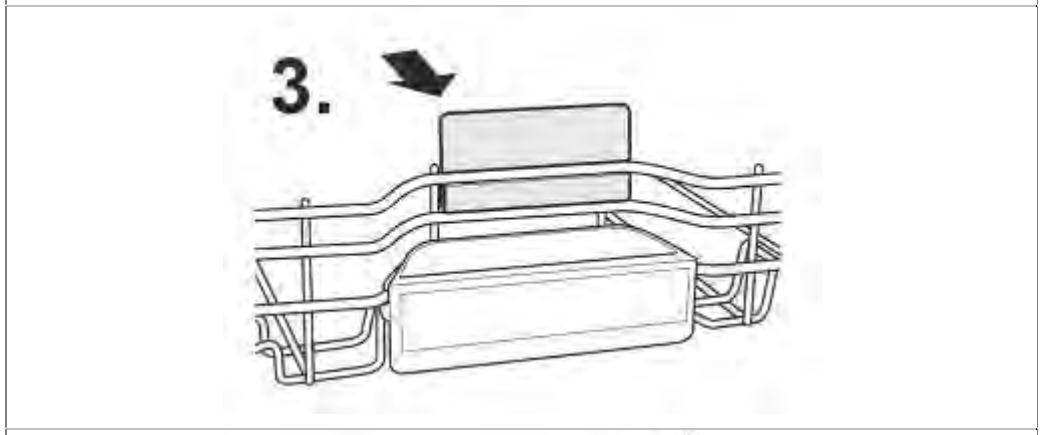
Optional elements can be fitted in the baskets.

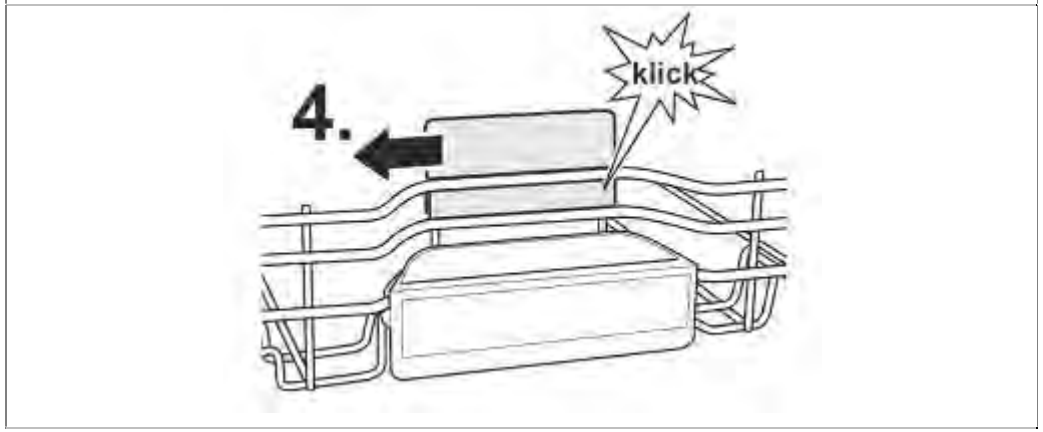
6.27.1 Tablet chute 86 cm model 614935







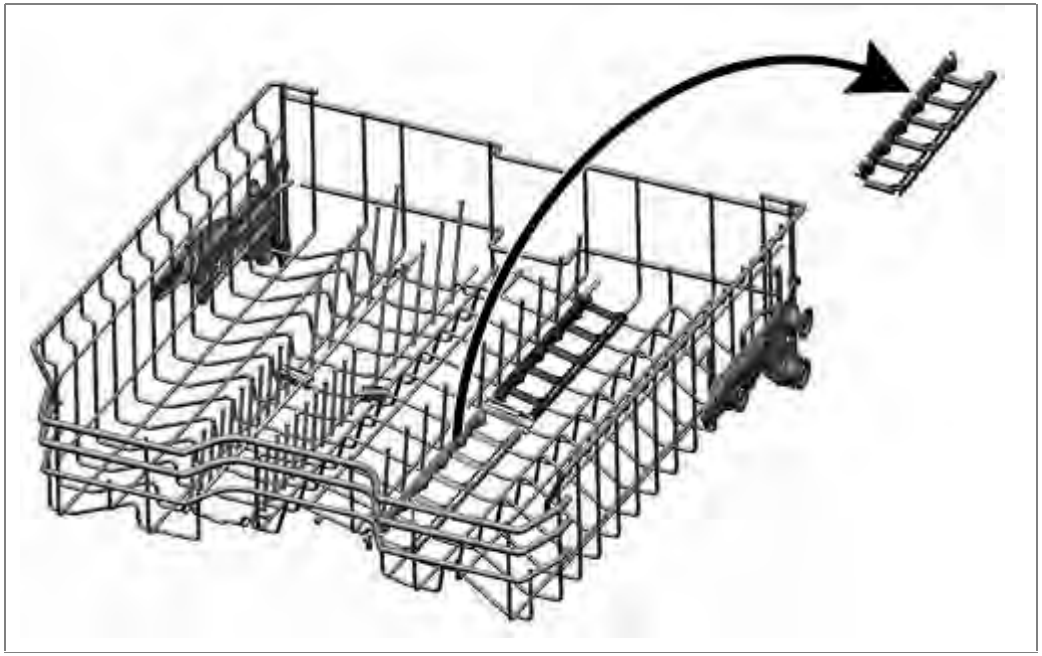




6.27.2 Cup support clip618565

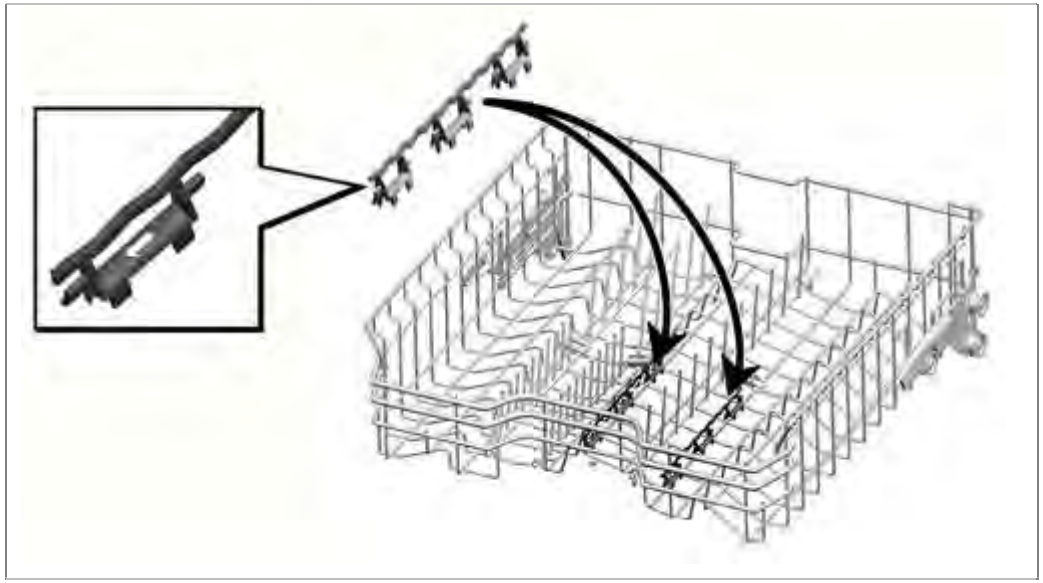
When washing cups, the cup support clip can be folded up. The additional inclined position reduces the accumulation of water on the underside of the cup. In the case of tall glasses it is recommended to fold down the cup support clip.

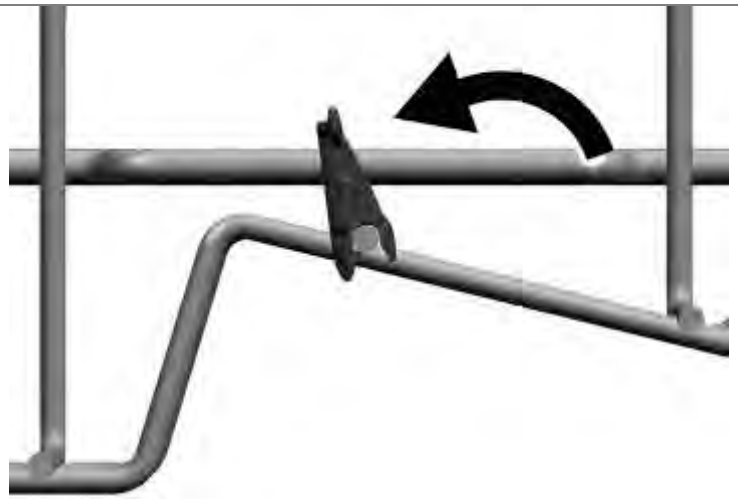
If top baskets feature optional plastic inserts, these must be removed first.



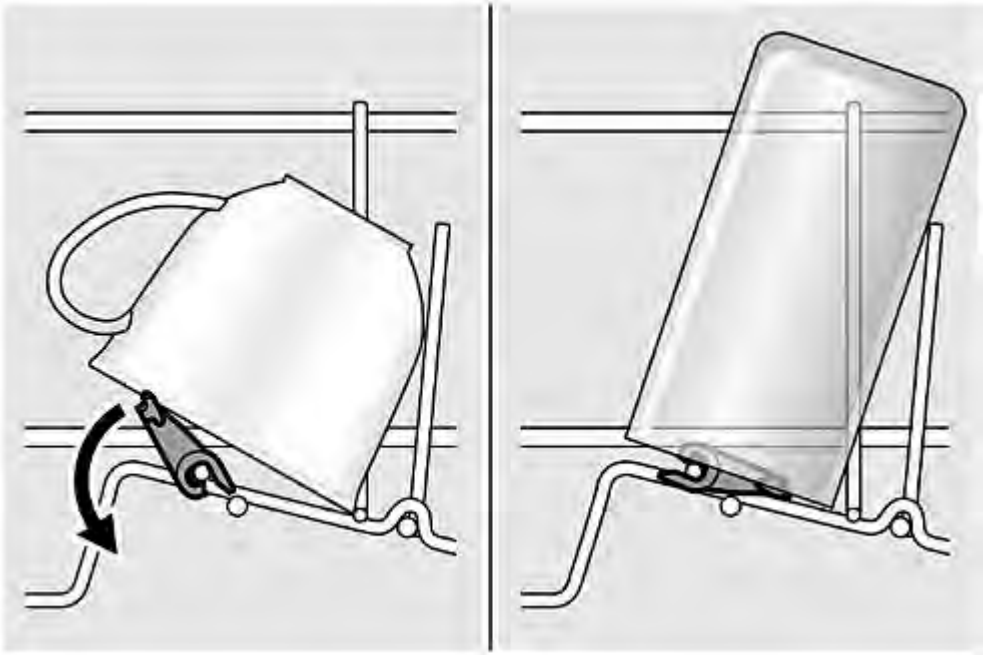
Engage cup support clips.

Opening the clips:

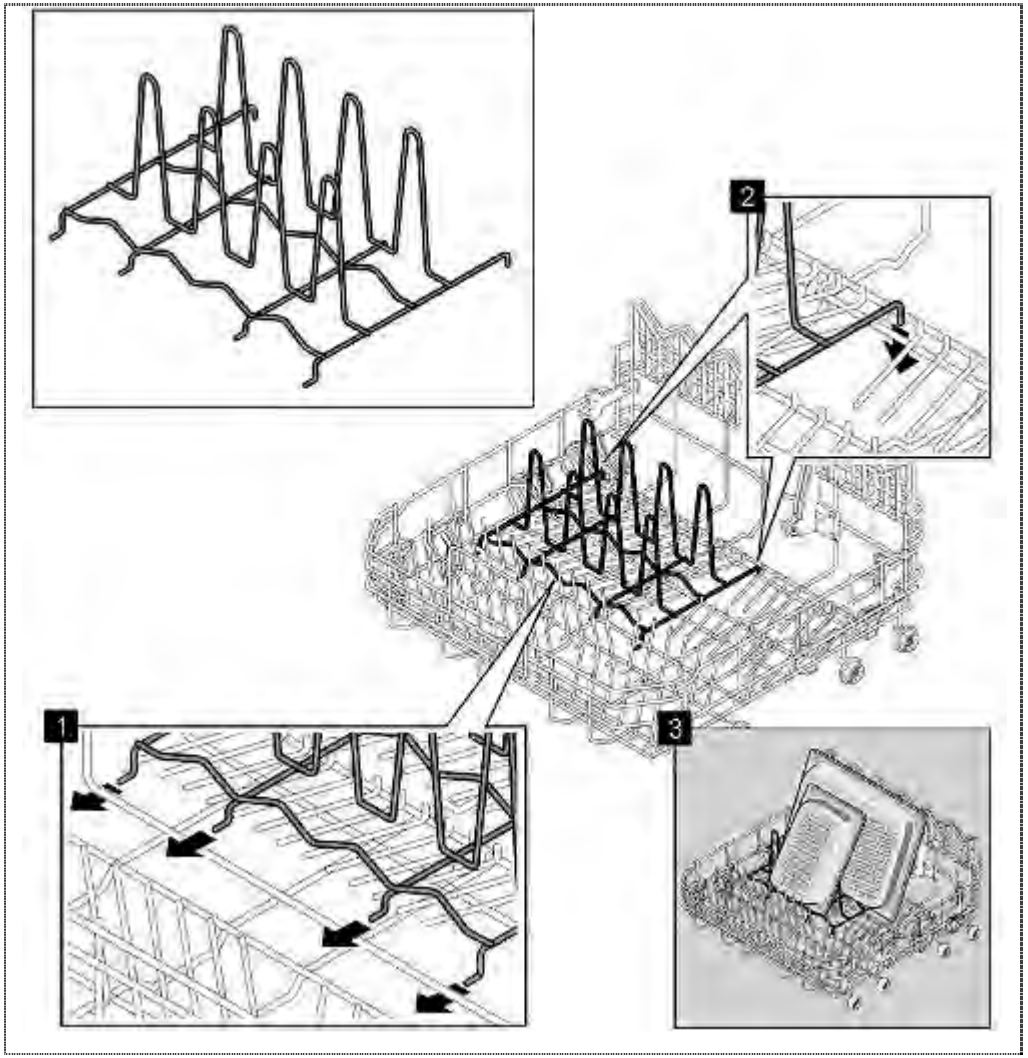




Positioning the utensils:

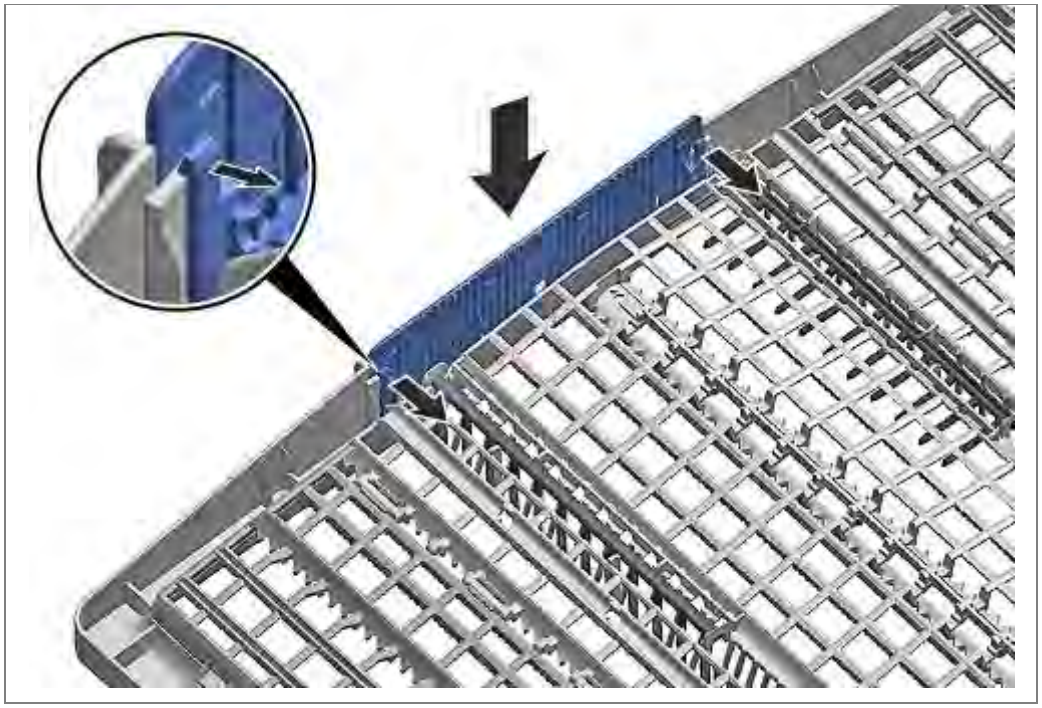


6.27.3 Gastronorm insert holder



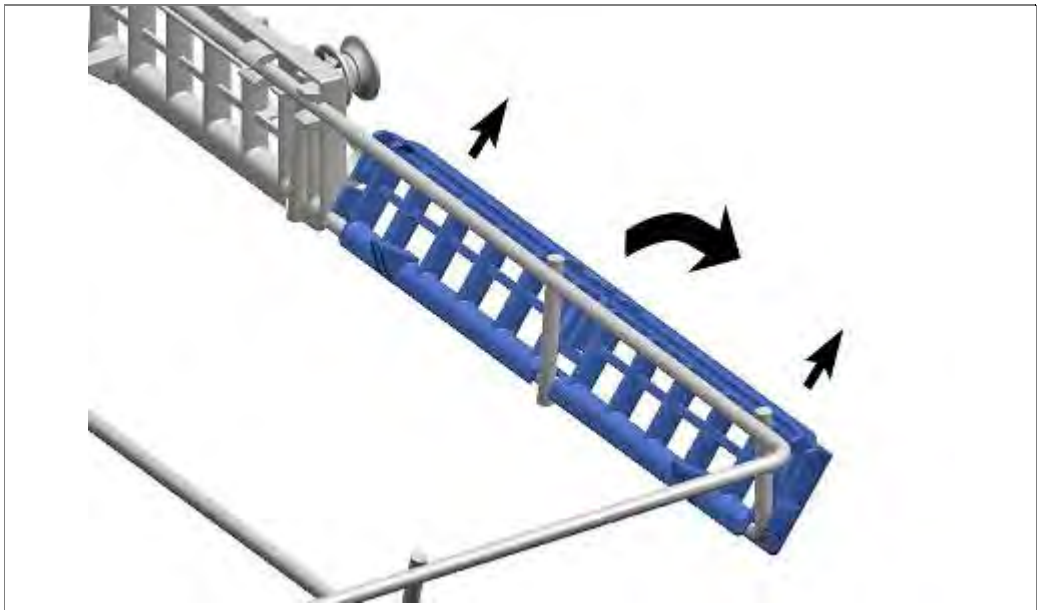
6.27.4 Setting up vario cutlery drawer plus – optional from 10/2011 on

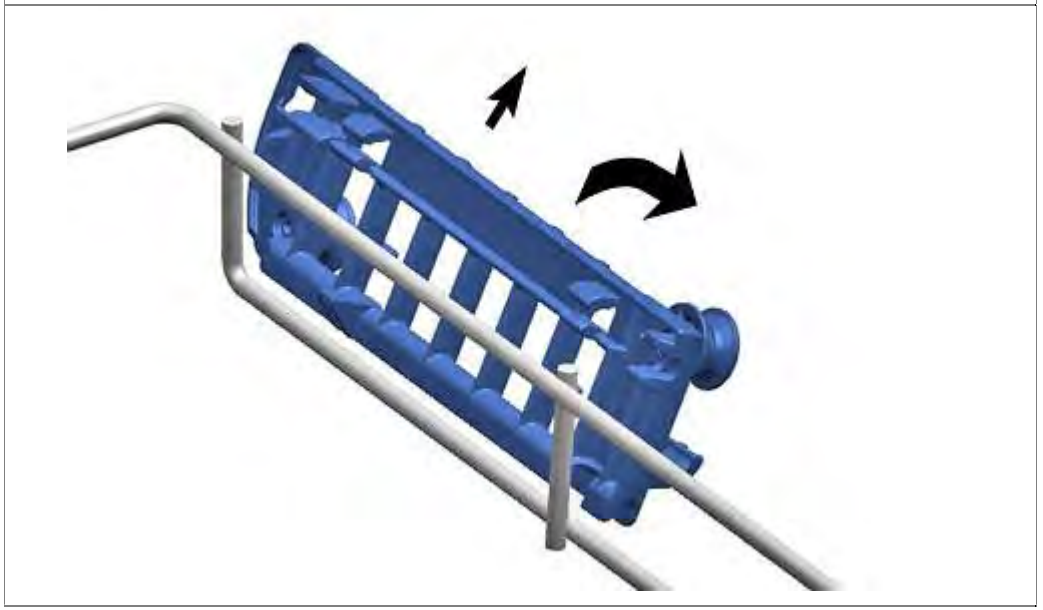
Only the disassembly of flexible elements of the vario cutlery drawer plus is shown. The assembly takes place in reverse order. Plastic parts are to be engaged evenly and examined for tightness.
Remove handle:



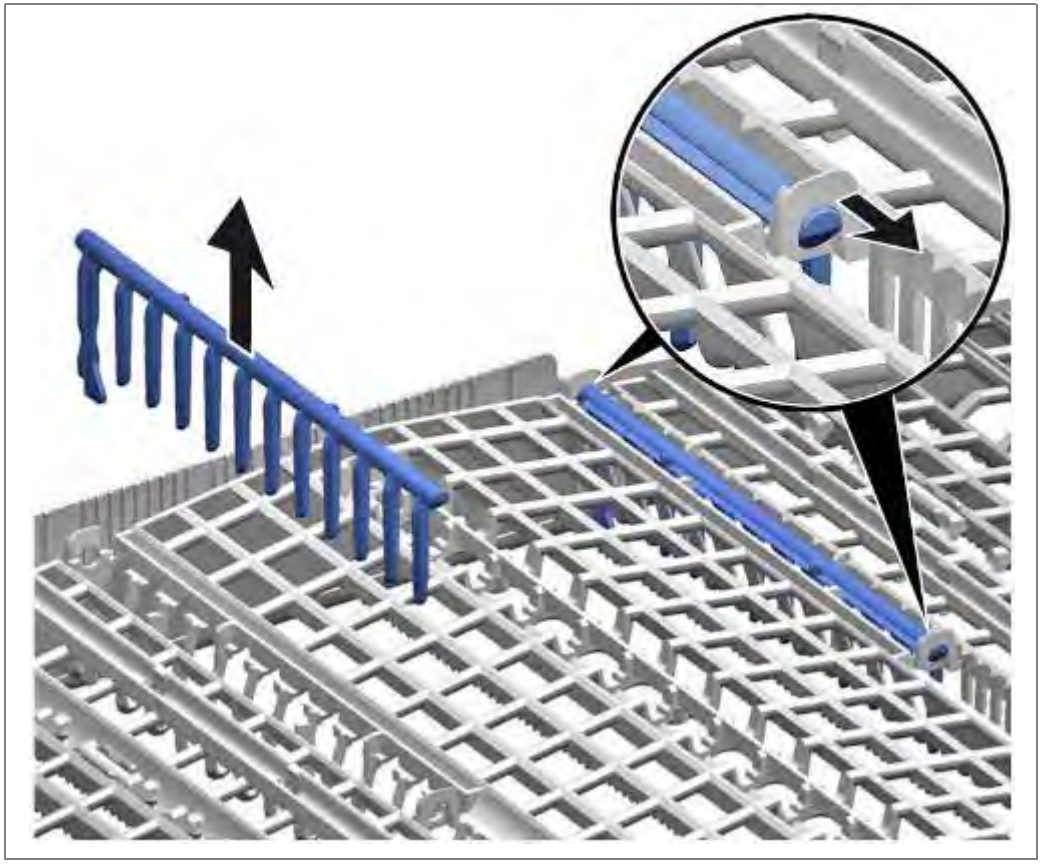
Bend latches inward.
Remove handle upward.

Press the lateral plastic inserts outward.
Pull it upward from the framework.

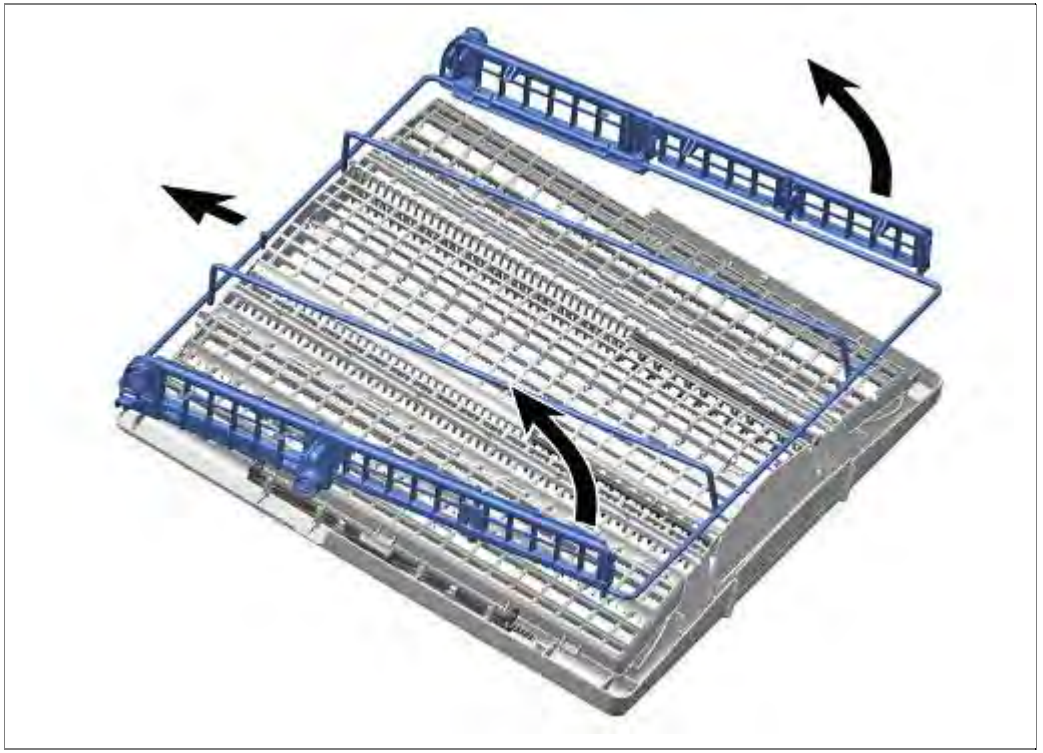




Bend guide straps carefully outward.
Pull flip tines from the laughter.



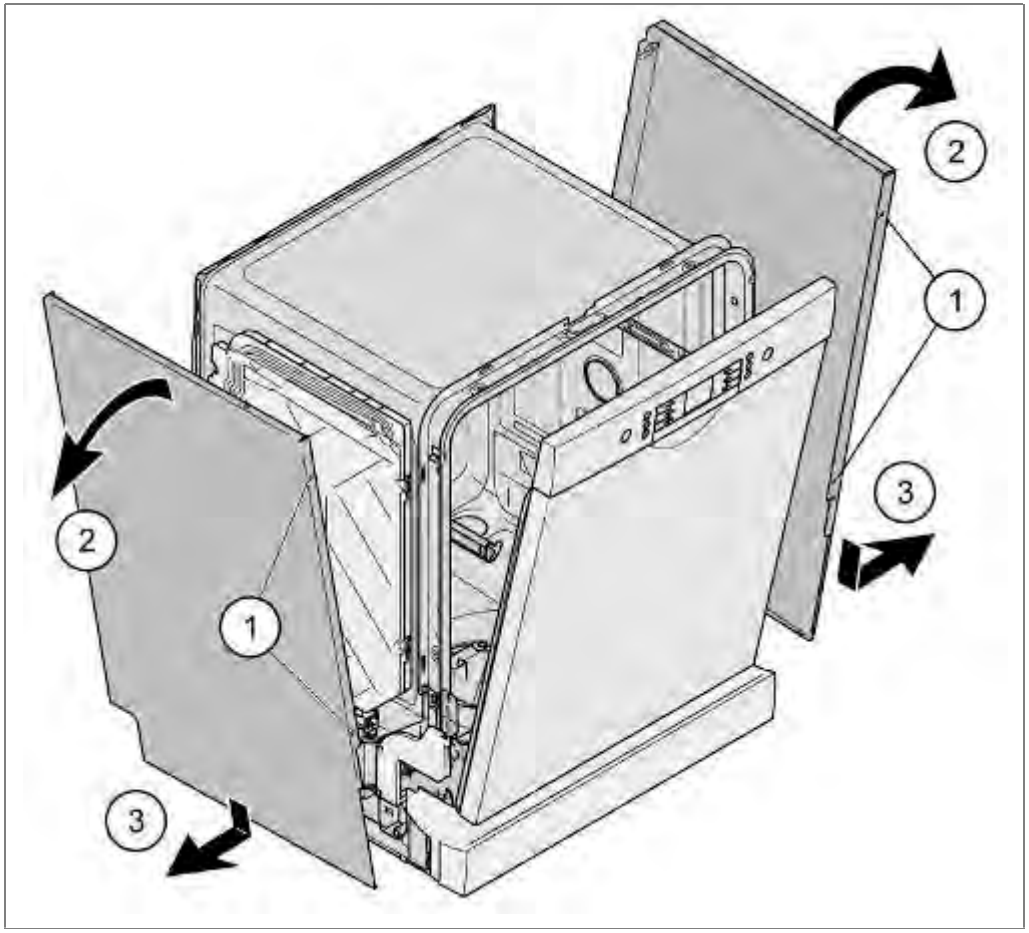
Press the metal frames from the mounting plates in front.
Push to the rear from the guidance.

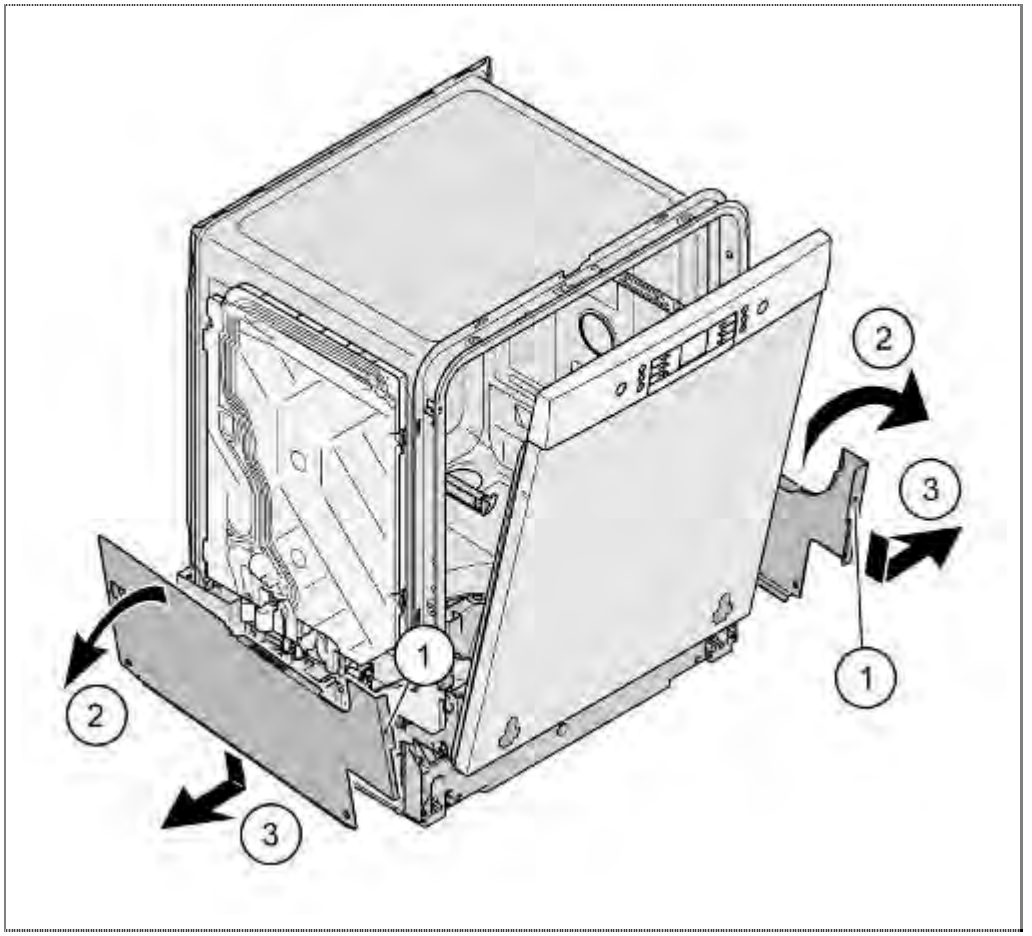


6.28 Replacing side panels

Requirement:

√ Remove worktop (if fitted).

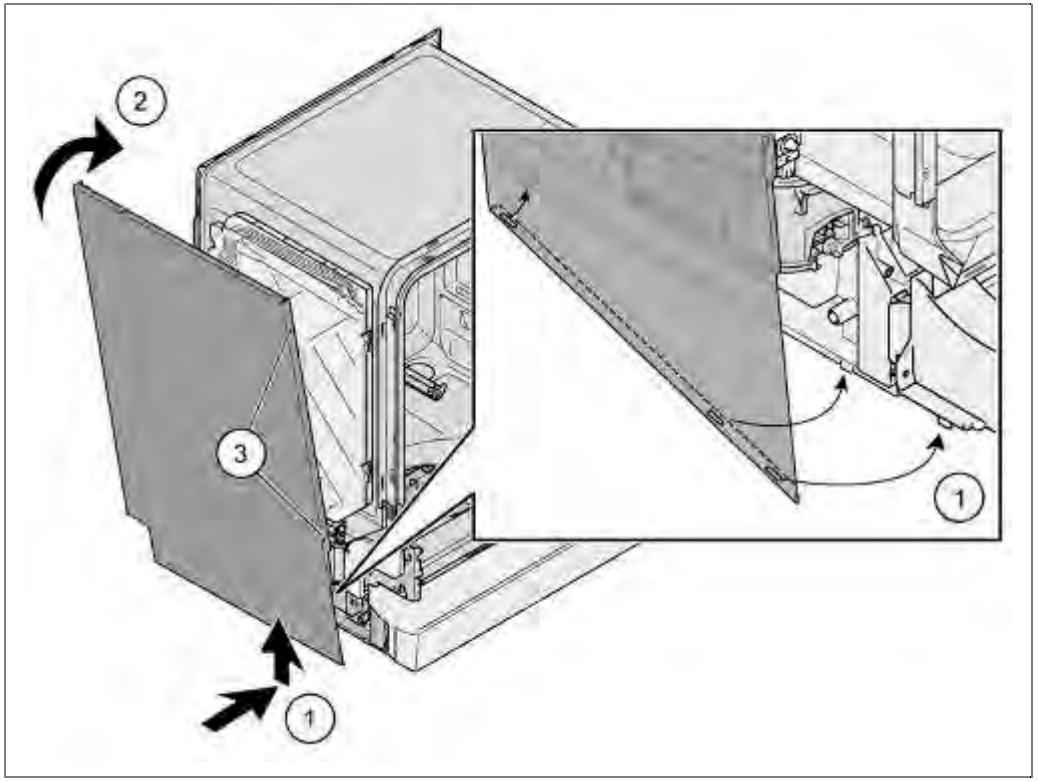


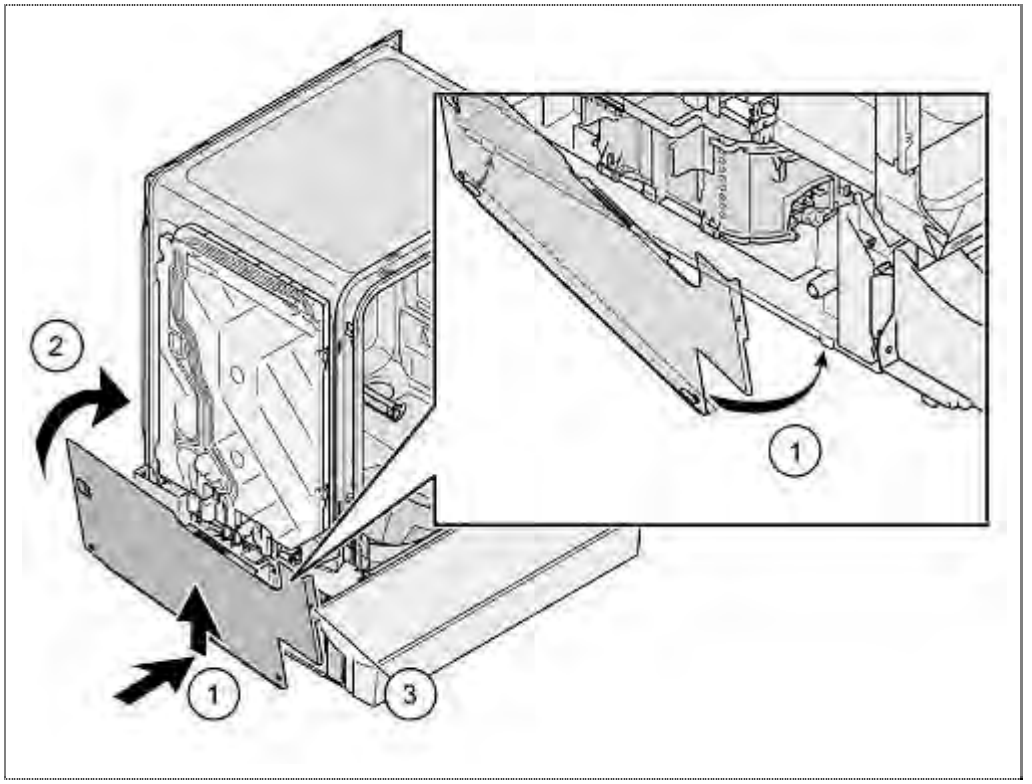


6.28.1 Removal

1. Loosen screws of the side panel on the front side.
2. Fold out the upper side of the side plate.
3. Push down the side panels and detach from the retaining lugs of the base pan.

6.28.2 Installation





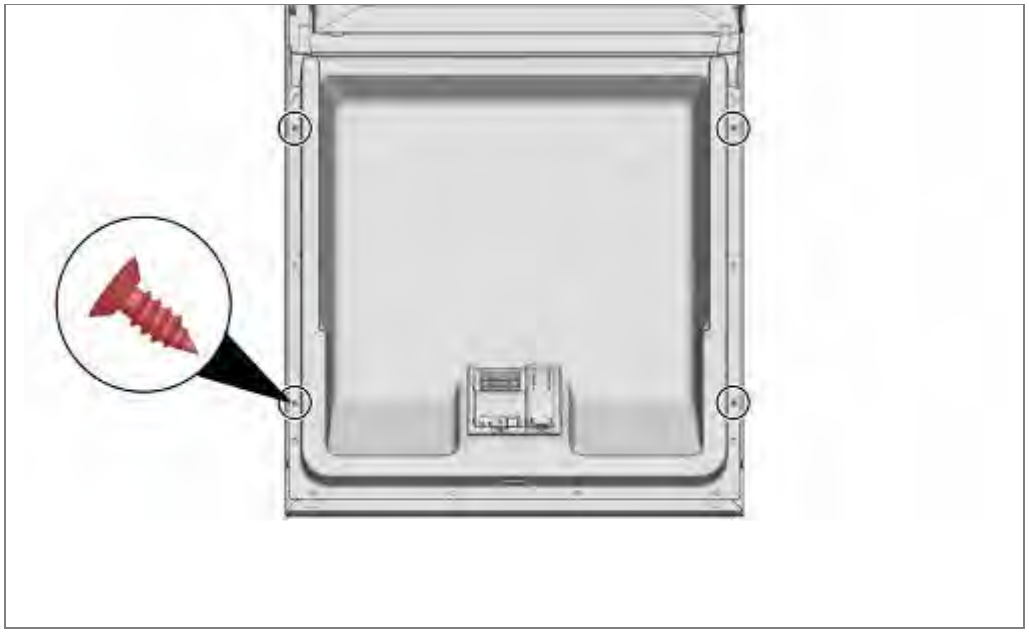
Installation

1. Attach the side panel to the catches of the appliance underside.
2. Press evenly onto the appliance.
3. Screw together side wall.

6.29 Removing outer door

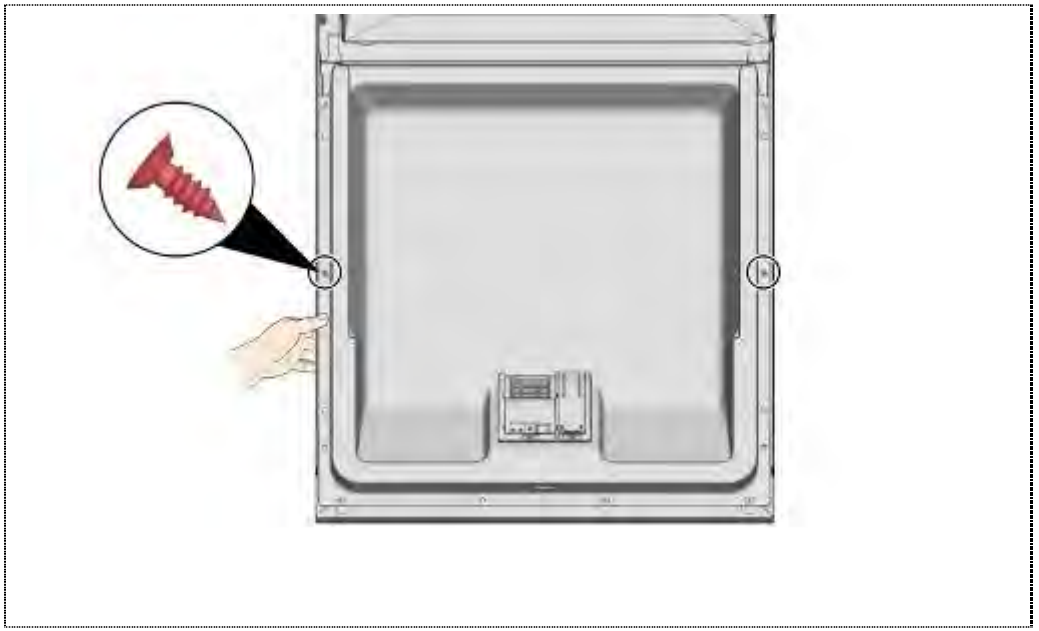
6.29.1 Removal

Open the door



Remove the 2 screws on each side of the inner door.

Secure front door against falling (hold it on one side)



Remove remaining screws.

Panel screws

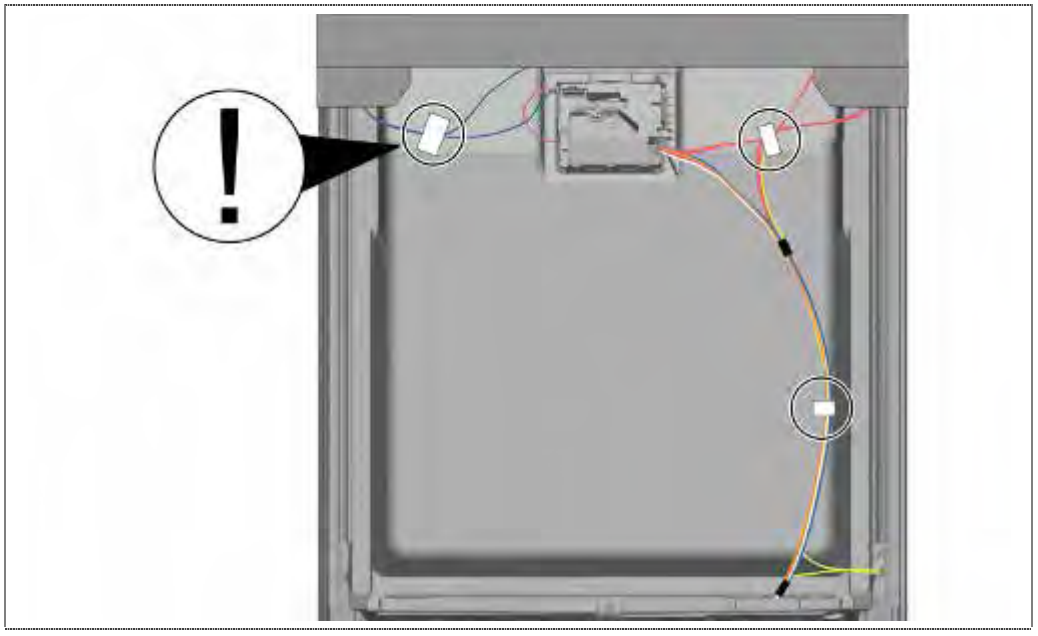
► It is not necessary to remove the topmost 6 screws in order to remove the outer door.

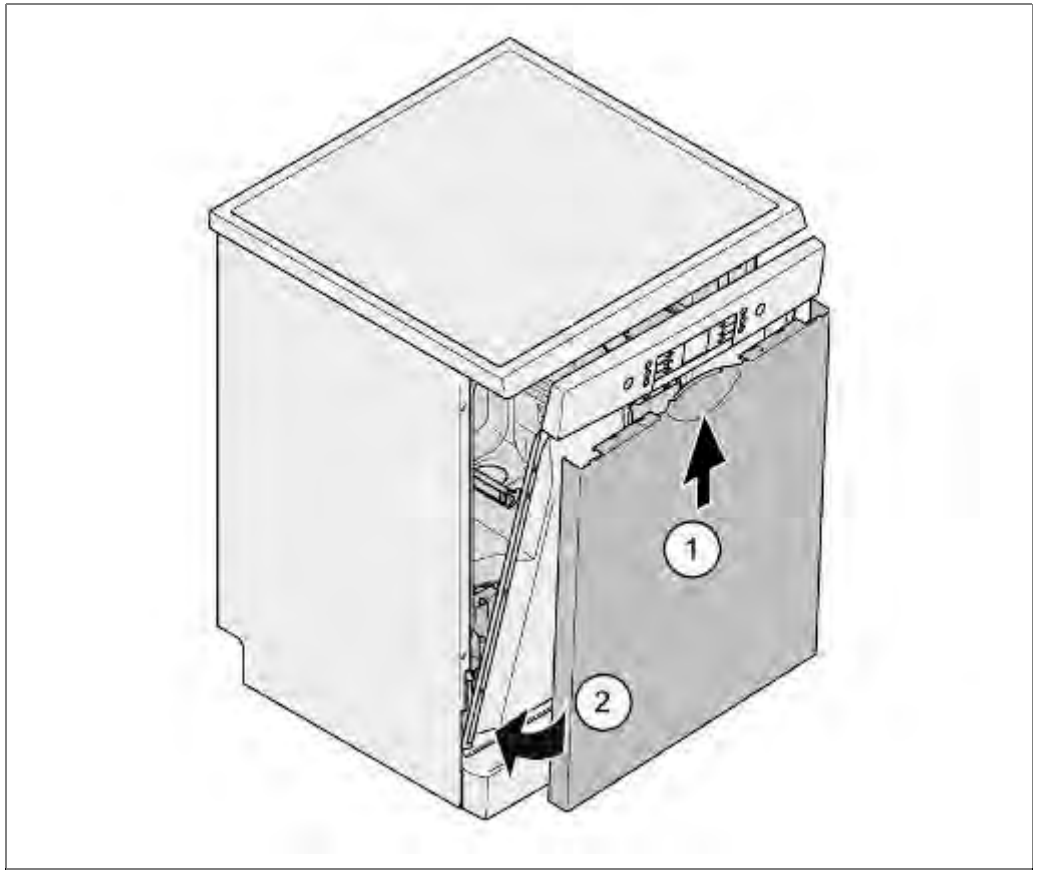
6.29.2 Installation

Position insulating mats and force sensors.

Close inner door but do not engage.

	Cable harness ► Ensure to safe cable according to the specification. ► Incorrect installation can lead to destruction of the lines with sequelae lead..





1. Push outer door with the upperside at an angle under the fascia.
2. Press outer door onto the inner door.

With the door open slightly, screw together from inside.

Panel screws

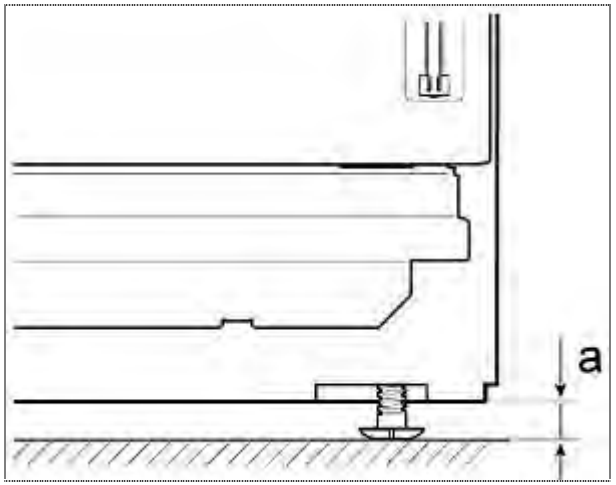
► Use 4x11 mm screws.

6.30 Variable hinge – installation, optional

Note Installation height

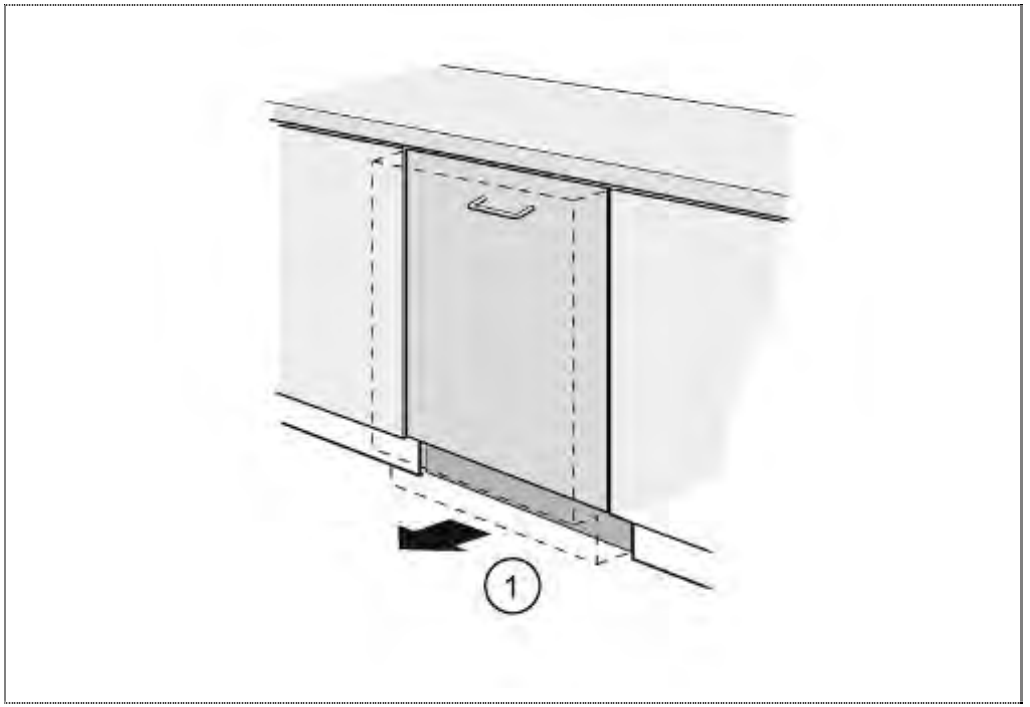
- Before pulling the dish washer out of installation mark the installation hight.
  (e.g.: distance (a) between floor to lower edge of the dish washer).
- The equipment must be aligned in the same height before assembly the furniture front

Example:

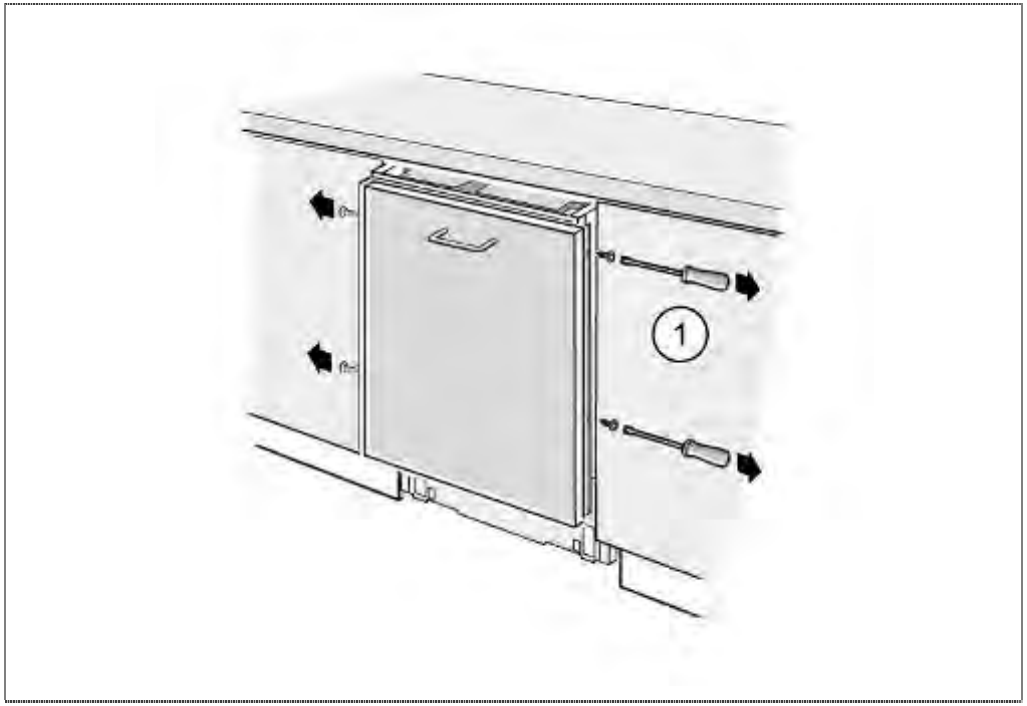


6.30.1 Removal

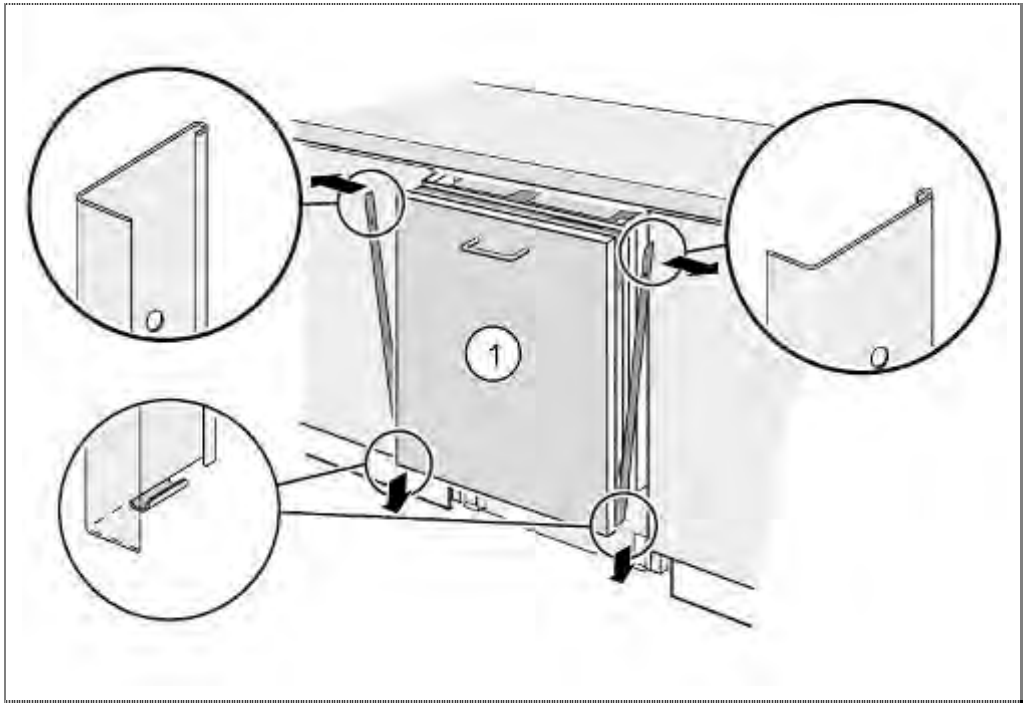
Requirement: base panel removed



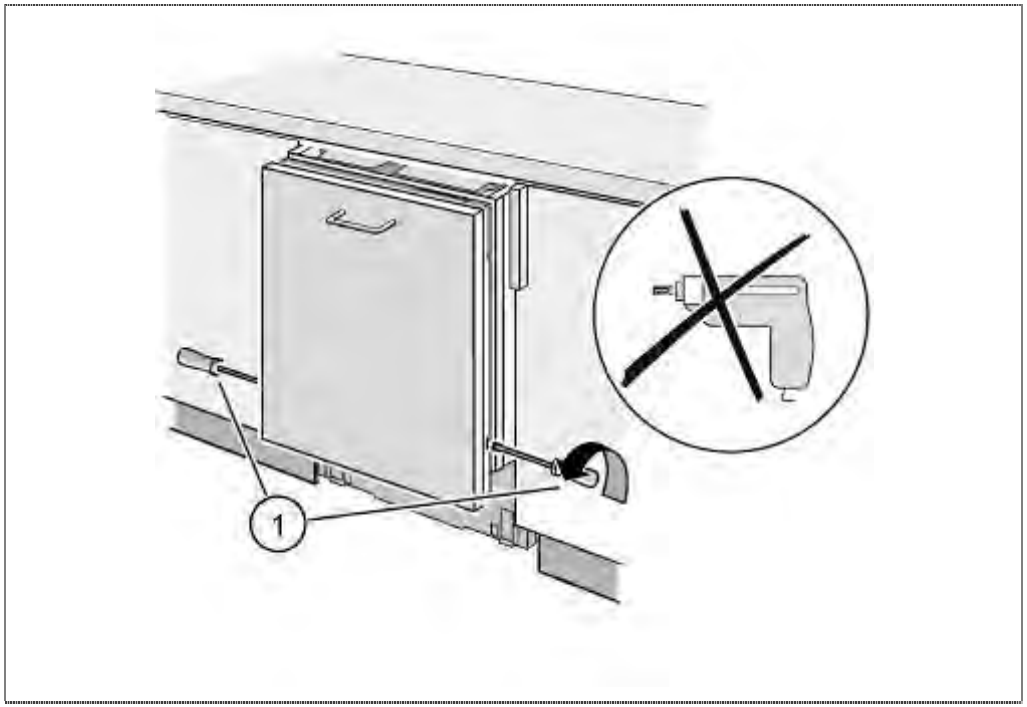
1. Pull appliance out of the installation cavity.



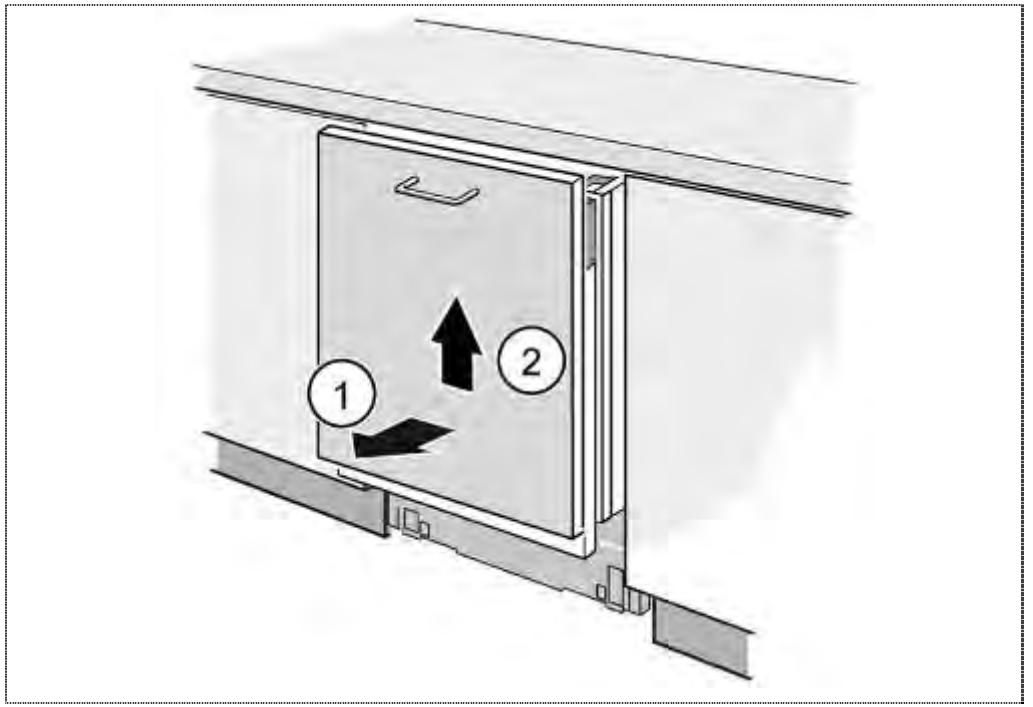
1. Remove 4 screws.



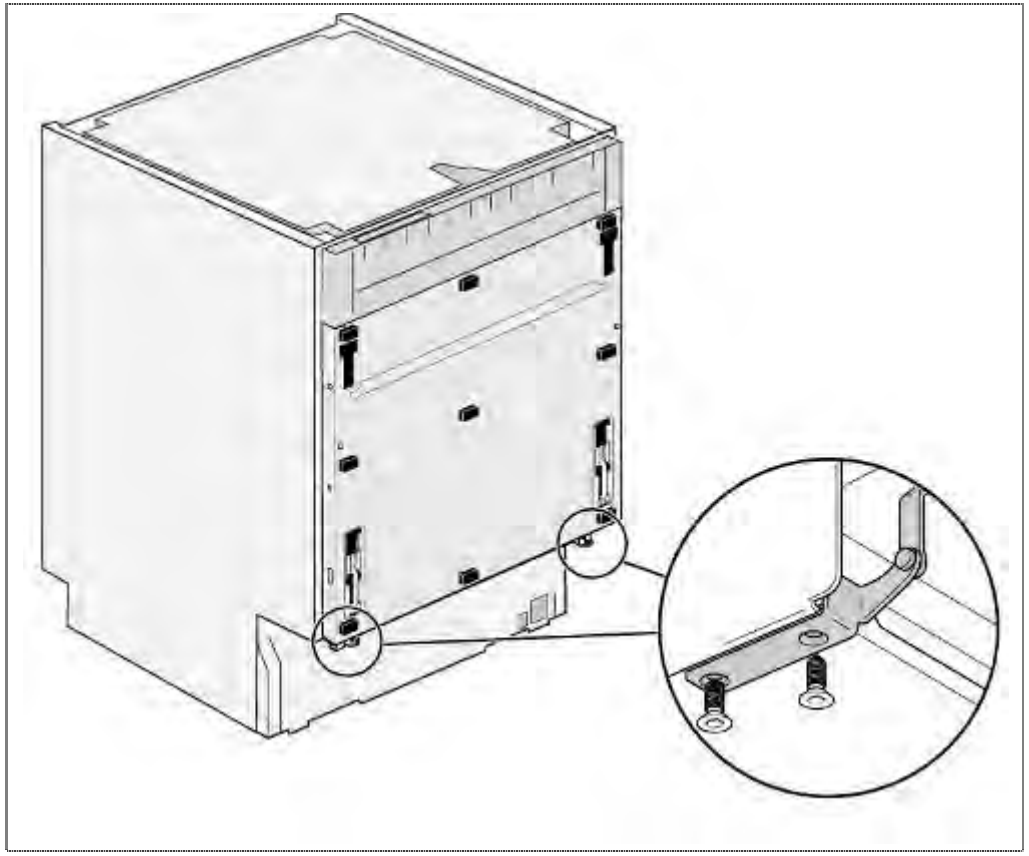
1. Remove both chrome strips.



1. Loosen lock screws (3 ~ 5 rounds).

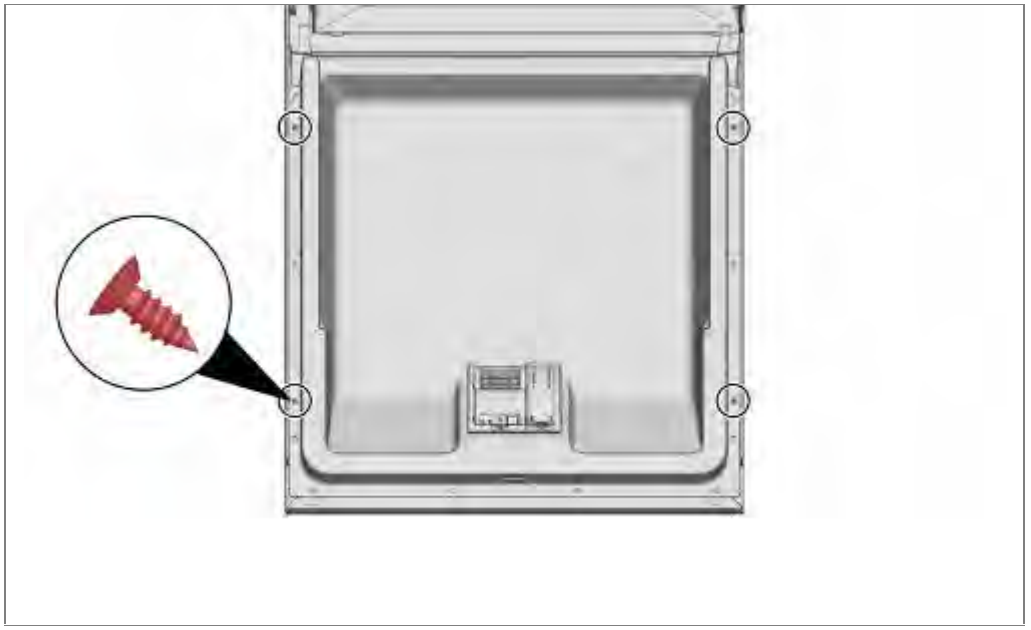


1. Raise furniture door and
2. push it upwards till the upper slide is out of the guide.



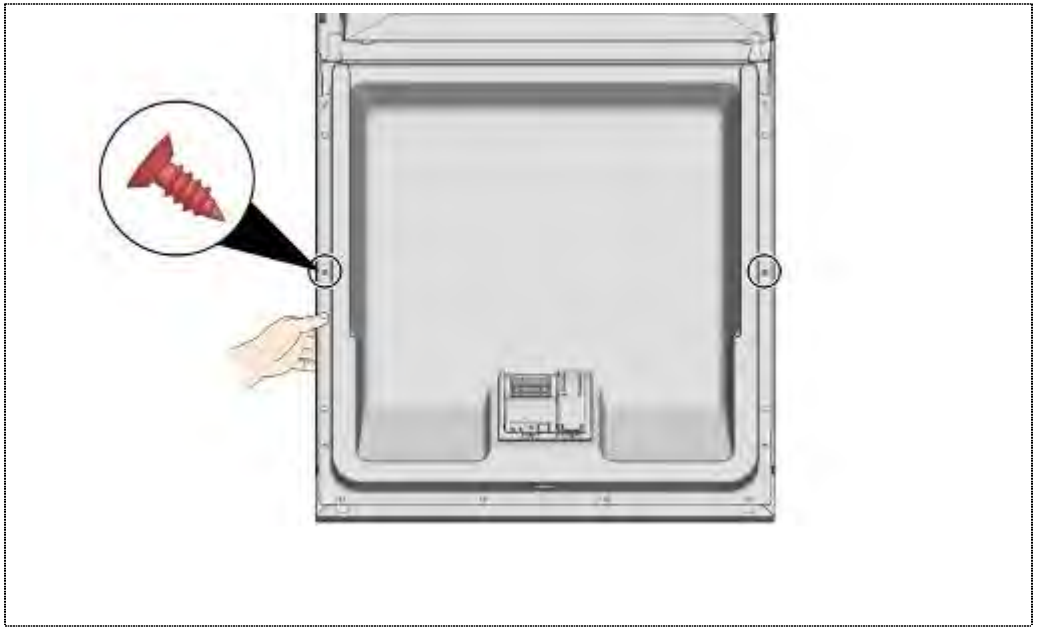
1. Remove screws.

Open the door



1. Remove the 2 screws on each side of the inner door.

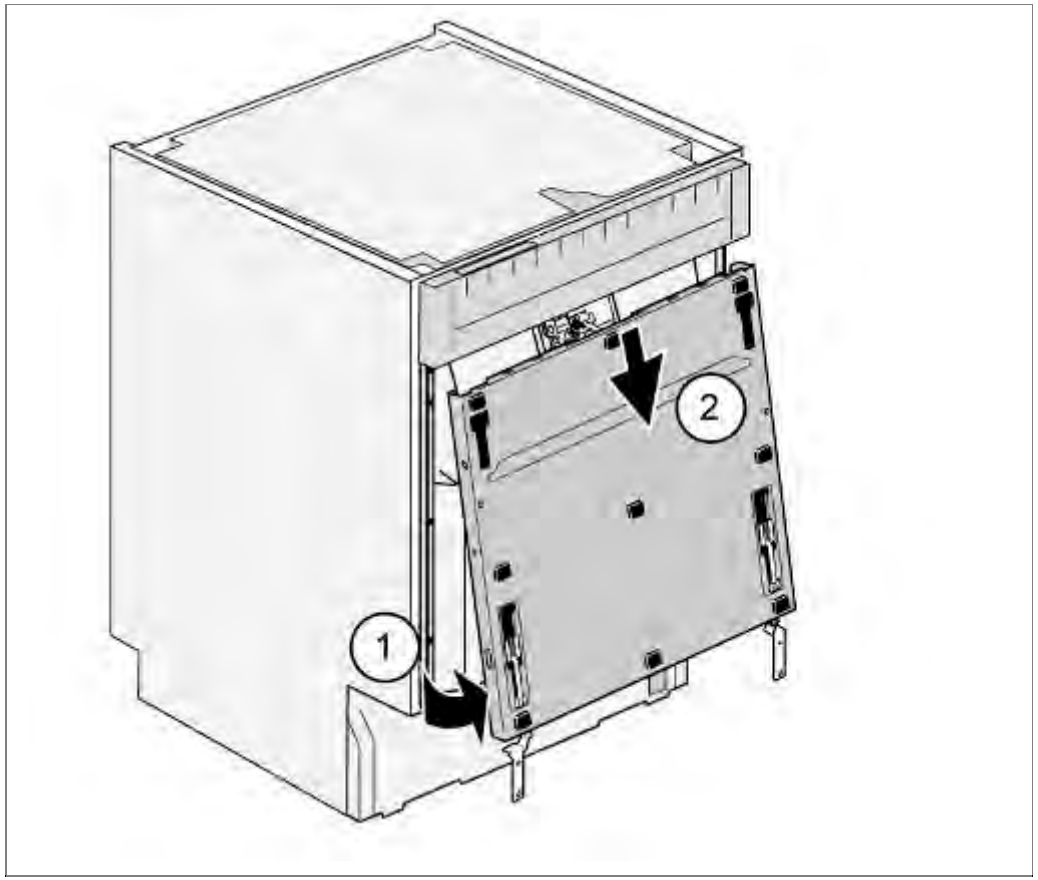
Secure front door against falling (hold it on one side)



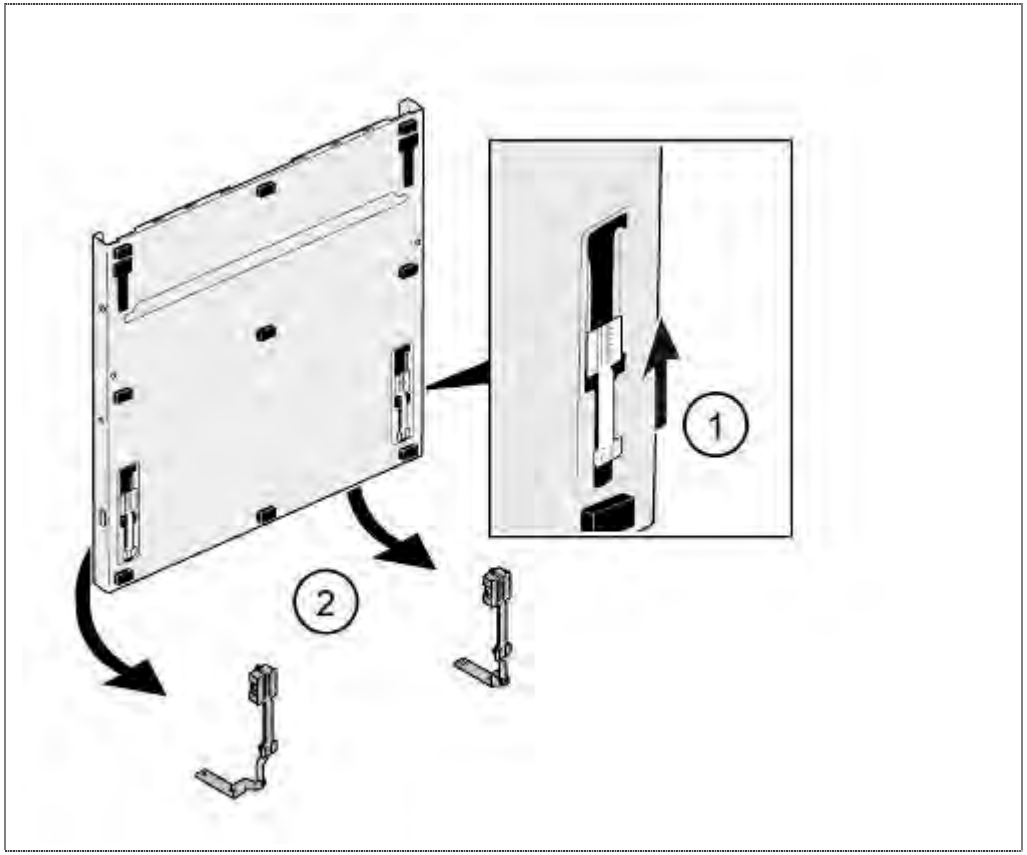
Remove remaining screws.

Panel screws

► It is not necessary to remove the topmost 6 screws in order to remove the outer door.



1. Pull outer door slightly away from the appliance.
2. Carefully remove downwards.



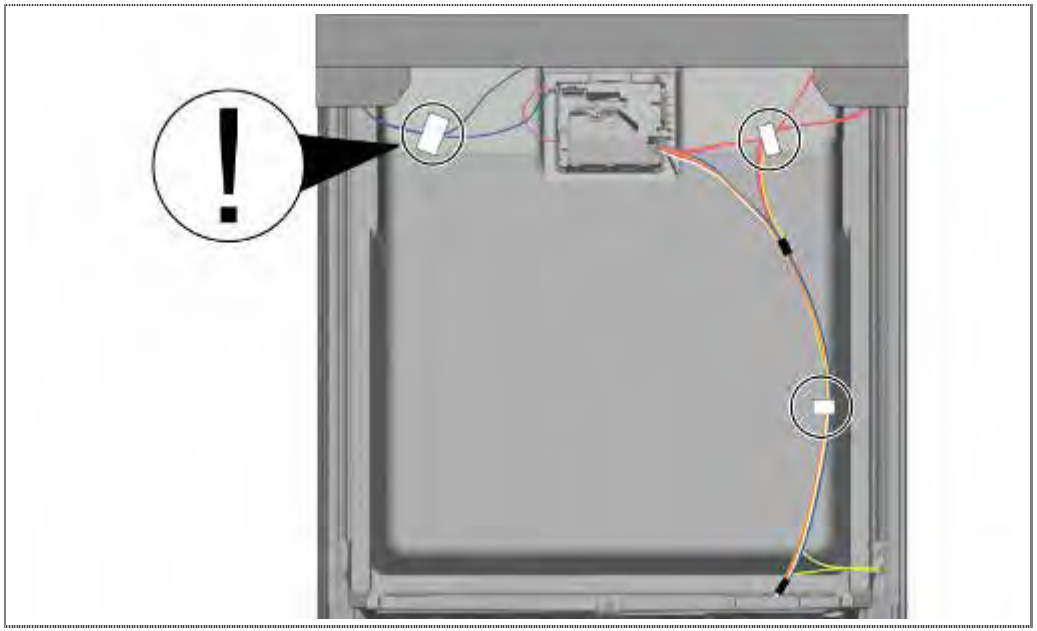
1. Move hinge upside
2. Remove both slideelements from the conduct

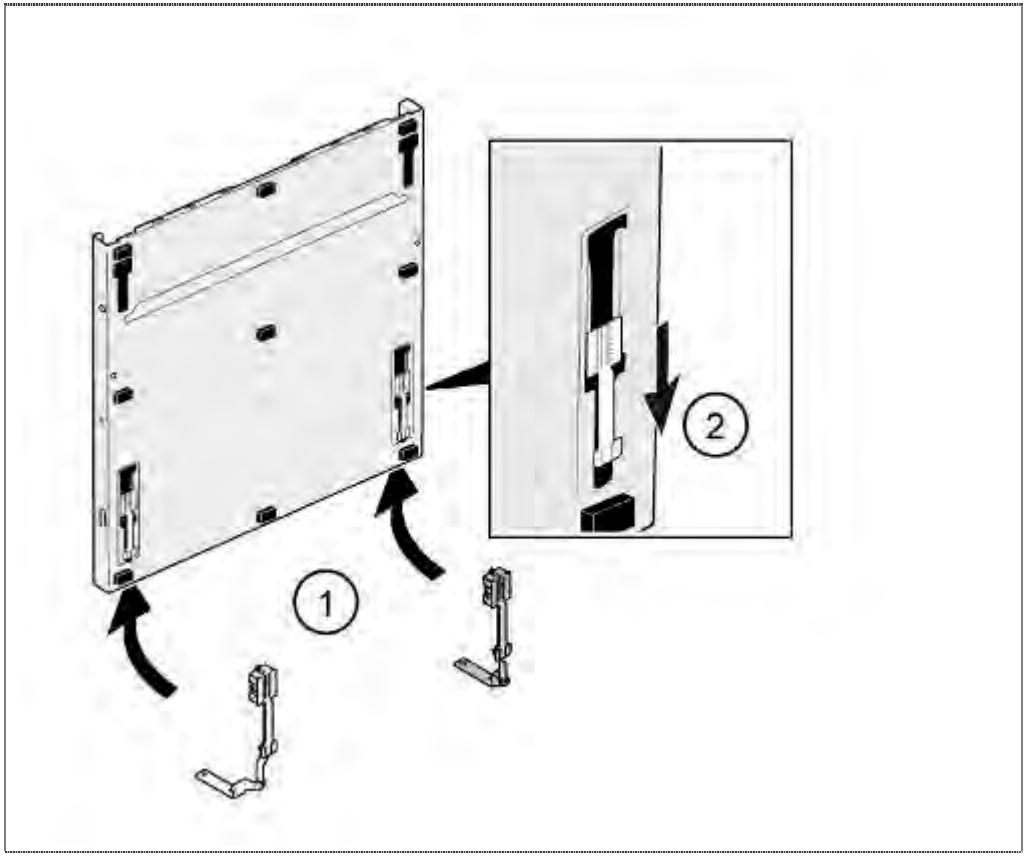
6.30.2 Installing outer door

Position insulating mats and force sensors.

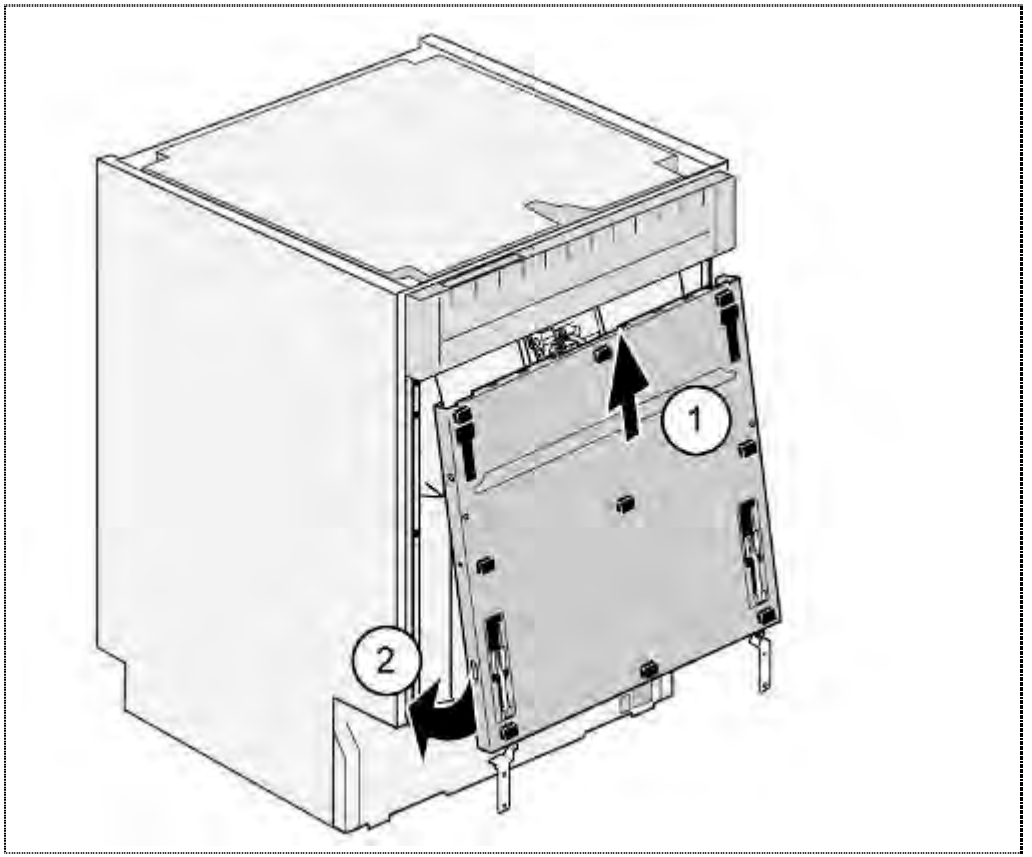
Close inner door but do not engage.

	Cable harness ► Ensure to safe cable according to the specification. ► Incorrect installation can lead to destruction of the lines with sequelae lead..





1. Insert both slideelements to the conduct
2. Move hinge upside



1. Insert outer door from below into the inner door.
2. Press outer door towards the appliance.

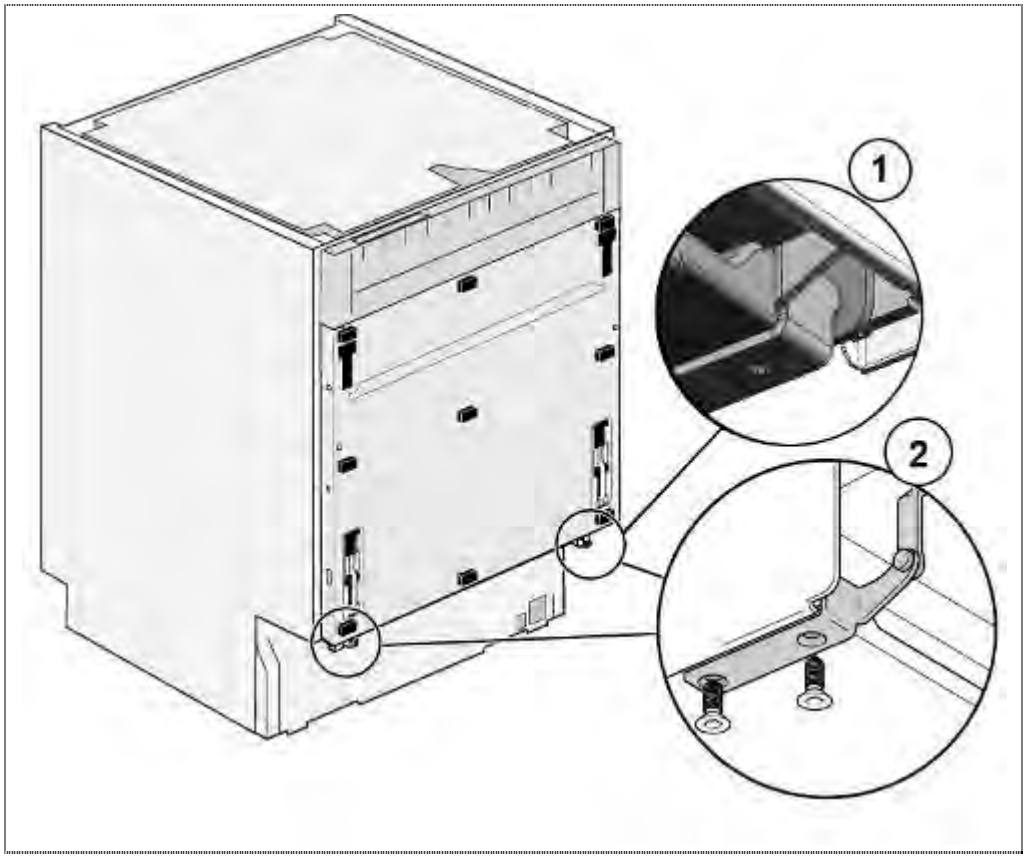
Position of the screws

- When reusing the sliding elements observe the correct screw position the structure (see chapter: Mounting furniture journal)
- Make sure that the upper and lower sliding elements slide in the metal outer door correctly

1. Assemble outer door with 6 housing screws.

Screws

► Use 4x11mm screws.



1. Mount the joint on the hinge side plate and screw in from below.
2. Screw from below

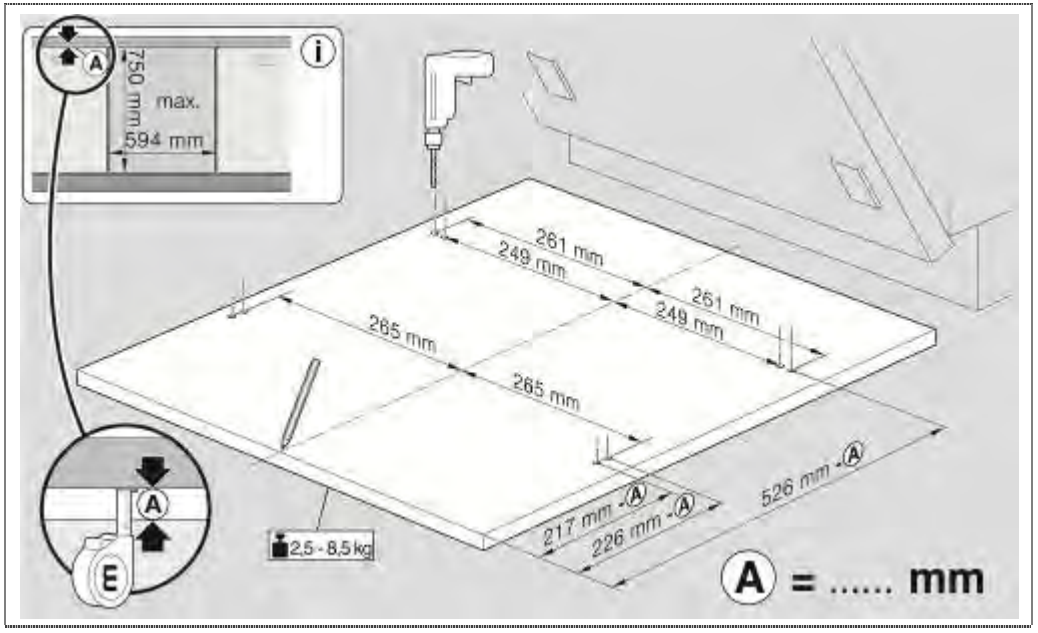
Installation

► Make sure that the joint is properly inserted into the nose with the hinge.

6.30.3 Installing furniture door

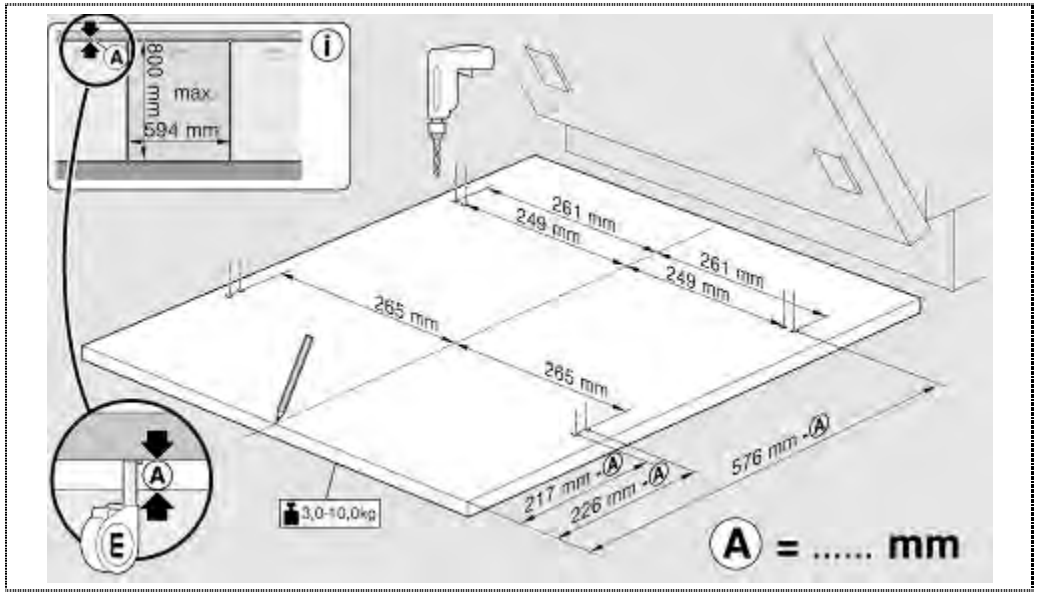
When installing the door for the first time, attach the 4 retaining elements to the furniture door as described in the installation instructions.

Dimensions for 81 cm models:



Video:

Dimensions for 86 cm models:



Video:

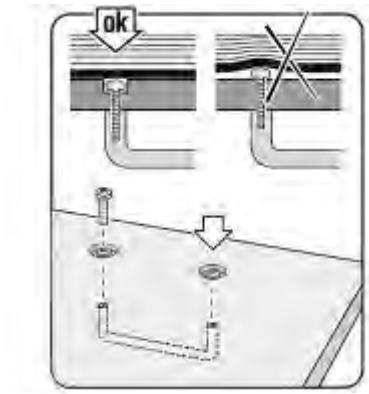
1. Mark installation points exactly with 2 mm drill bit attach 4 retaining elements exactly.

Incorrect marking and attachment!

Destruction of the furniture door

- ► The attachment points of the retaining element must be observed exactly. If the 4 retaining elements are attached unevenly or slanted, the furniture door may jam when it is being opened or closed.
- ► The screw fittings of the hand grip must always be countersunk.

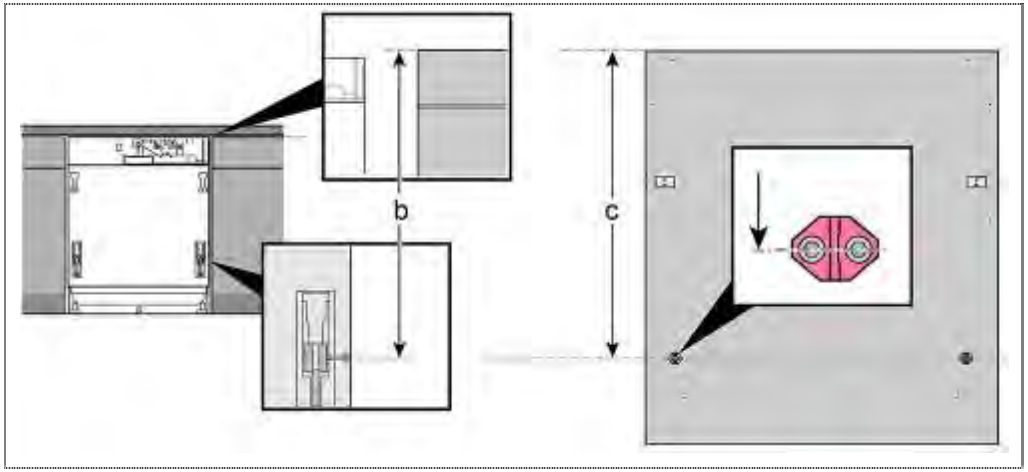
CAUTION



Countersink screw fittings of the hand grips.

To ensure the the correct assembly height, the measures **(b)** and **(c)** must agree.

Condition: Equipment correctly aligned



The distance **(b)** from the upper edge of the neighbouring front to the clamping screw of the glider must correspond to the distance **(c)** from the upper edge of the furniture sheet up to the middle of the connection clip.

Tolerance

► Disagree the dimensions, the height of the connection clip must be adapted!

Up to and including FD 9205

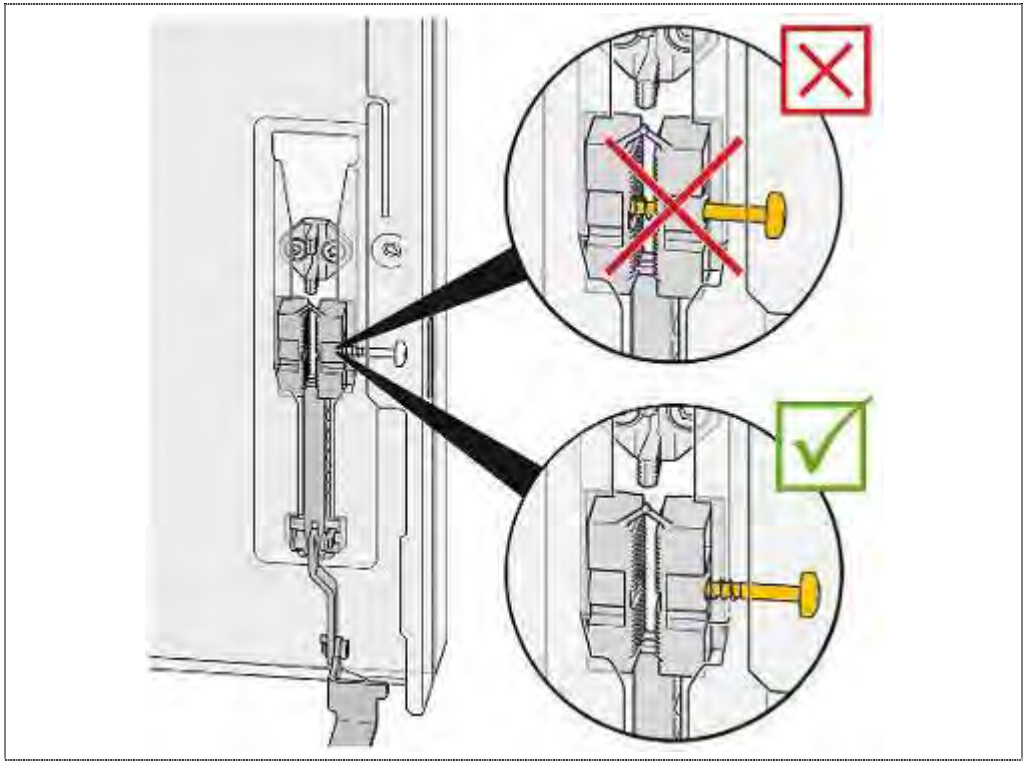
(Primary system)

CAUTION

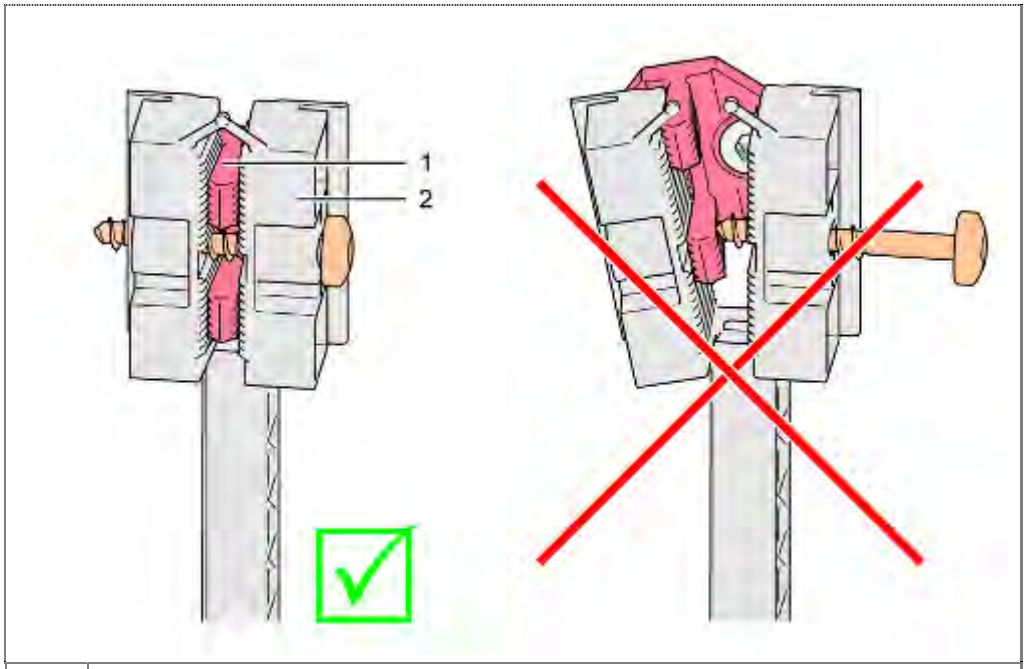
Incorrect position of the locking screws!

Destruction of the retaining elements or the sliding elements on the articulated joints.

- ► The locking screws must be unscrewed a long way before the furniture door can be attached. The receiving gap in the sliding elements must be free to prevent the retention lugs from catching or being blocked.



Check the locking screws. The guide part cannot be positioned securely unless the gap between the sliding elements is free. The screws must be unscrewed far enough.

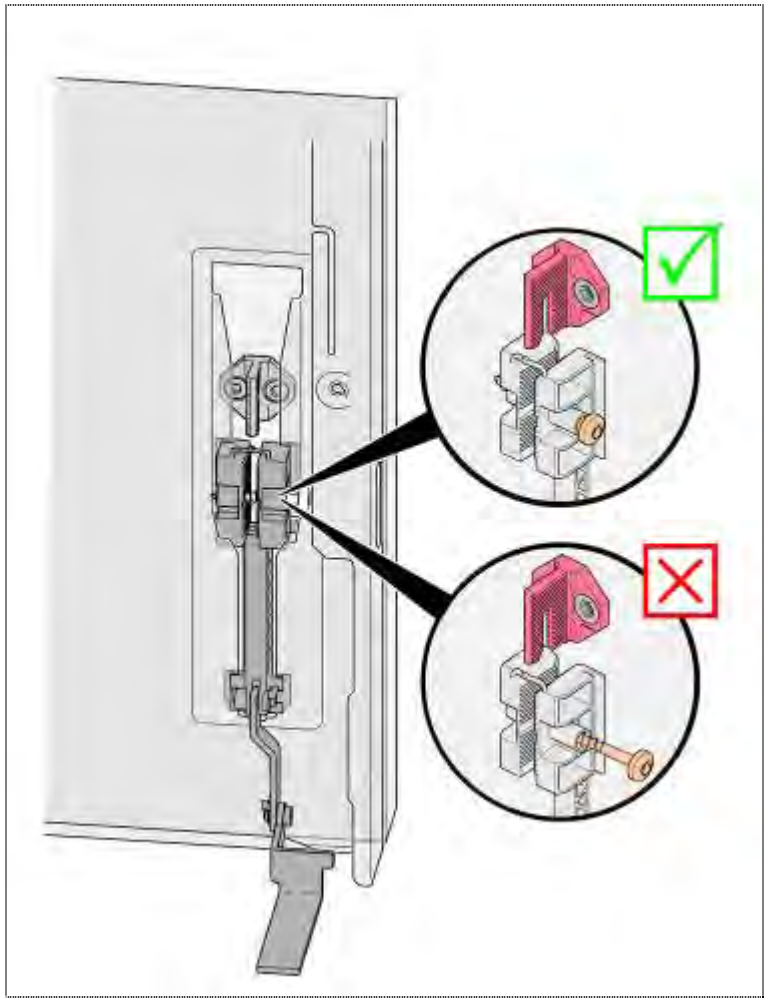


1	Guide part
2	Slider

The guide part has to be positioned in such a way in the sliding elements, that the locking screw is in the centric recess.

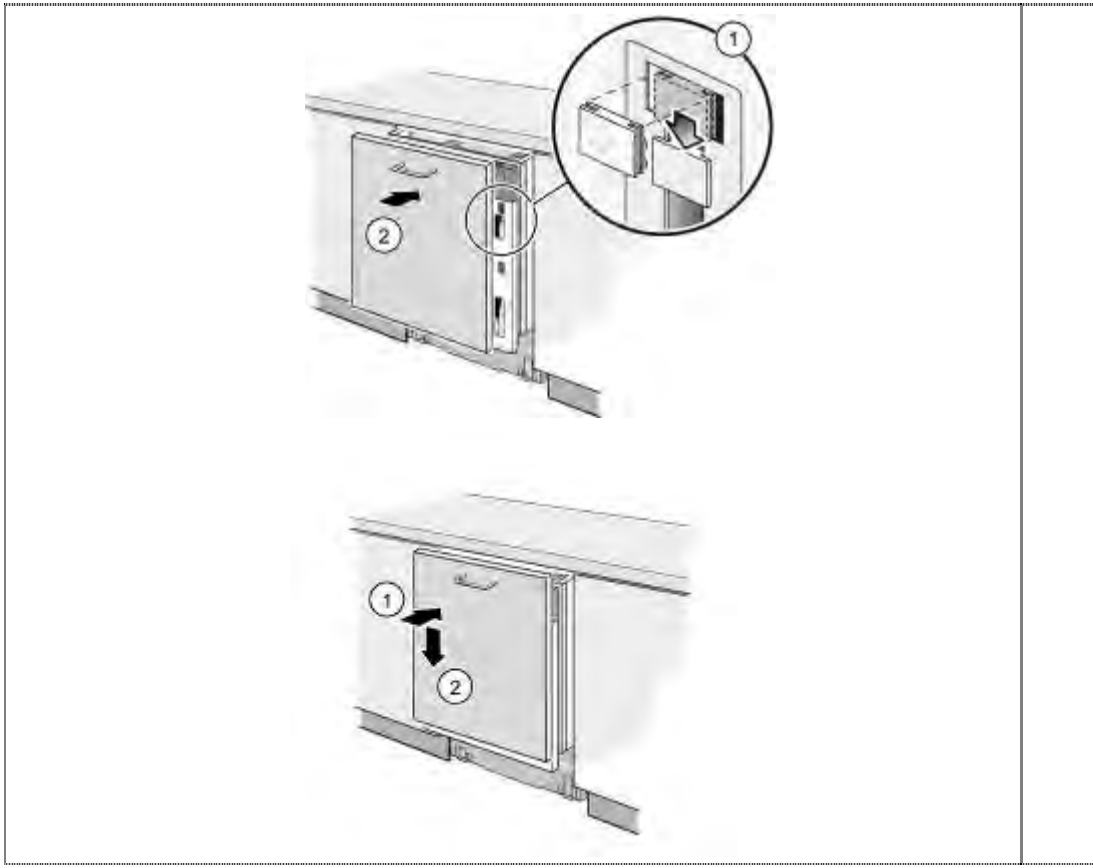
From FD 9205 on

(Modified system)



The screw must be screwed in, but not fixed.

For all FD:

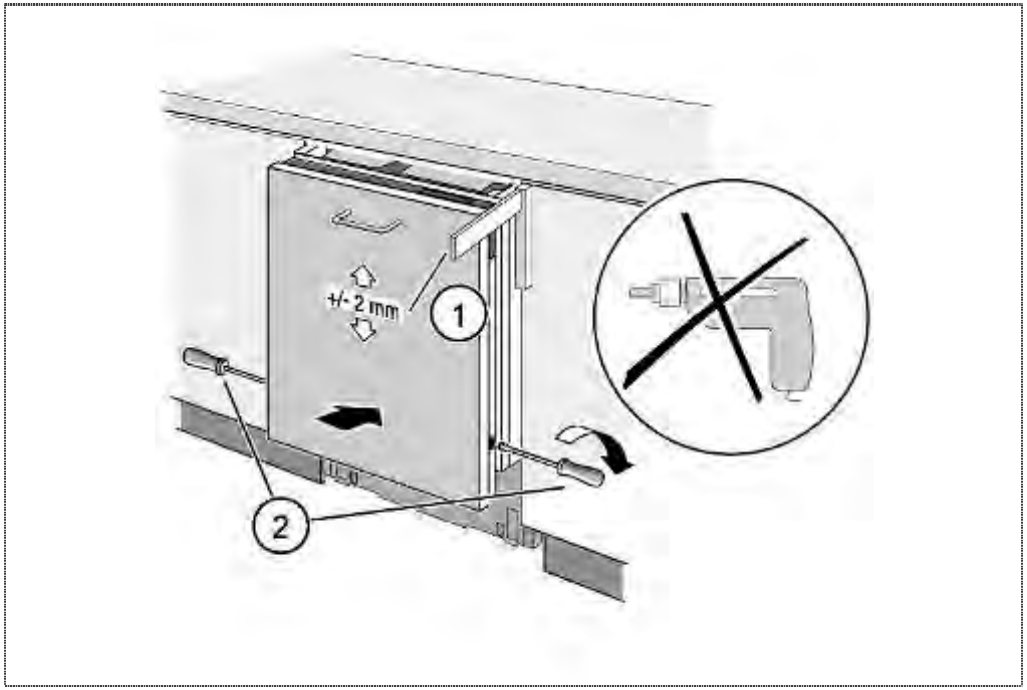


1. Insert sliding elements correctly into the guides.
2. Press furniture door onto the outer door. Carefully lower furniture door as far as the stop.

VORSICHT

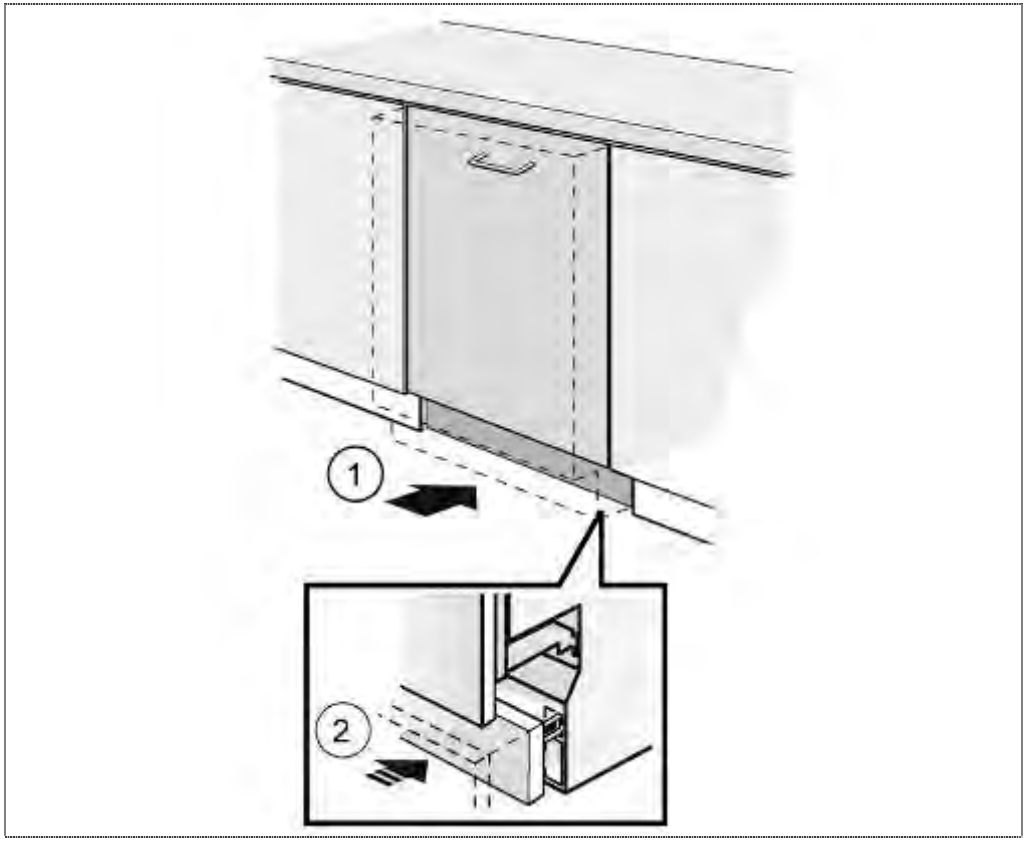
Mounting by using screws

- The long screws, which are used in solid furnitures, are not required anymore!
  The mobile system can be damaged by fixing the furniture sheet.



1. Align furniture door.
2. Tighten 2 locking screws by hand.

1. Position decorative strips.
2. Screw on decorative strips.



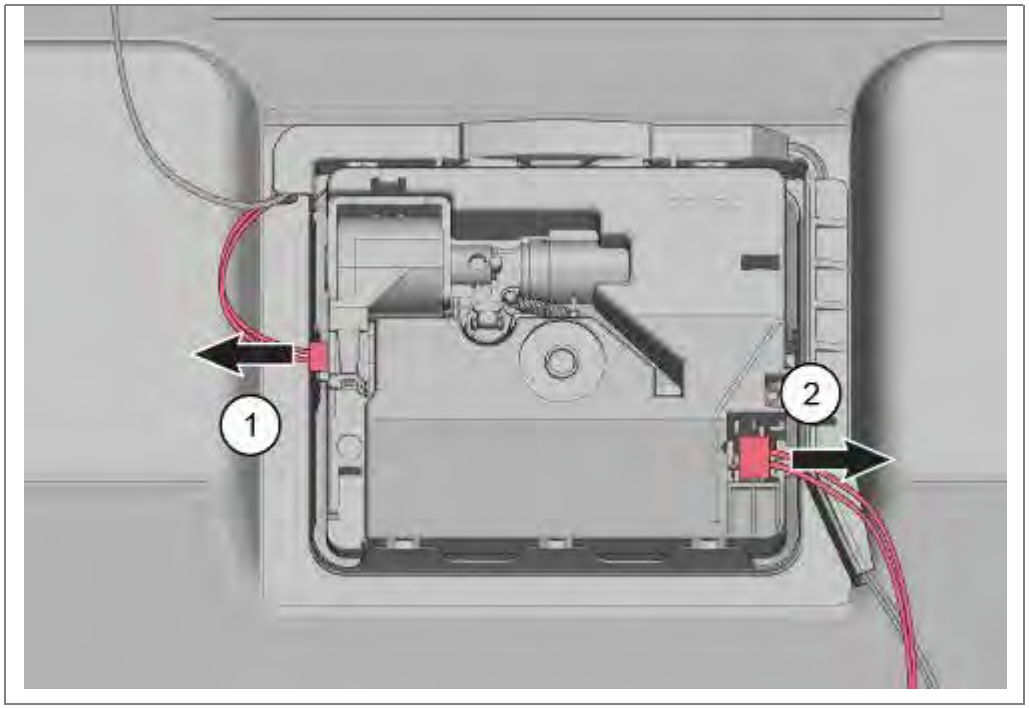
1. Install appliance and
2. install base panel.

6.31 Replacing the dispenser

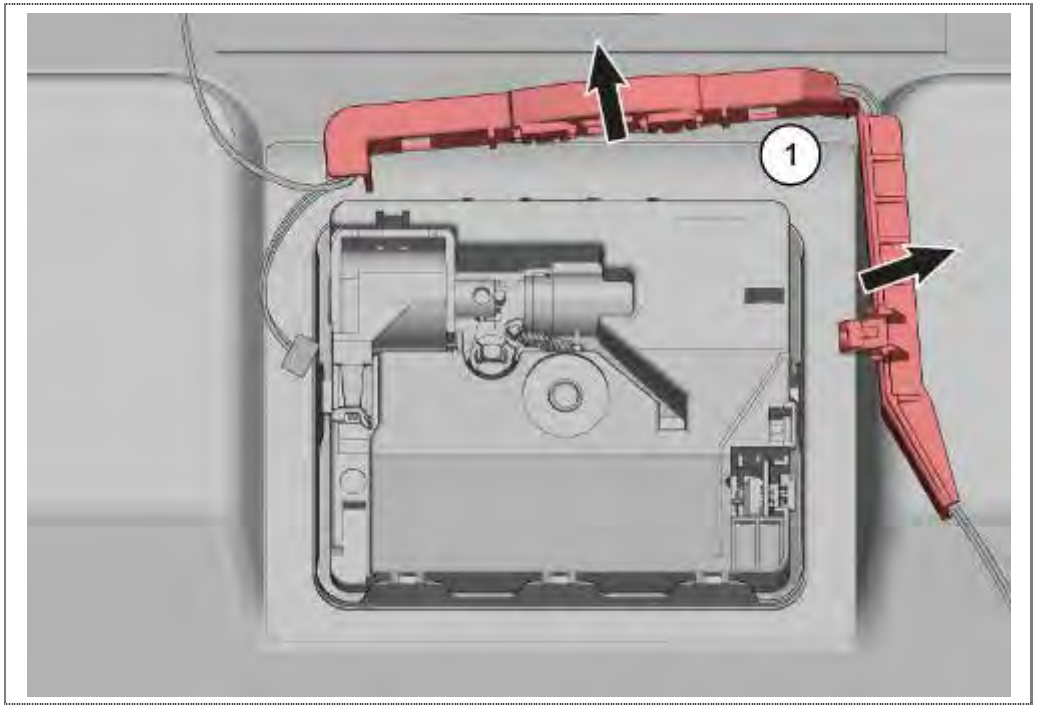
Requirement:

► Outer door or décor panel removed.

6.31.1 Removing the dispenser



1. Loosen plug-and-socket connection.
2. Loosen plug-and-socket connection.



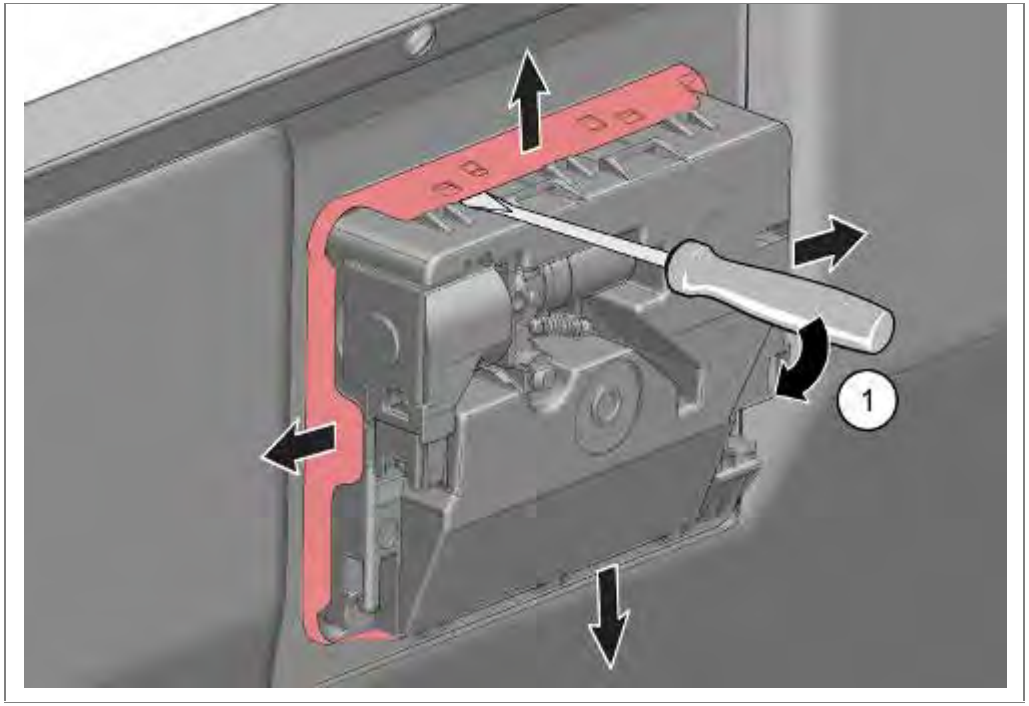
· Take cable duct out of the catches.

CAUTION

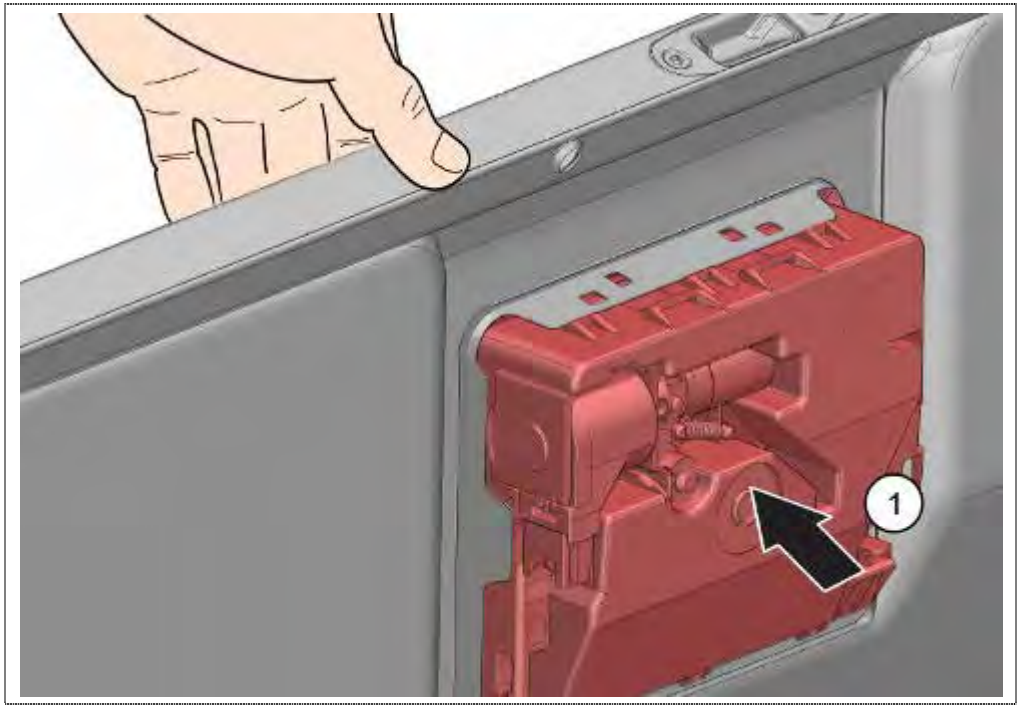
Sharp-edged sheet-metal parts!

Risk of injury

► Wear protective gloves.



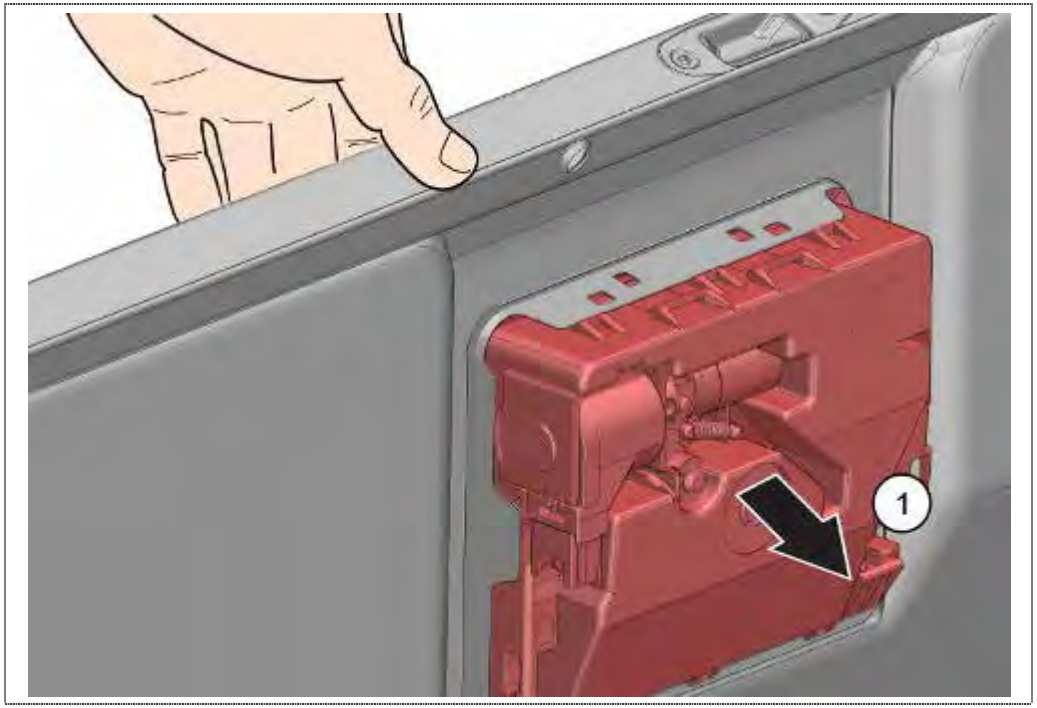
1. Carefully bend sheet-metal brackets away from the dispenser.



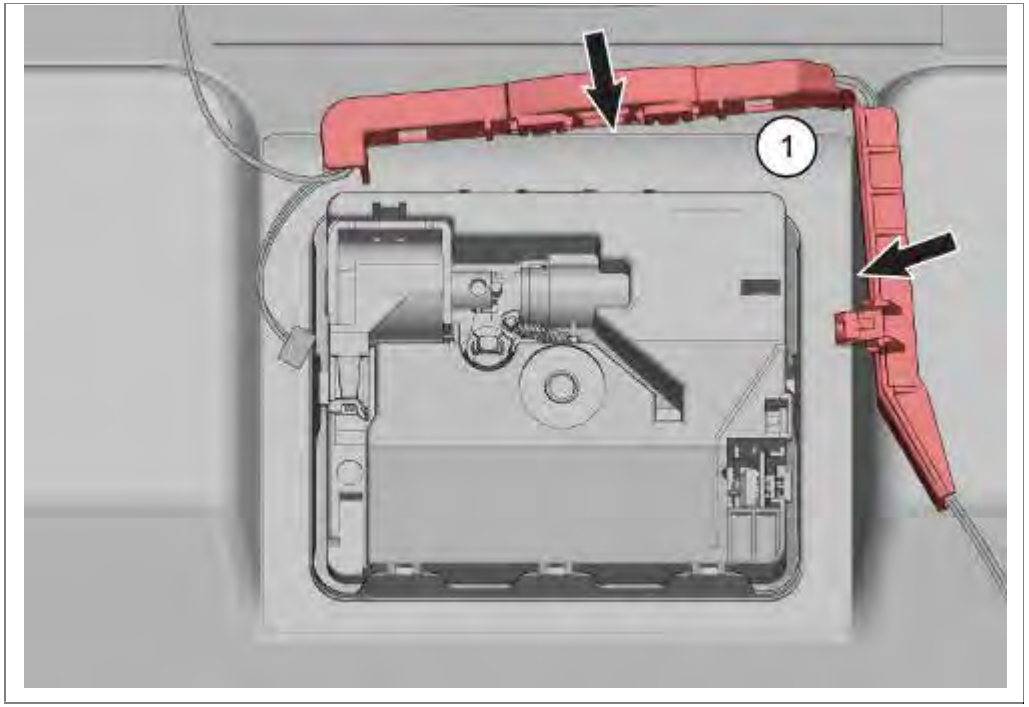
· Press dispenser carefully inwards and ensure that it does not fall into the appliance.

6.31.2 Installation

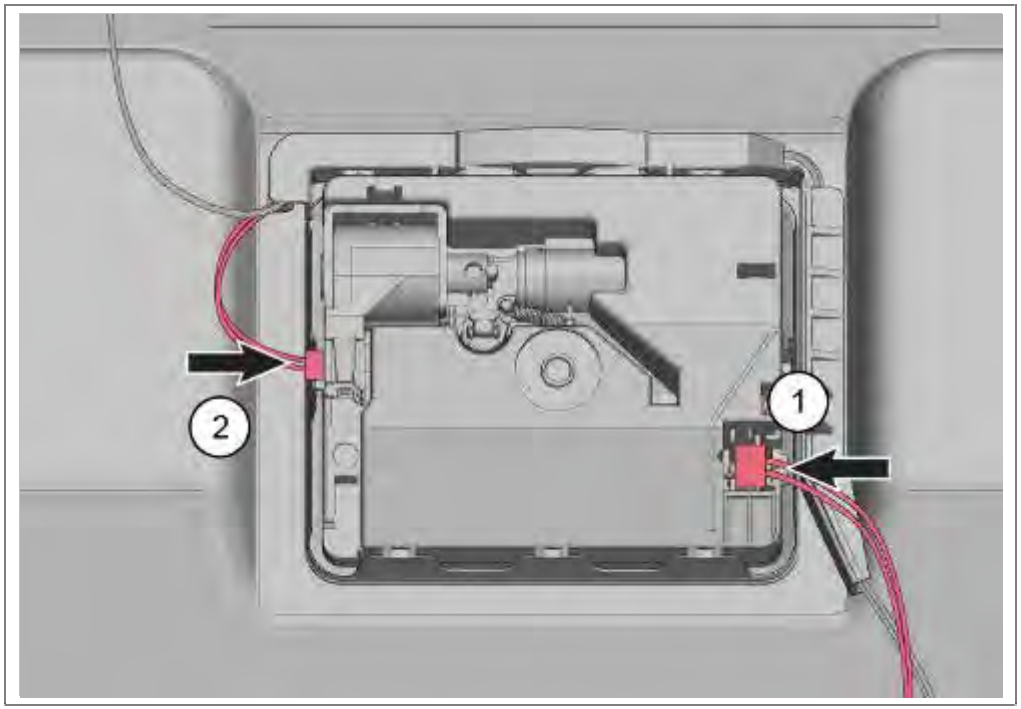
► Before installing the dispenser, bend back sheet-metal brackets to the initial position.



1. Engage dispenser evenly in the door and ensure that all 8 catch mechanisms have engaged.

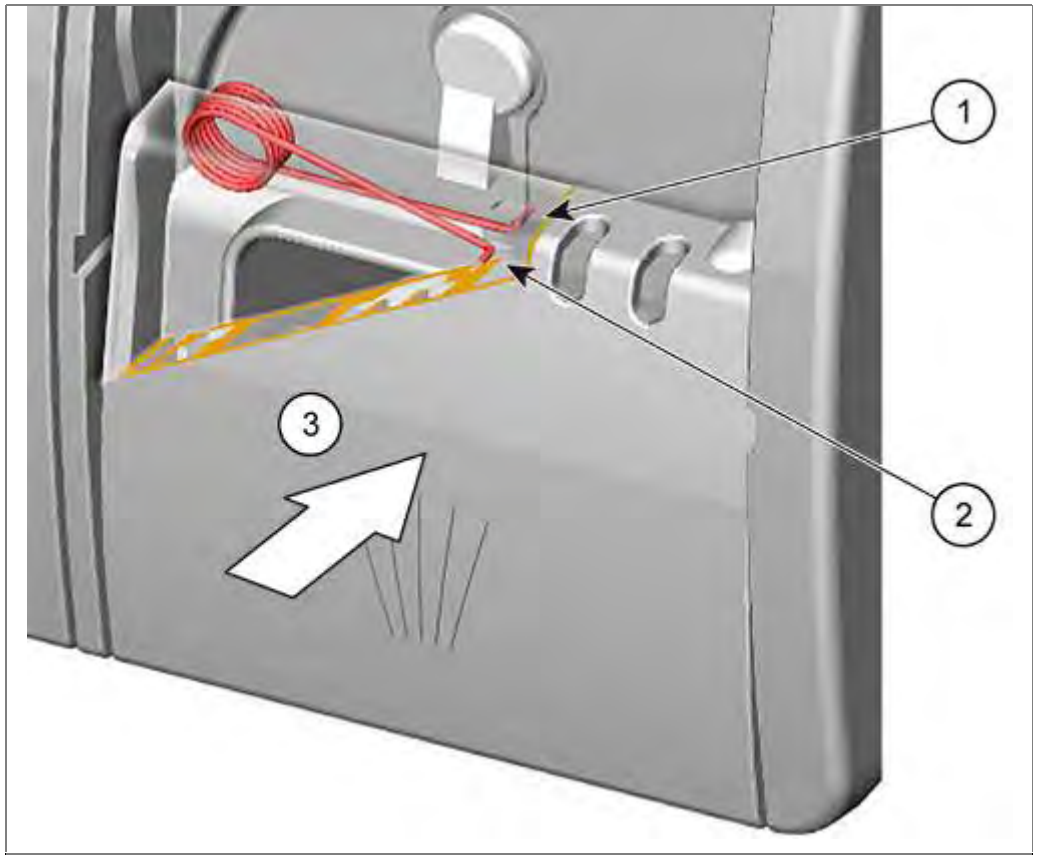


1. Install cable guide.



1. Re-attach plug-and-socket connection.
2. Re-attach plug-and-socket connection.

6.32 Installing the detergent cover



1. Attach long end of spring to the dispenser.
2. Attach short end of spring to the detergent cover.
3. Press cover into the dispenser.

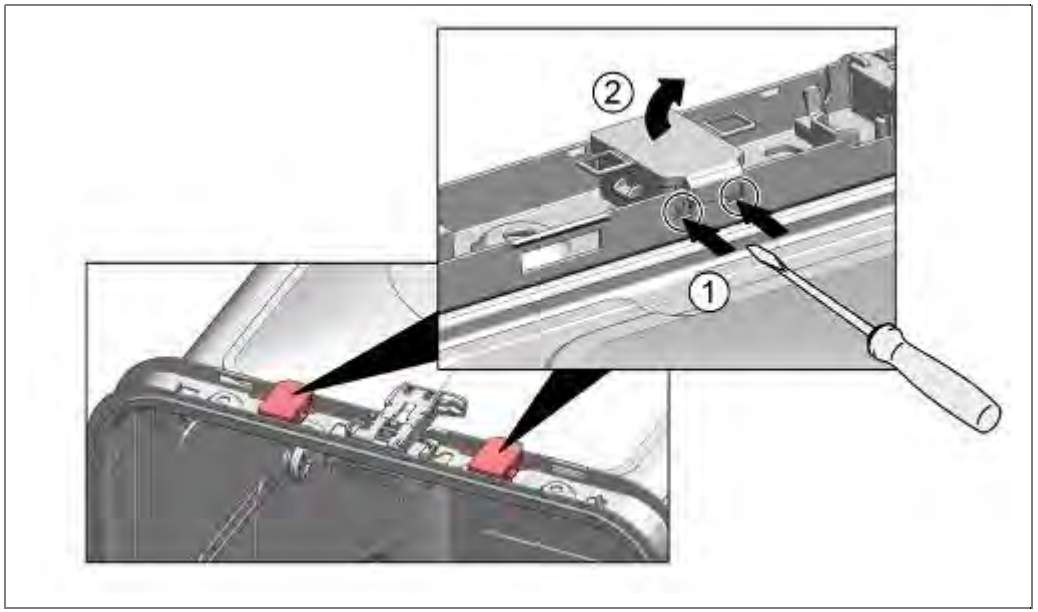
6.33 Replacing EmotionLight (optionally)

Requirement:

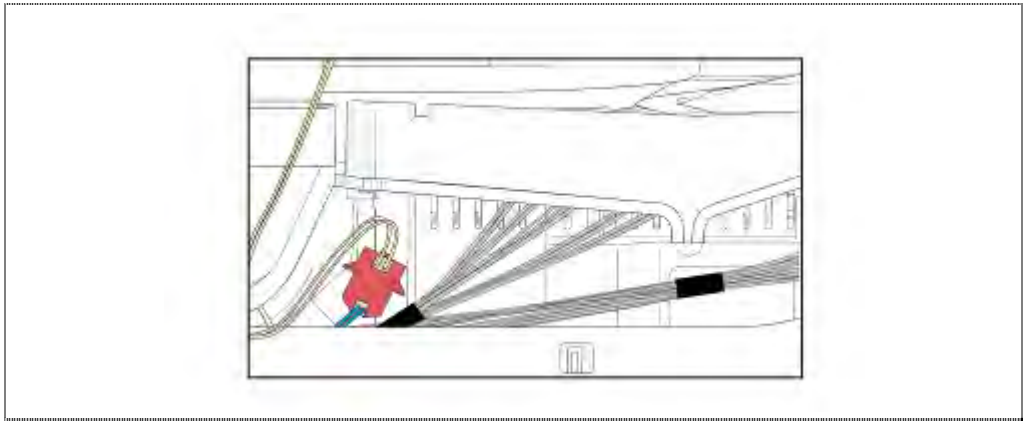
√ Worktop (optional) removed

√ Side panel on right removed

6.33.1 Removal



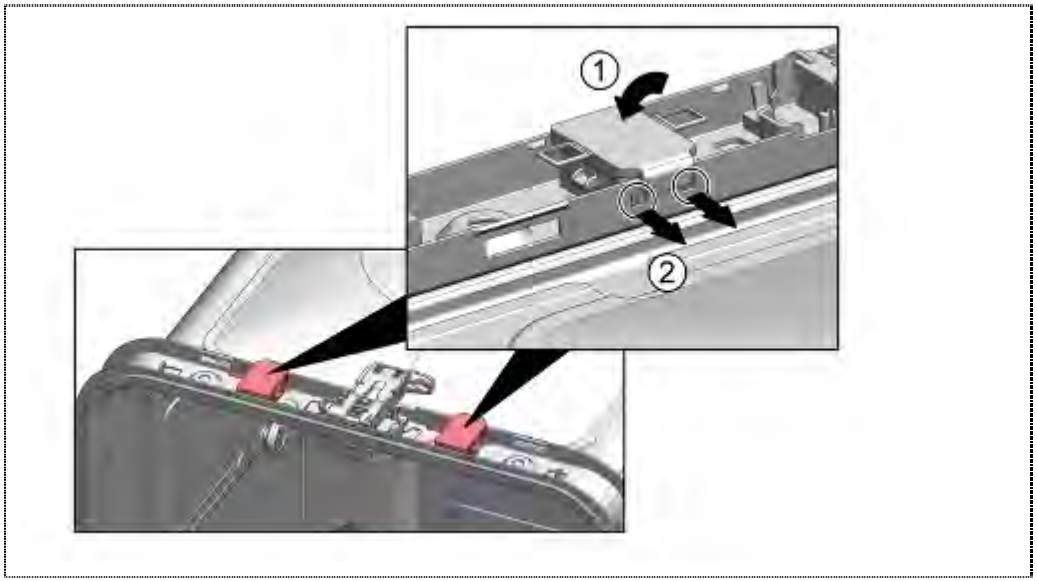
1. Press latching noses forward.
2. Fold away housing upwards



Disconnect the electrical connection to the power module.

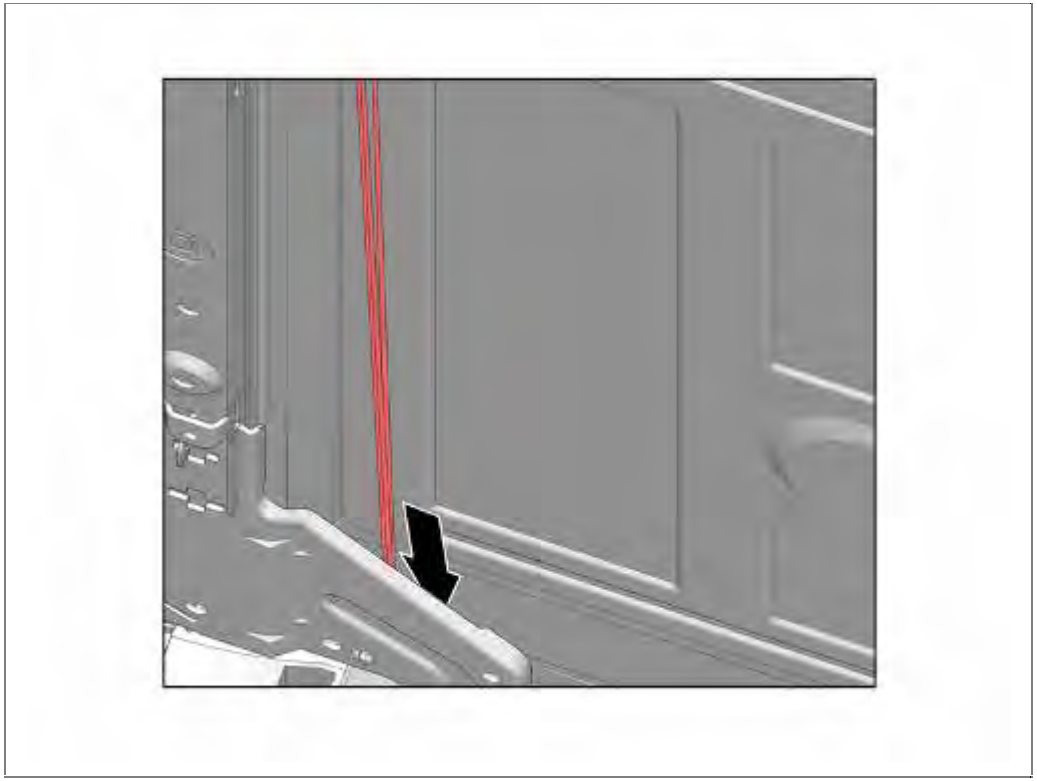
6.33.2 Installation

Reassembly takes place in reverse order.



1. Press the housing to the frame.
3. Lock latching noses.

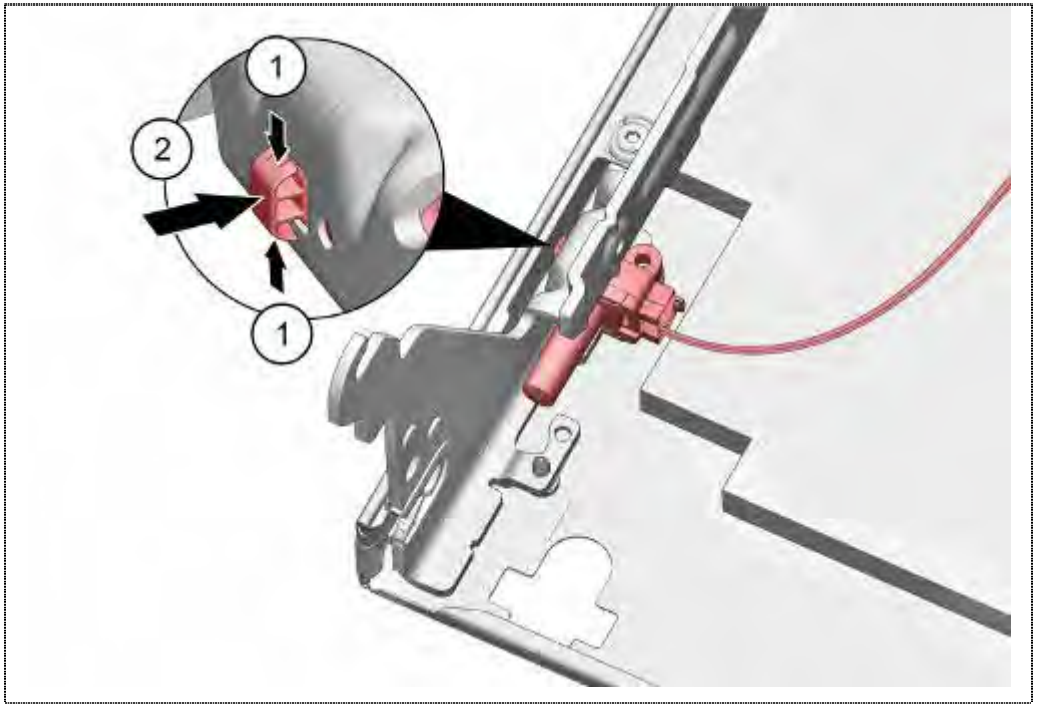
► Observe the correct routing of the wire behind the hinge plate !.



6.34 Replacing InfoLight

6.34.1 Disassembling InfoLight

In case of a defect the Infolight is to be renewed completely.



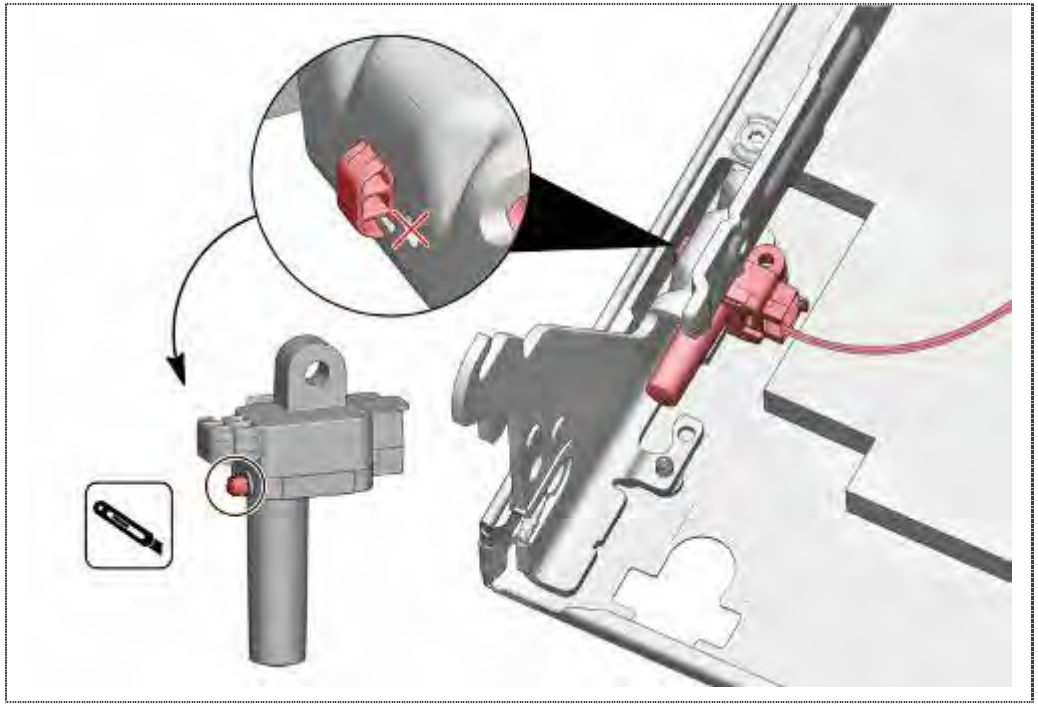
1. Squeeze noses carefully together..
2. Remove Infolight to the door center.

6.34.2 Assembling InfoLight

Missing hole in the hinge

► In production, the hole in the hinge to align the Infolight was discontinued.

If the orientation hole in the hinge is missing after changing the hinge, then the plastic plastic post in the Infolight needs to be cut off with side cutters.



Infolight

If the Infolight must be exchanged, examine the dampening mat, cable run and adapted

For installation, the cutout of the dampening mat and the cable run are to be inspected. If the dampening mat still is in the form such as illustration 1, then 15mm is to be further cut out, see illustration 2.

This is valid only for fully integrated devices without Piezo operation.

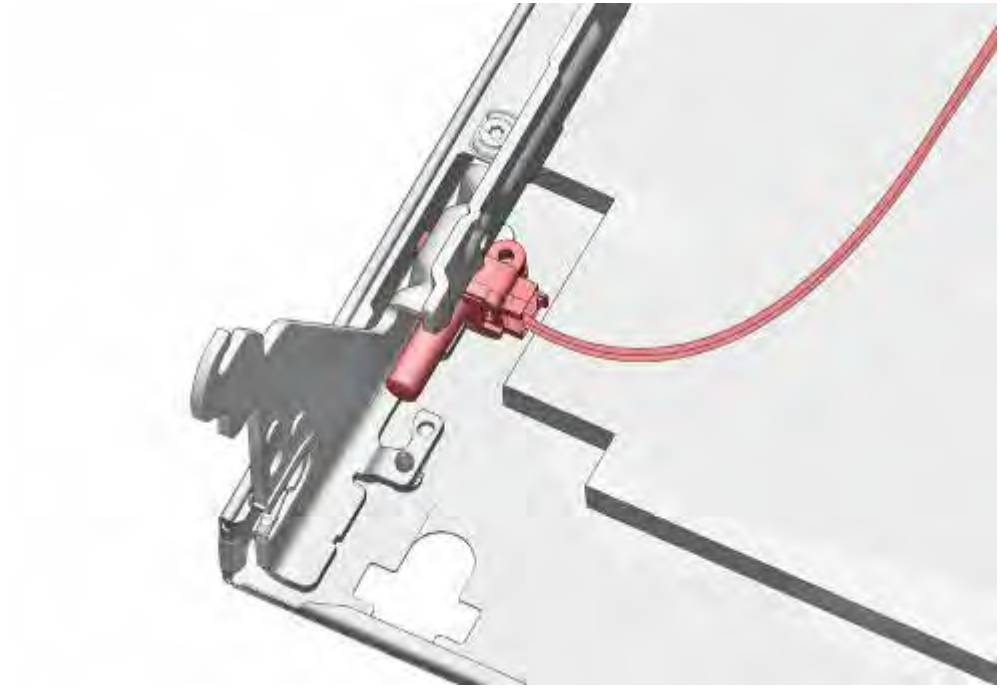


Illustration 1: Cut out damming mat to FD 8810 and devices with Piezooperation

.

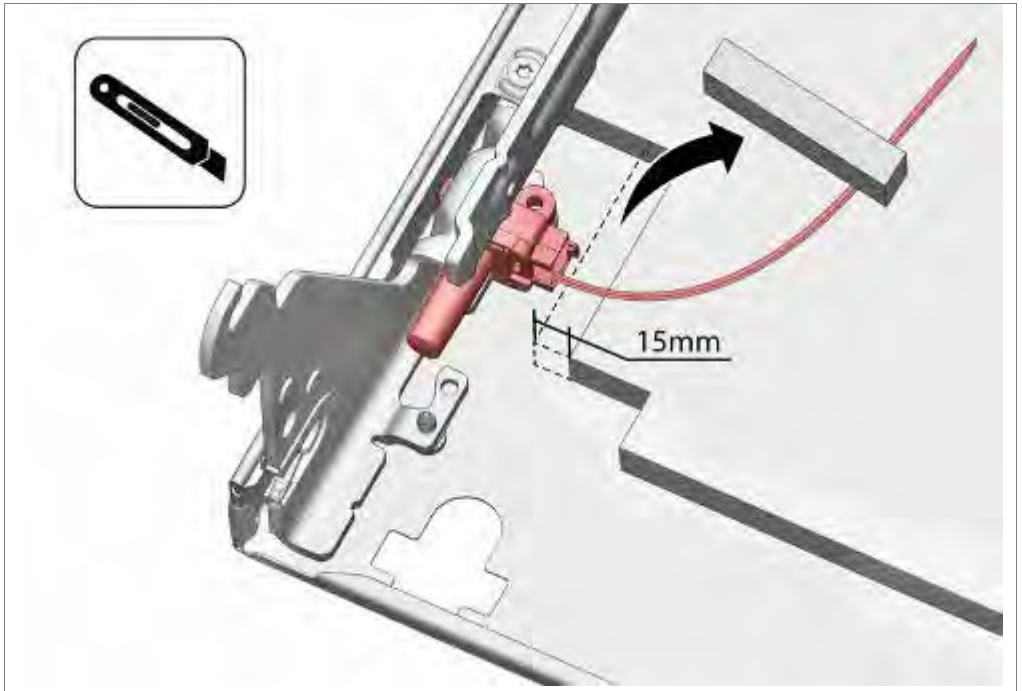
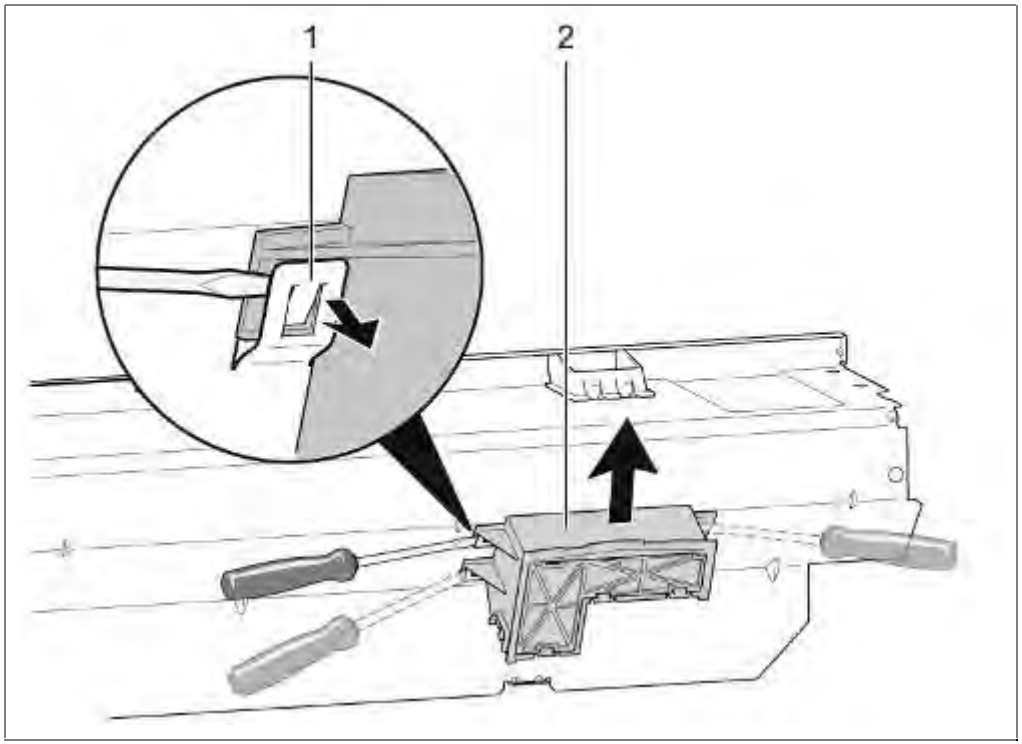


Illustration 2: Cut out damming mat from FD 8811on

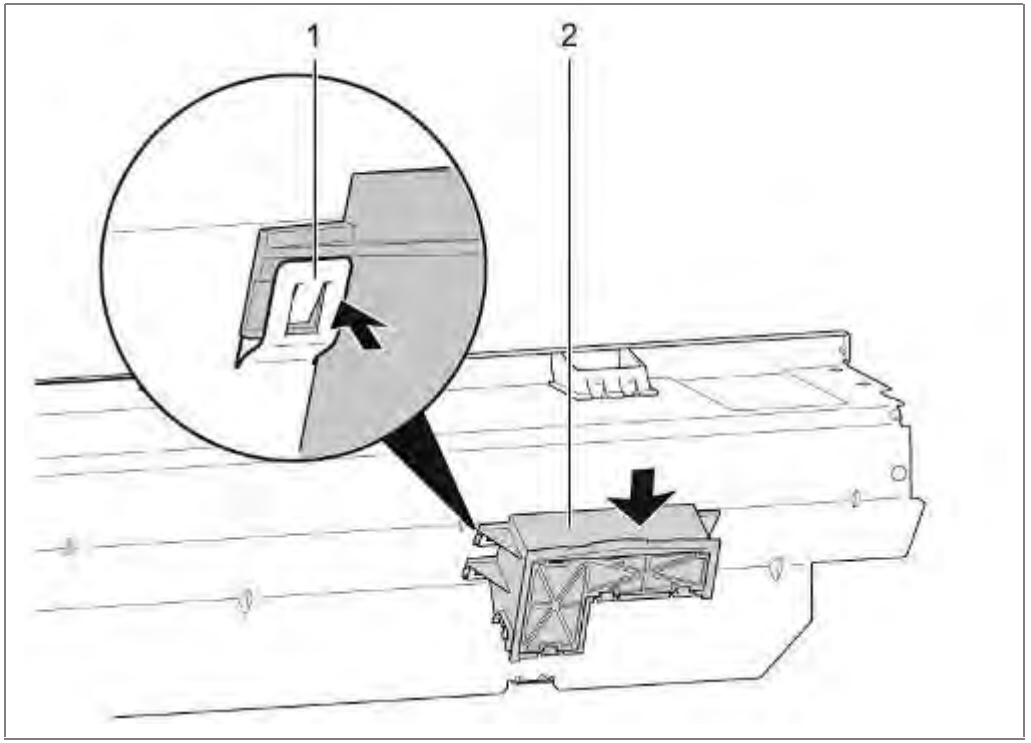
6.35 Replacing TimeLight

In case of a defect the Infolight is to be renewed completely.

To disassembly bend the latches (1) easily outward.
Pull the TimeLight module upward from the guidance (2).

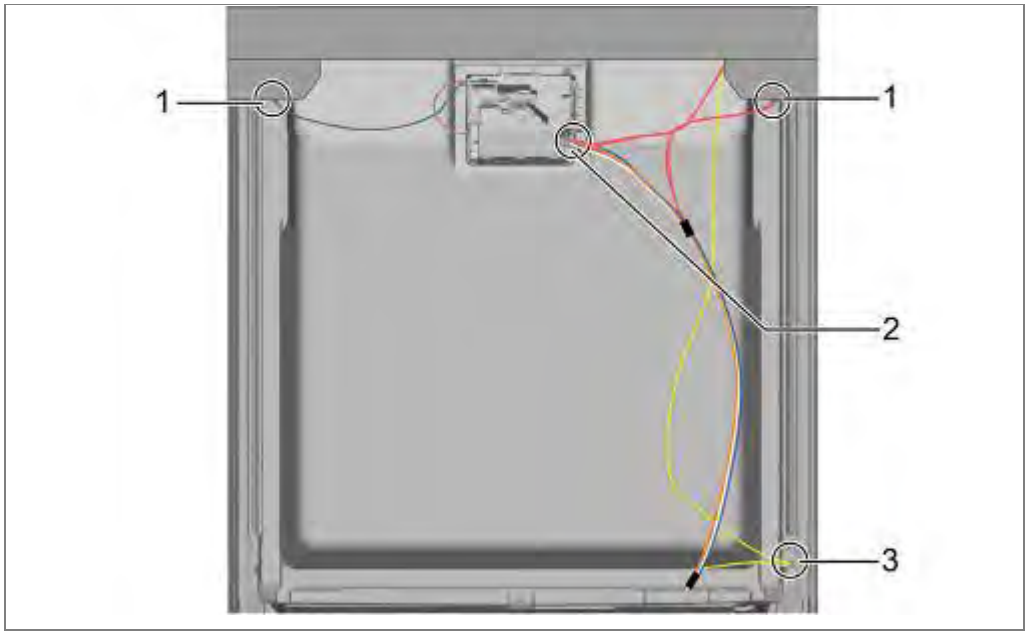


Bend the latches (1) back before installation.
Push the TimeLight module back into the guidance (2).



6.36 Replacing the fascia

√ Outer door (if fitted) removed.



6.36.1 Preparation:

1. Remove wires on left and right from the bushings.
2. Remove wire from rinse-aid sensor.
3. Remove earth wire if fitted.

Note

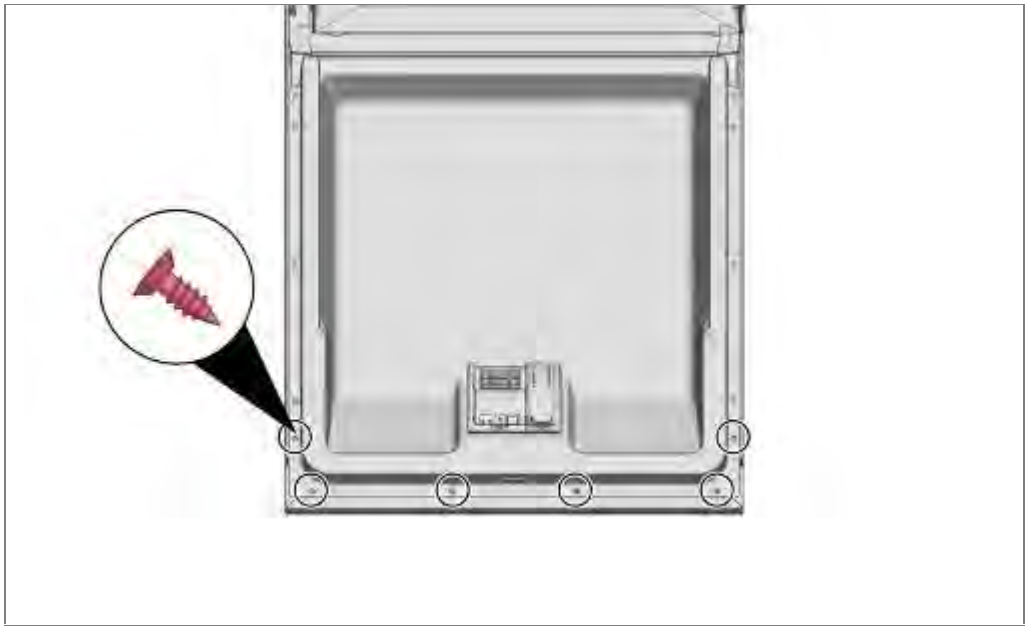
- ► When loosening the last screw, hold the fascia with one hand. It is no longer secure and may fall down.
- ► Use 4x16 mm screws.

6.36.2 Removal

Open door.

Loosen upper 6 screws.

Remove fascia.



6.36.3 Installation

1. Fix fascia to the inner door and then screw in the 6 screws.
2. Re-attach plug-and-socket connections.

6.37 Replacing the door springs

Requirement:

√ Corresponding side panel removed

Table of springs

► Do not use springs of 45 cm models.

6.37.1 Table of springs

Spring force:	Colour:	System 1 Mat.-Nr:	Weihgts of furniture door: *)
			
Max.	Light blue	00623843	3,0 Kg to 10 Kg
	Pink	00611340	3,0 Kg to 10 Kg
	Green	00611339	2,5 Kg to 8,5 Kg
	(Purple) Black	00618530 00611338	2,5 Kg to 8,5 Kg
	Blue	00611337	2,5 Kg to 8,5 Kg
	Red	00611336	-------
Min.	Yellow	00611335	-------

*) **When using a much heavier furniture sheet (max. 11.5kg) is to proceed as follows :**

► Identify series spring via Quickfinder

► Select the two stages stronger spring in the spring table and use it.
or
If there is only one step more, select this and insert it.
or
If the strongest spring is already used, no spring force increase is possible.

Weight of the door furniture

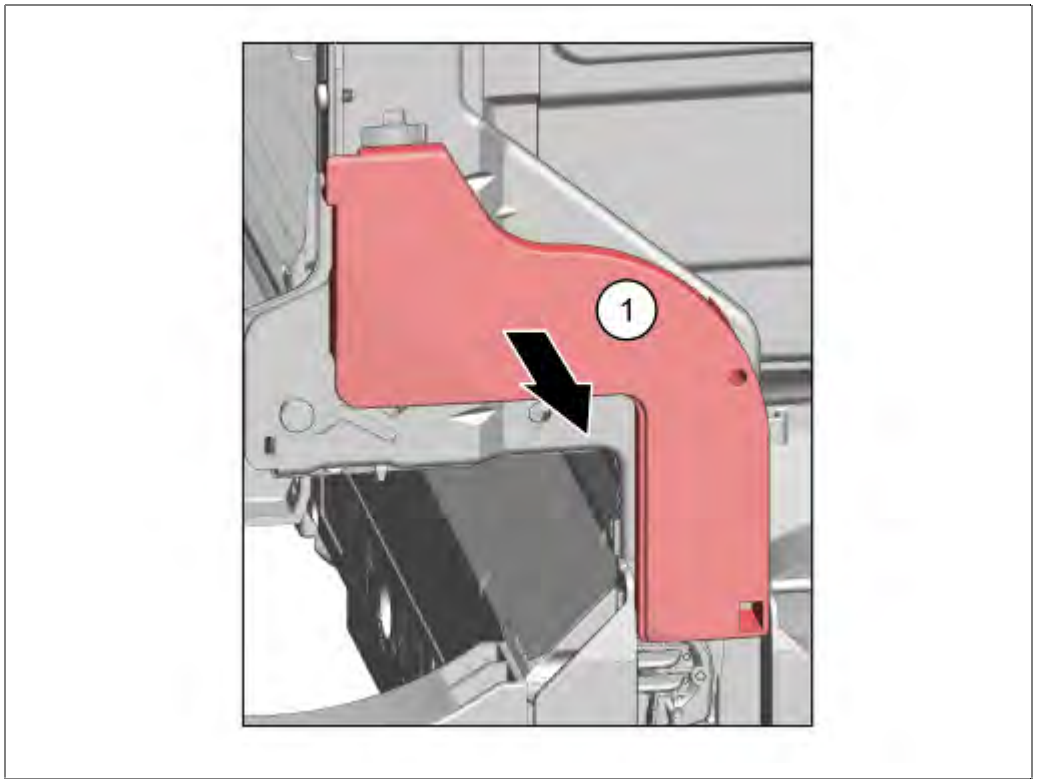
► All 86.5 cm high fully integrated dishwasher can carry in the delivered door fronts from 3.0 Kg to 10.0 Kg .

► For devices **≥ 40 dB** maximum weight of 11.5 kg is possible by exchanging the spring

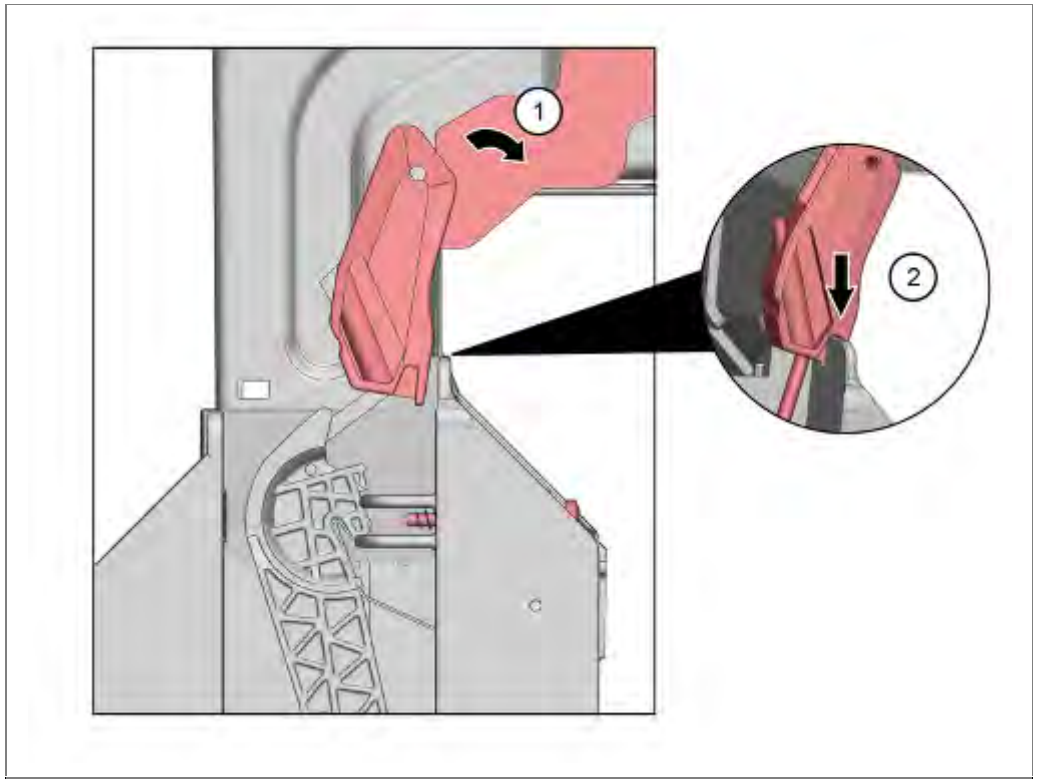
For devices **≤ 39 dB**, are no additional springs, stronger light blue, available.

All other Dishwasher can carry, in the delivered condition, door fronts from 2.5 Kg to 8.5 Kg.

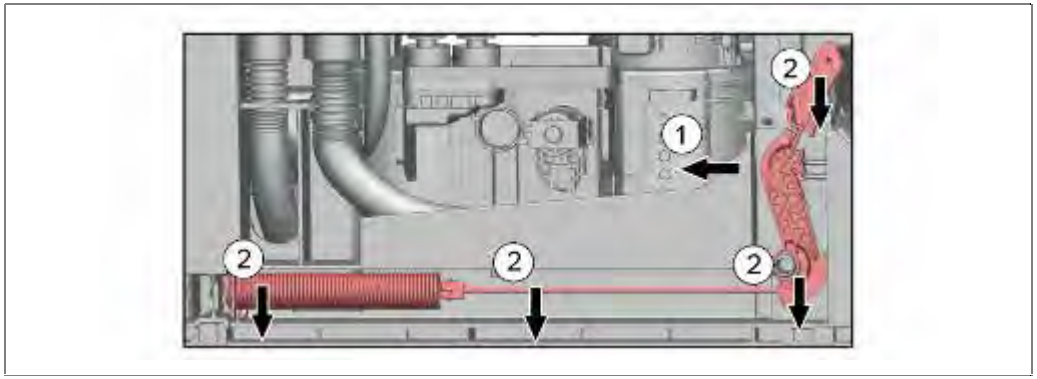
6.37.2 Removal



1. Remove cord guide cover outwards.

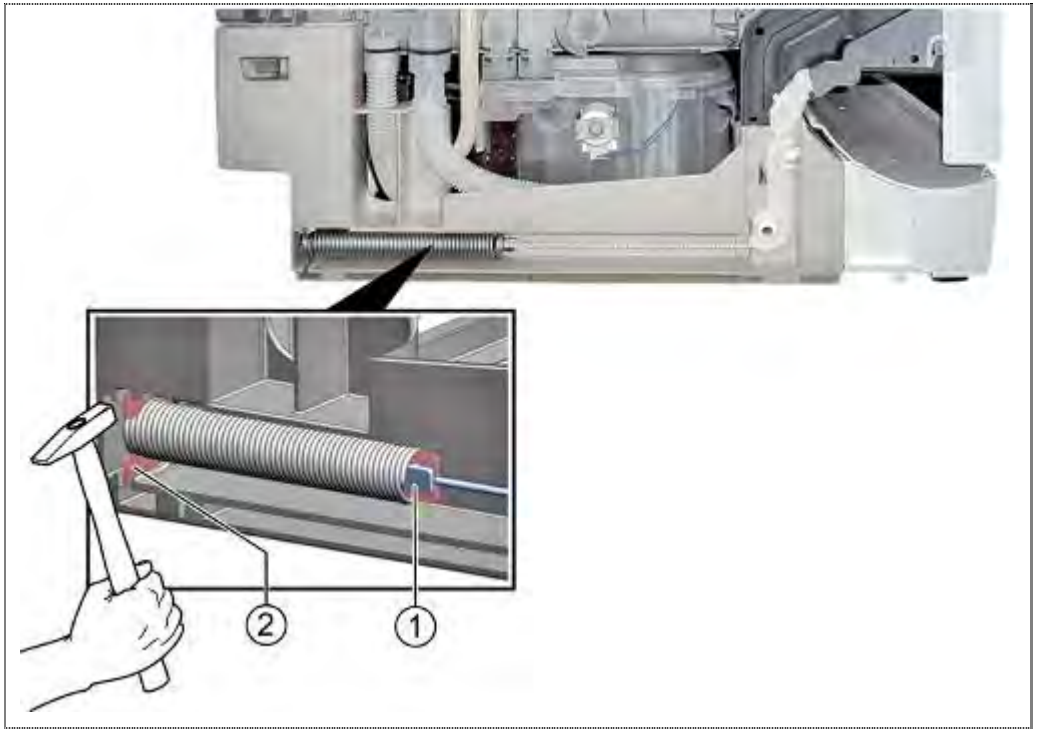


1. Open door slightly.
2. Lock lever in the bottom while door closing



1. Remove deflection lever.
2. Remove complete springsystem.

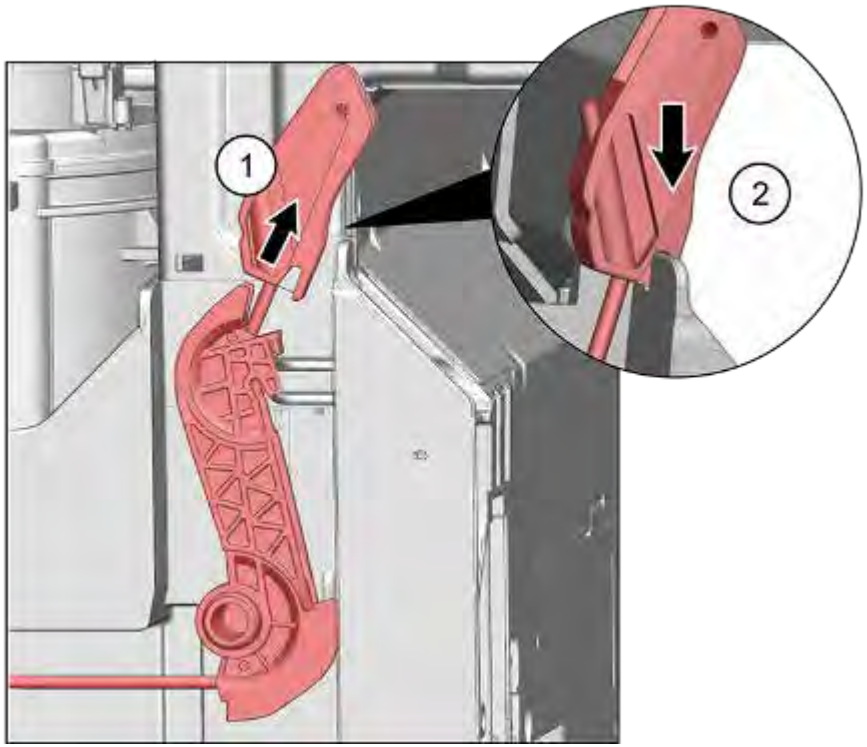
6.37.3 Installation:



Connect rope to the spring (1) and hammer metal retaining plate into designated groove in base group (2)

Holder rope

- The holder of the rope (2) are suspended exactly ready to prevent friction to the floor pan .



1. Pull the rope up.
2. Fix tension cord holder in the notch of the base pan.

The cord system is automatically attached to the door lever

6.38 Replacing the door springs – Door opening modul

Different spring systems

► Two different spring systems are used. Both of them are described in this chapter.

Table of springs

► Do not use springs of 45 cm models.

6.38.1 Table of springs

Spring tension:	Colour:	System 1 Mat.-Nr:	System 2 Mat.-Nr:	Weihgts of furniture door: *
				
Max. ▼ Min.	Light blue**	12009811**		3,0 Kg bis 11,5 Kg
	Pink	12006153		3,0 Kg bis 10 Kg
	Brown		00630633	3,0 Kg bis 10 Kg
	Green	12009523		2,5 Kg bis 8,5 Kg
	Black	12006151		2,5 Kg bis 8,5 Kg
	Blue	12010239		2,5 Kg bis 8,5 Kg
	Purple		00630851	2,5 Kg bis 8,5 Kg
	Red	00637632		
	Yellow	12007253		

***) When using a much heavier furniture sheet (max. 11.5kg) is to proceed as follows :**

► Identify series spring via Quickfinder

► Select the two stages stronger spring in the spring table and use it.
or
If there is only one step more, select this and insert it.
or
If the strongest spring is already used, no spring force increase is possible.

Weight of the door furniture

► All 86.5 cm high fully integrated dishwasher can carry in the delivered door fronts from 3.0 Kg to 10.0 Kg .

► For devices **≥ 40 dB** maximum weight of 11.5 kg is possible by exchanging the spring

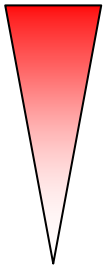
For devices **≤ 39 dB**, are no additional springs, stronger light blue, available.

All other Dishwasher can carry, in the delivered condition, door fronts from 2.5 Kg to 8.5 Kg.

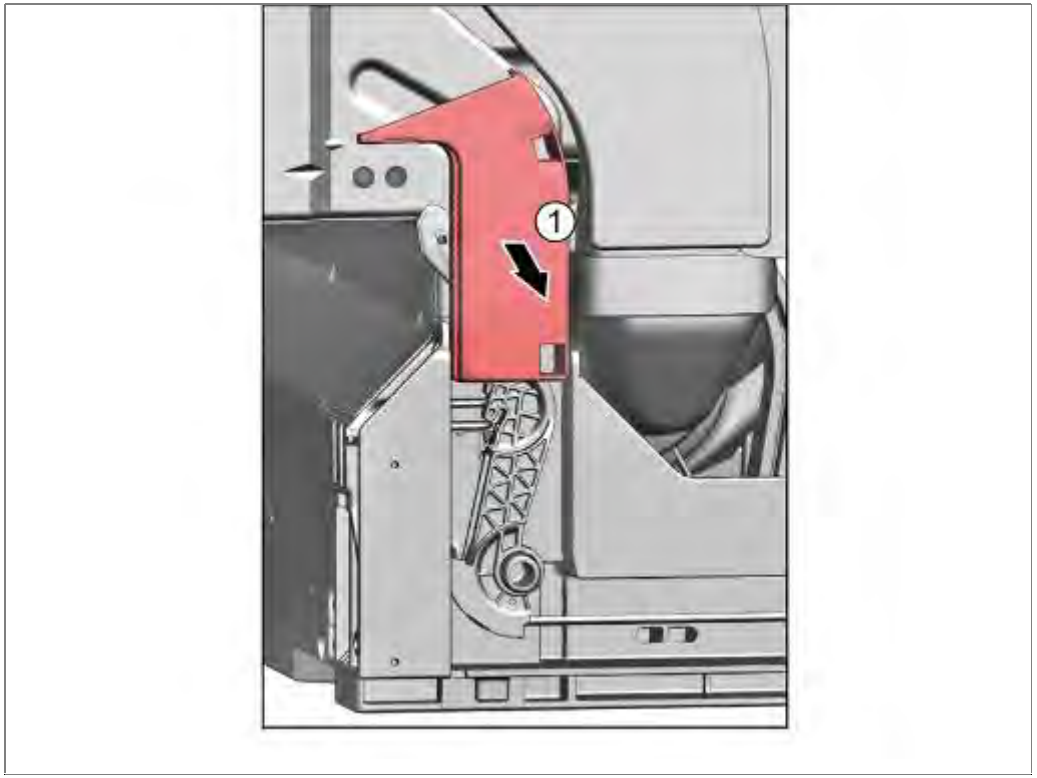
****) The use of light blue spring in conjunction with Eco Dry is only permitted with built springs security system:**

► According Quickfinder determine whether spring security system is installed. See also section springs Security System

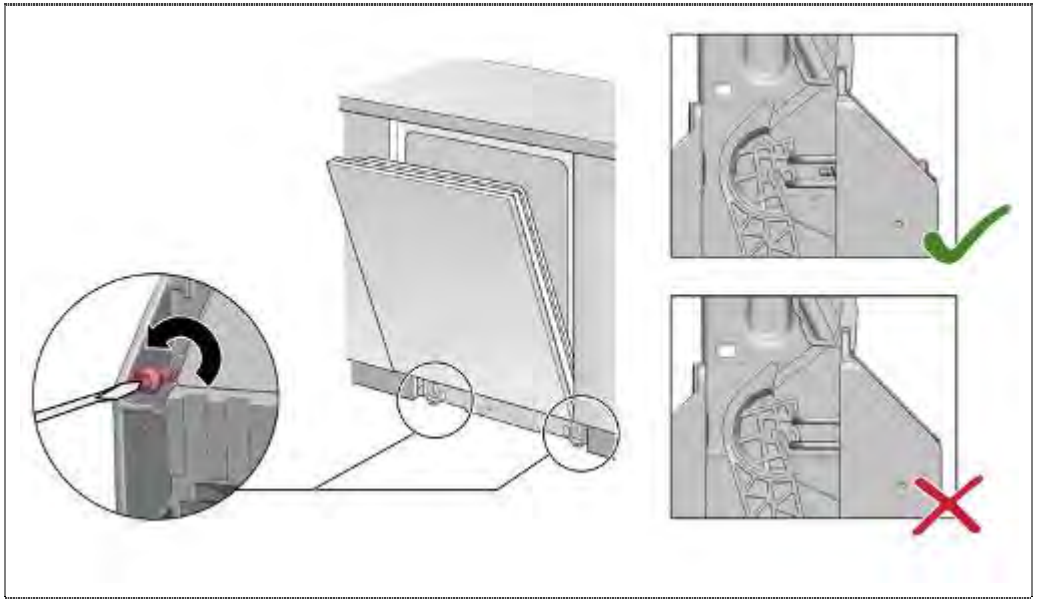
6.38.2 Table of springs with security system, Eco Dry:

Spring tension:	Colour:	Existing system	Colour	Repair kit:	Weights of furniture:
					
Max.  Min.	Brown	00630633	Light blue	12013412	3,0 Kg to 10 Kg
	Purple	00630851	Pink	12013411	2,5 Kg to 8,5 Kg

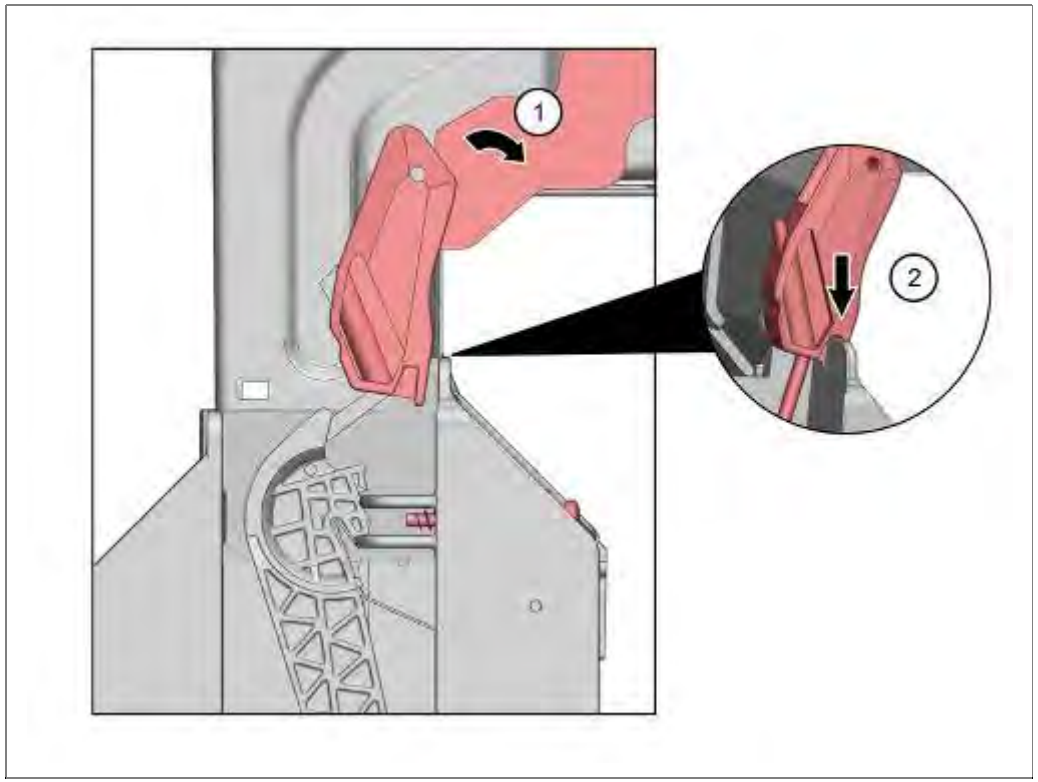
6.38.3 Removal (Spring system I, from FD 8804 to 9207 and from 9311)



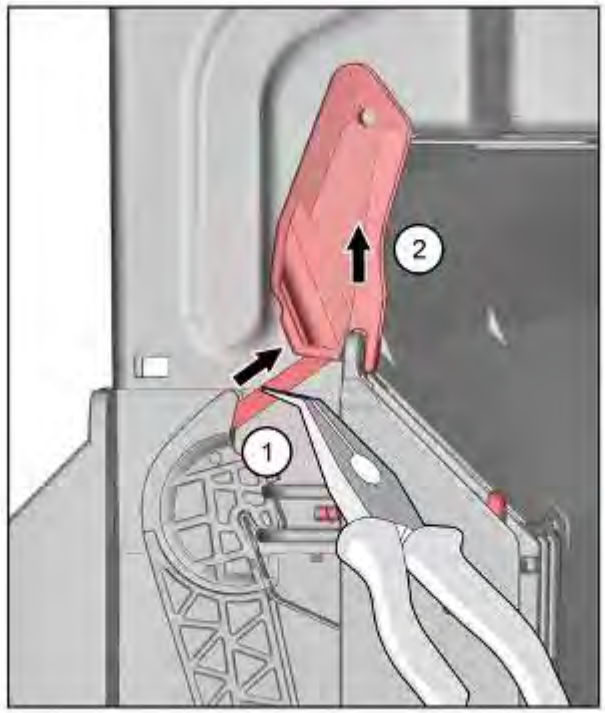
Remove cord guide cover outwards



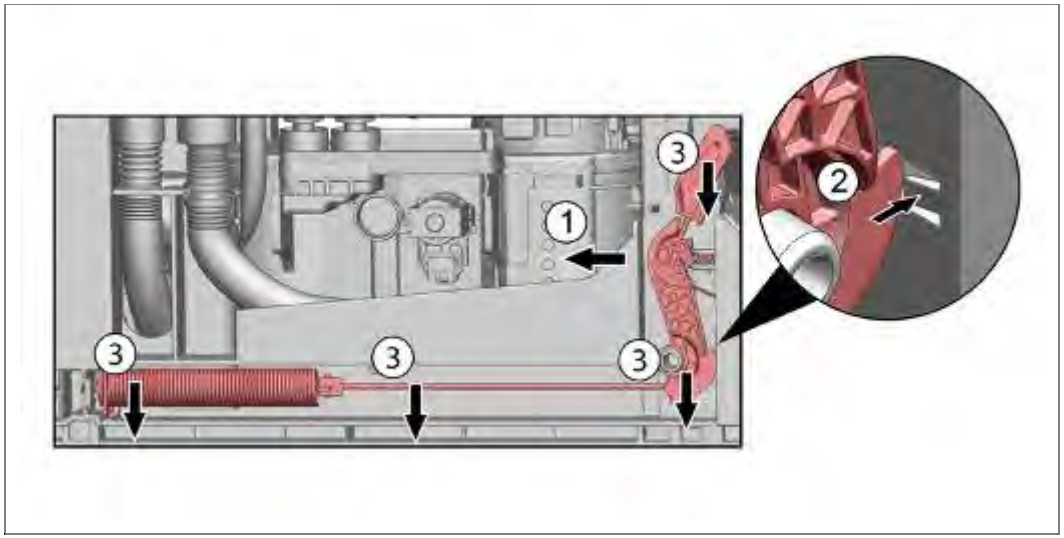
Loosen the adjustment screws.



1. Open door slightly.
2. Lock Holder in base carrier.

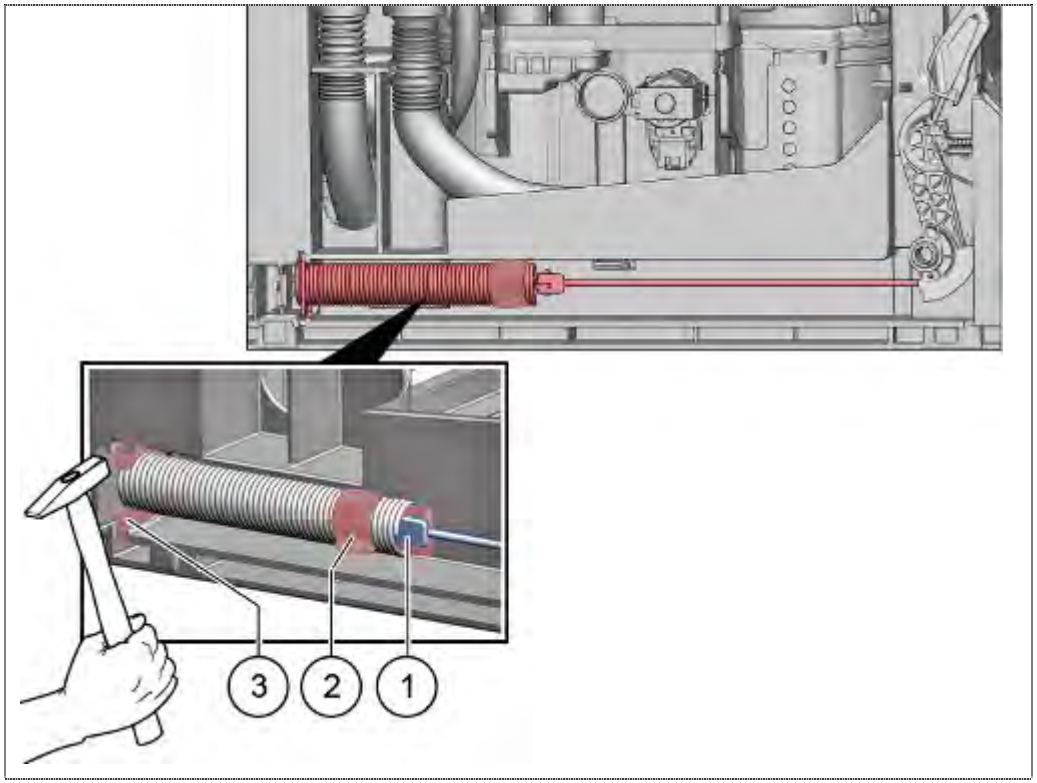


1. Grip tension cord with flat-nosed pliers.
2. Take holder of of the backup.

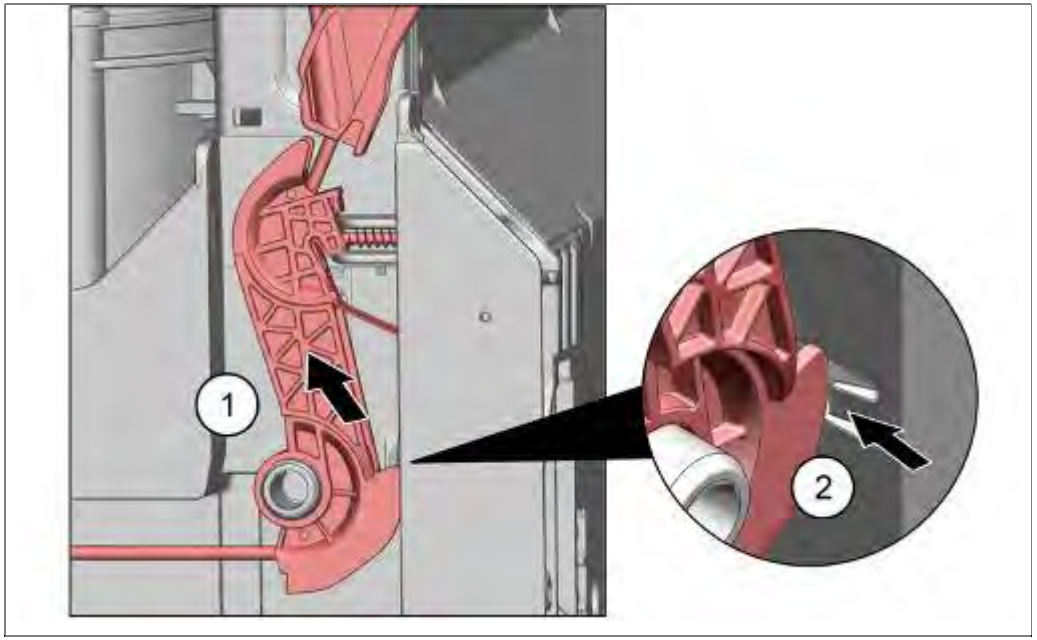


1. Press lever to the left.
2. Loosen latch.
3. Remove the complete spring system.

6.38.4 Installation (Spring system I):



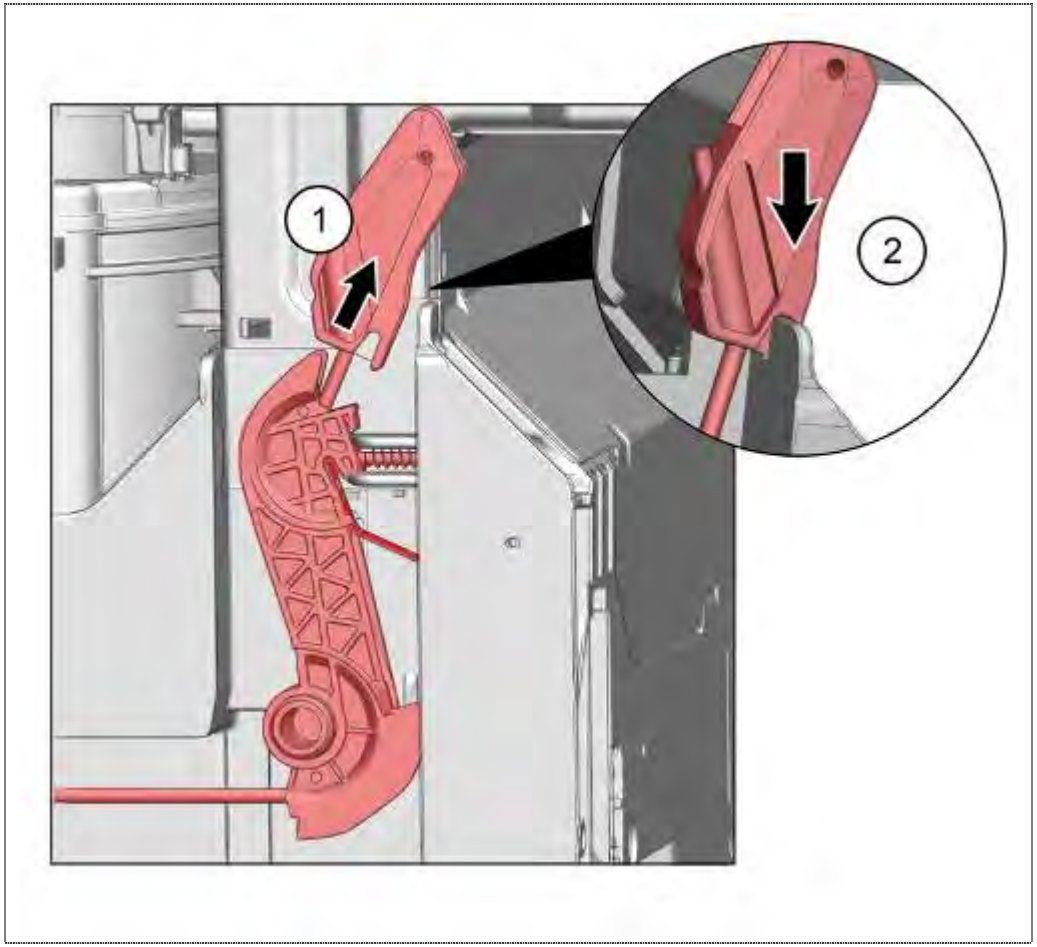
1. Attach rope in the spring.
2. Assemble noise limiter.
3. Turn spring into the groove of the base carrier.



1. Insert Lever.
2. Lock lever

Holder pull rope

► The holder of the pull rope (2) must be installed exactly as shown to prevent friction on the base tray.

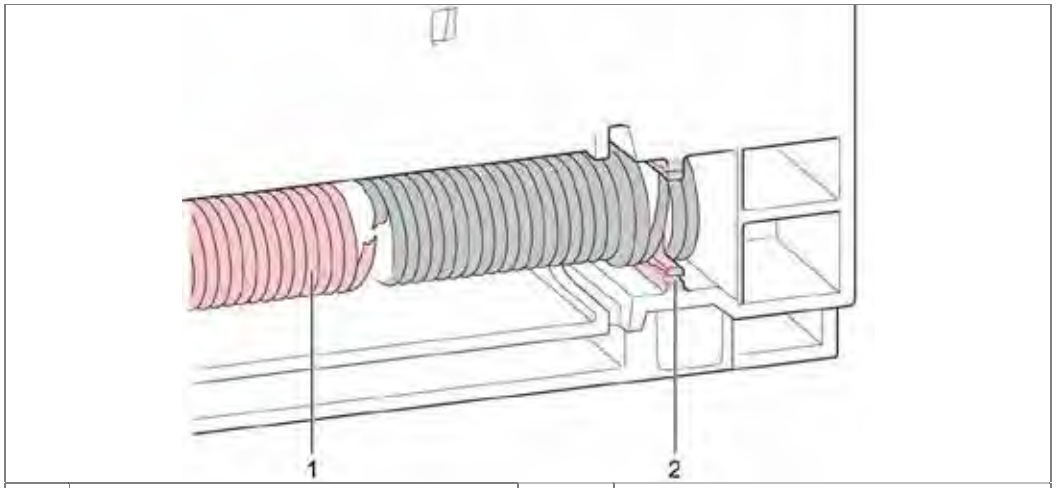


1. Pull rope holder upwards.
2. Fix it in the notch of the base carrier.

6.38.5 Removal (Spring sytem II, from FD 9208 to incl. FD 9310)

See removal spring system I

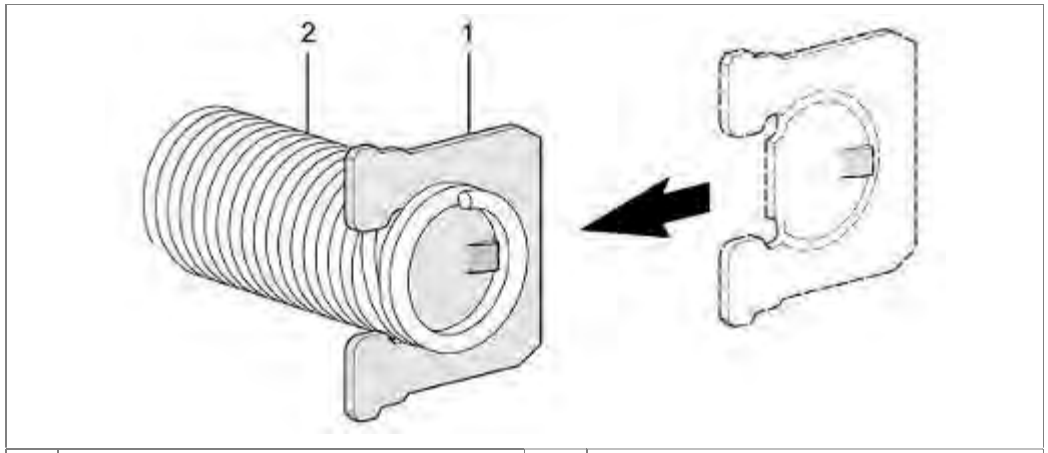
6.38.6 Installation (Spring sytem II):



1	Spring	**2**	Plastic bracket

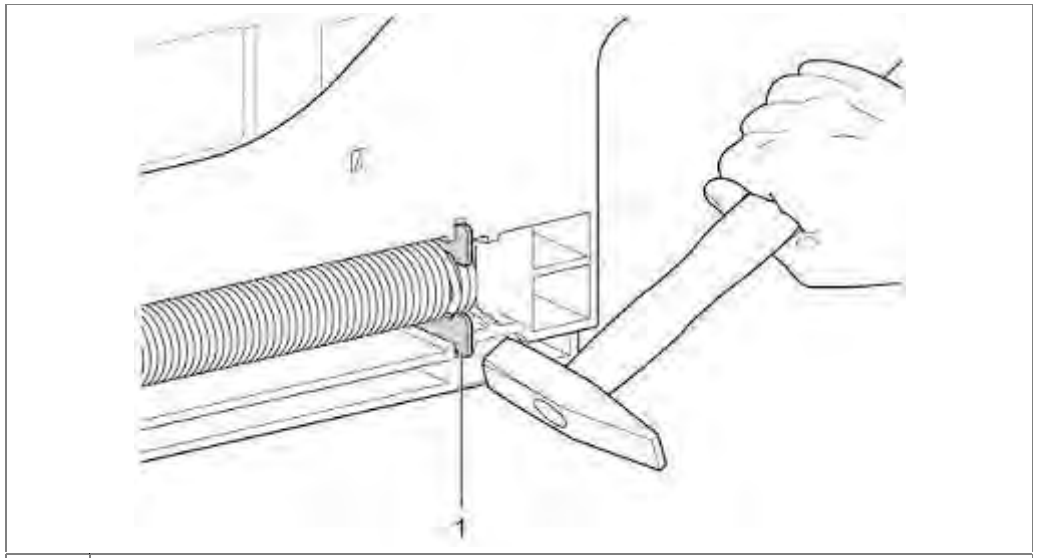
Spring system installed in reverse order. Fasten spring in the holder provided base carrier.

	If you suspect damage to the molded plastic to the base carrier holder (2): ► Fasten new spring with the, the spare part accompanying metal retaining plate!



1	Metal plate	2	Spring

Attach metal retaining plate to spring.



1	Metal plate

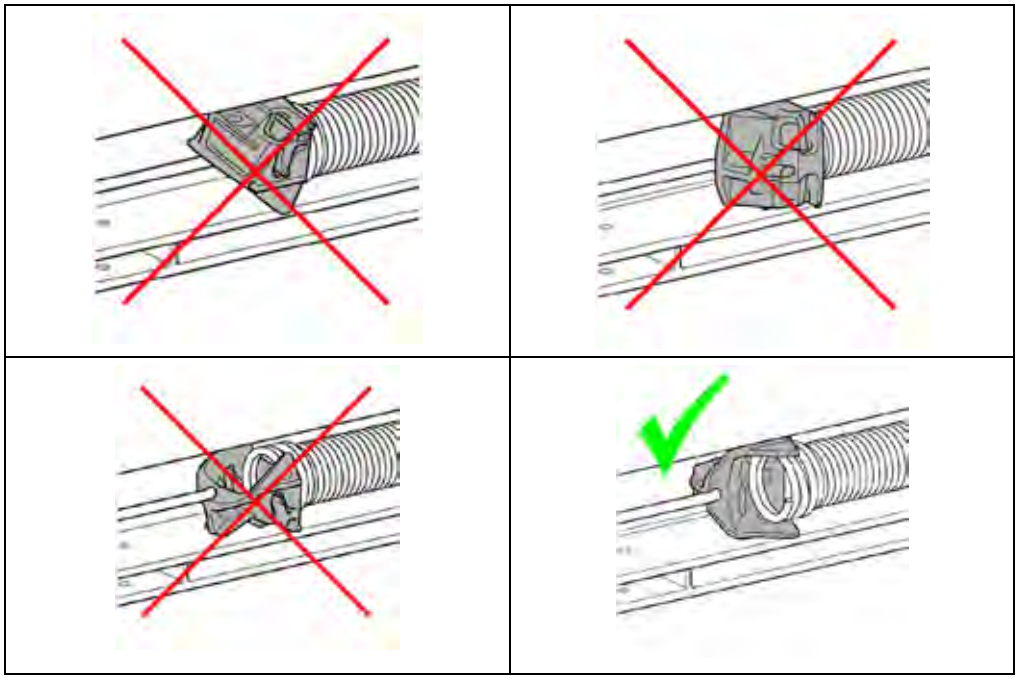
Hit metal plate (1) in the provided groove of the base carrier.

.

Noises

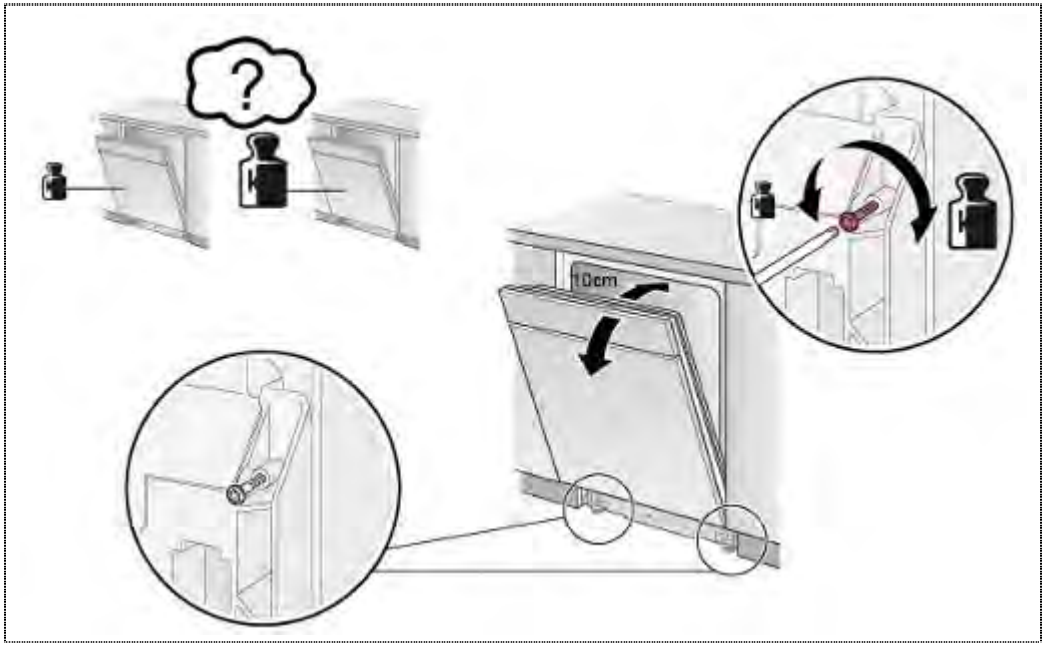
When converting or replacing the spring, ensure in particular that the front plastic holder is correctly repositioned; otherwise it may cause noises on the side panel.

► Place plastic holder correctly in the base group..



6.38.7 Setting door opening:

Adjust the door opening with the adjustment screw so, that the door opens automatically for 10 cm.



6.39 Exchanging Spring Safety System

Requirement:

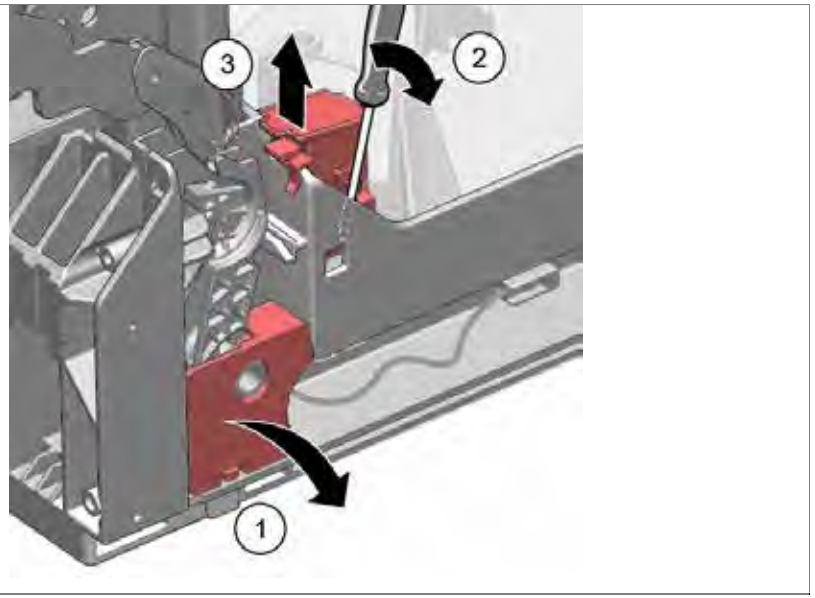
- ► Machine is not connected to power source.
- ► Side walls are removed.
- ► Machine is uninstalled/removed from installation.
- ► Spring system is disconnected.
- ► Worktop has been removed (optional)

6.39.1 Removing the spring safety switch

The leaf spring is very delicate!

If this spring is damaged, the entire glider must be replaced.

- ► Avoid unnecessary contact with the spring.
- ► Remove carefully.

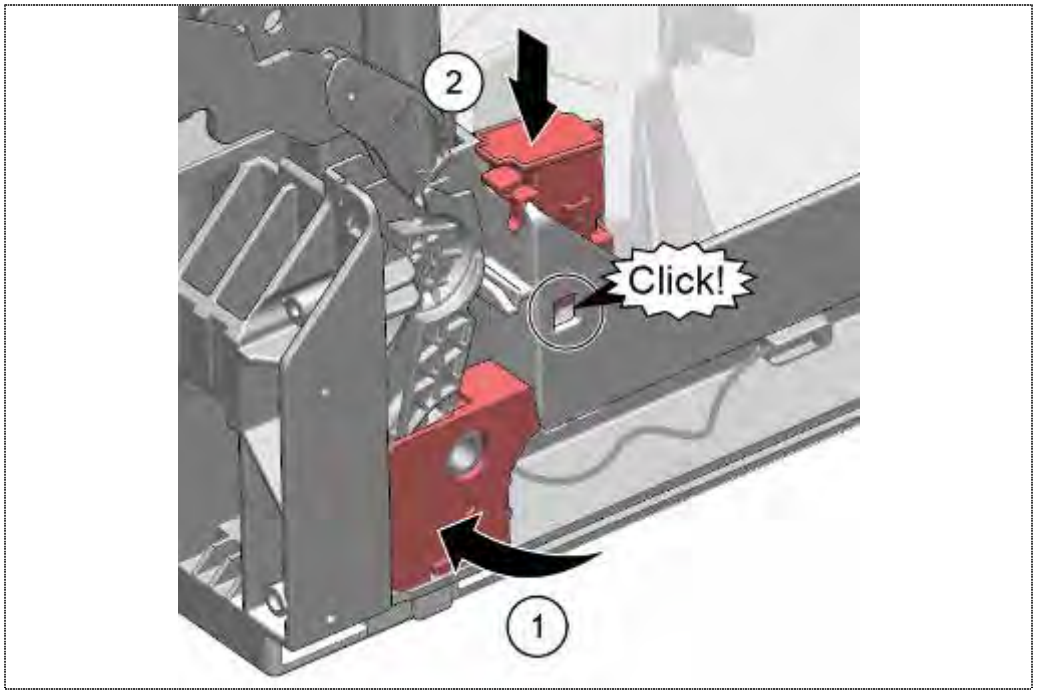


1. Remove the protective cover.
2. With the help of a screwdriver, carefully free the latch of the micro switch from the base.
3. Remove the micro switch upward and disconnect the wiring connector. Remove the glider.

6.39.2 Installing the spring safety switch

Requirement:

Before the spring safety switch is installed, ensure that the contact area between the leak spring and base are coated with lubricant.

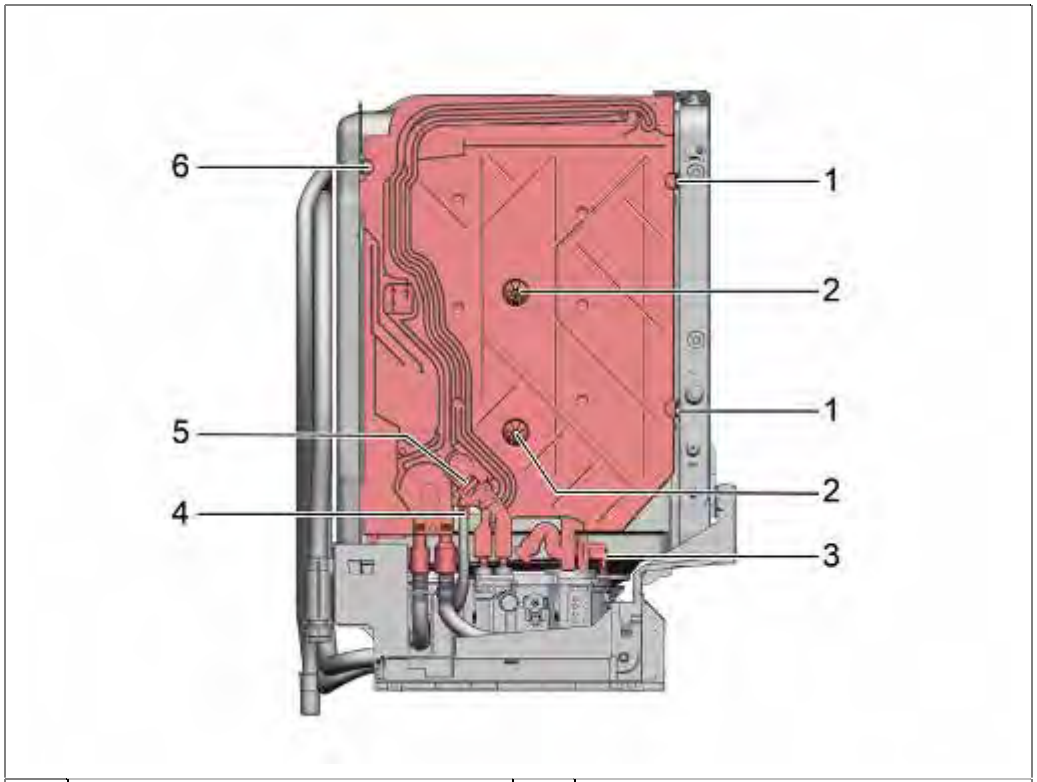


1. Install the protective cover.
2. Click the micro switch into place.

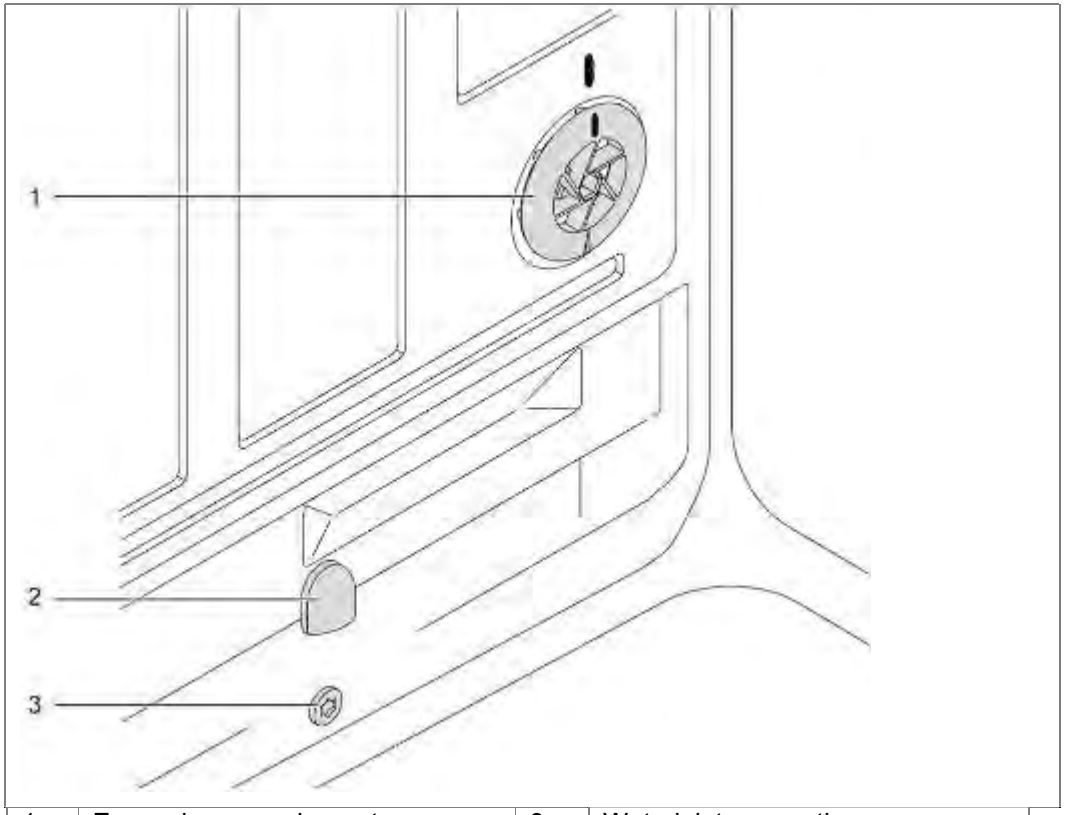
6.40 Replacing heat exchanger

Requirement:

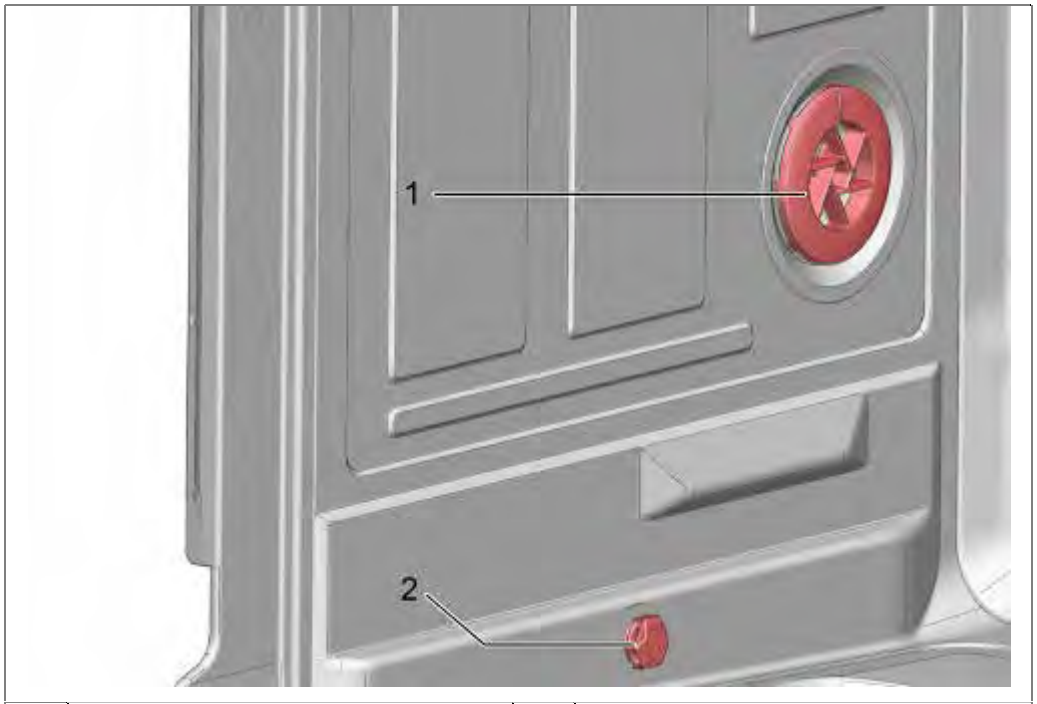
- ► Left side panel removed
- ► Heat exchanger emptied



1	Mounting front	4	Water supply hose with clamp
2	Screwing on the container	5	Impeller wheel counter with cover
3	Drainage valve	6	Holder

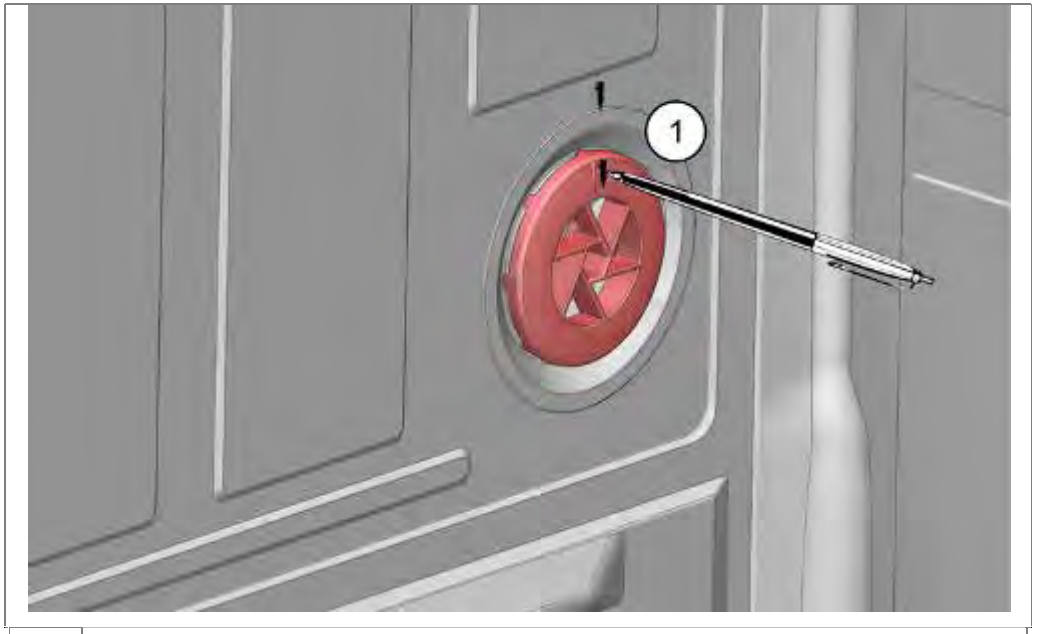


1	Expansions opening-nut	3	Waterinlet connection
2	Cover, water inlet		



1	Expansions opening-nut	2	Waterinlet connection

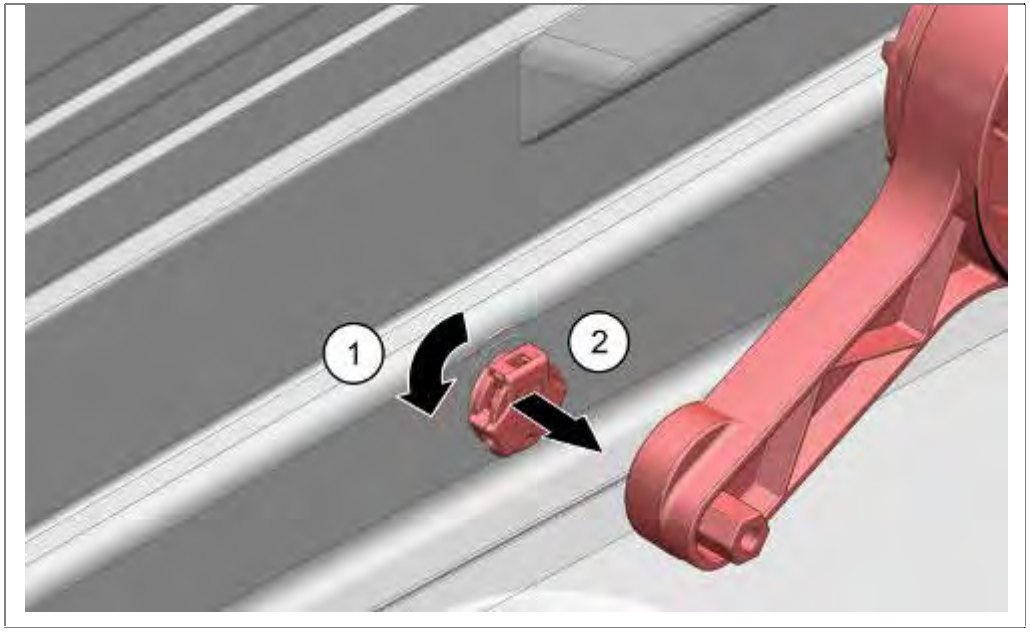
6.40.1 Removal of heat exchanger



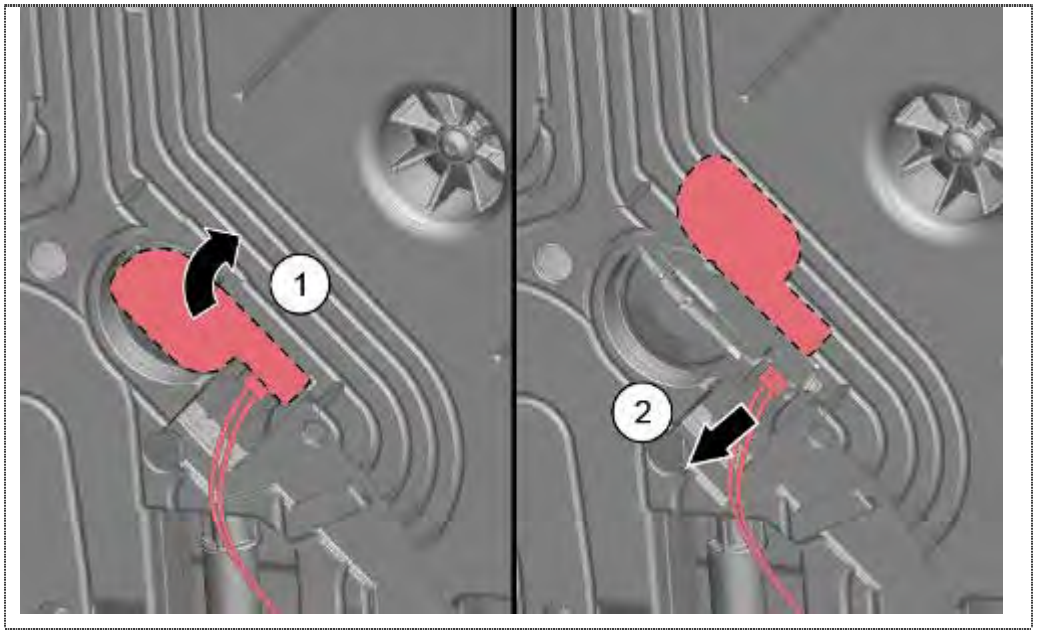
1	Marking

1. Mark the installation position of the expansion opening nut and remove expansion opening nut.

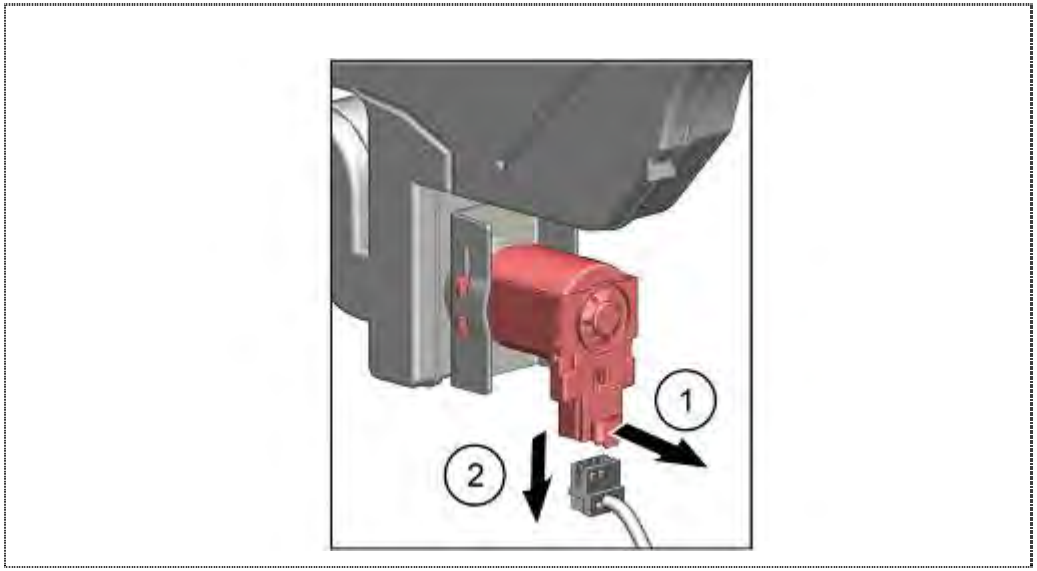
1. Remove the expansion opening nut with special tool.



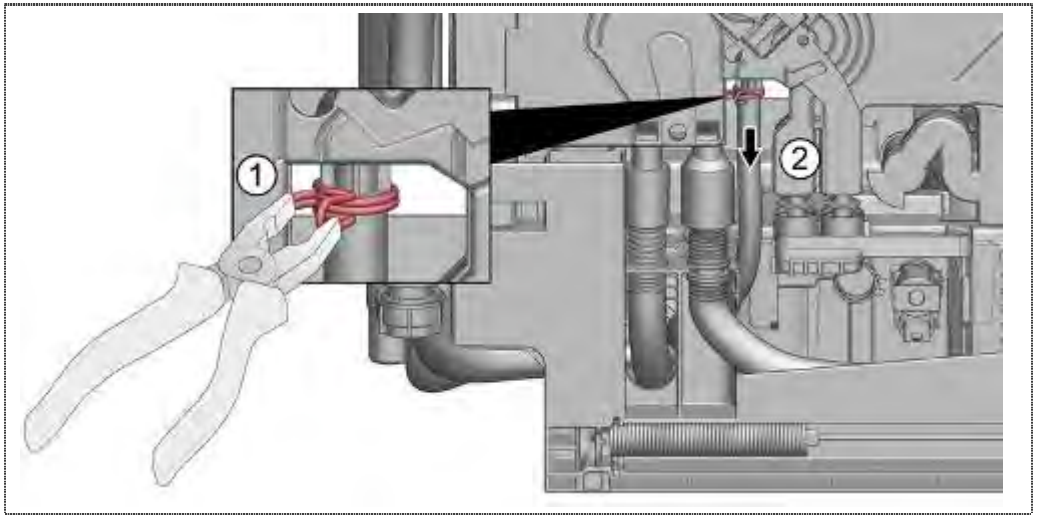
1. Remove cover (optional) on the water inlet in the interior decrease and solve water inlet connection with special tool.
2. Remove cover



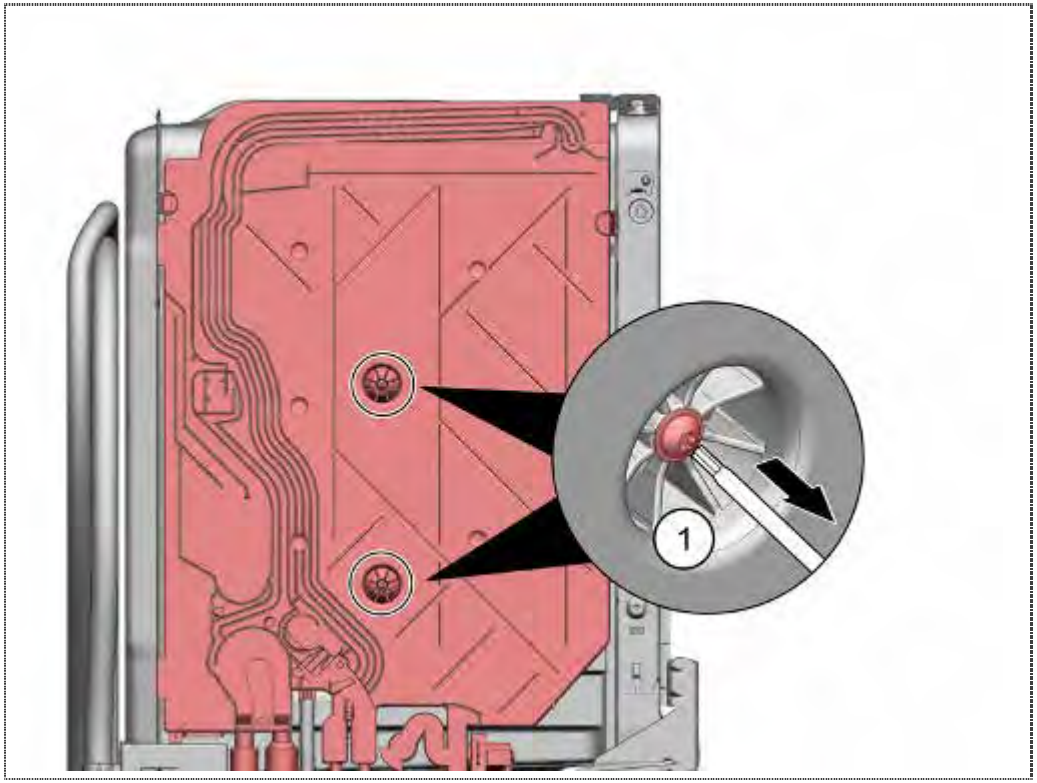
1. Bend out the guard cover of the impeller wheel counter.
2. Remove plug connection



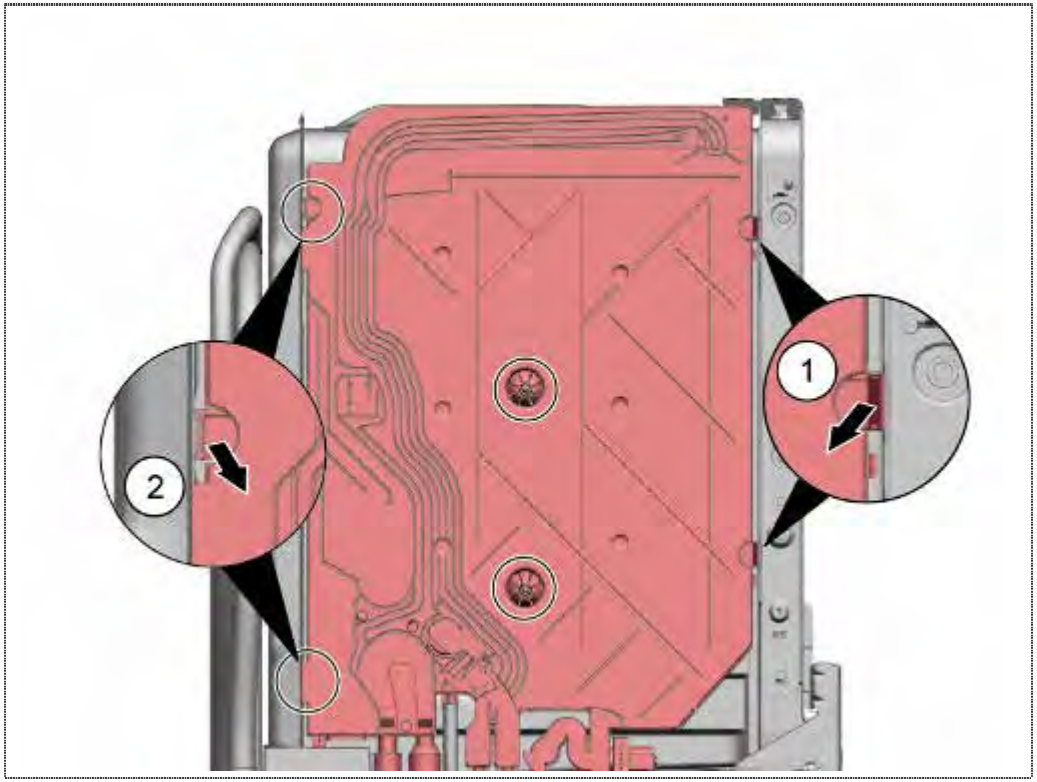
1. Loosen the locking on the (optional) drain valve.
2. Remove plug connection on the drainage valve.



1. Loosen hose clamp on the water supply
2. Remove supply hose.

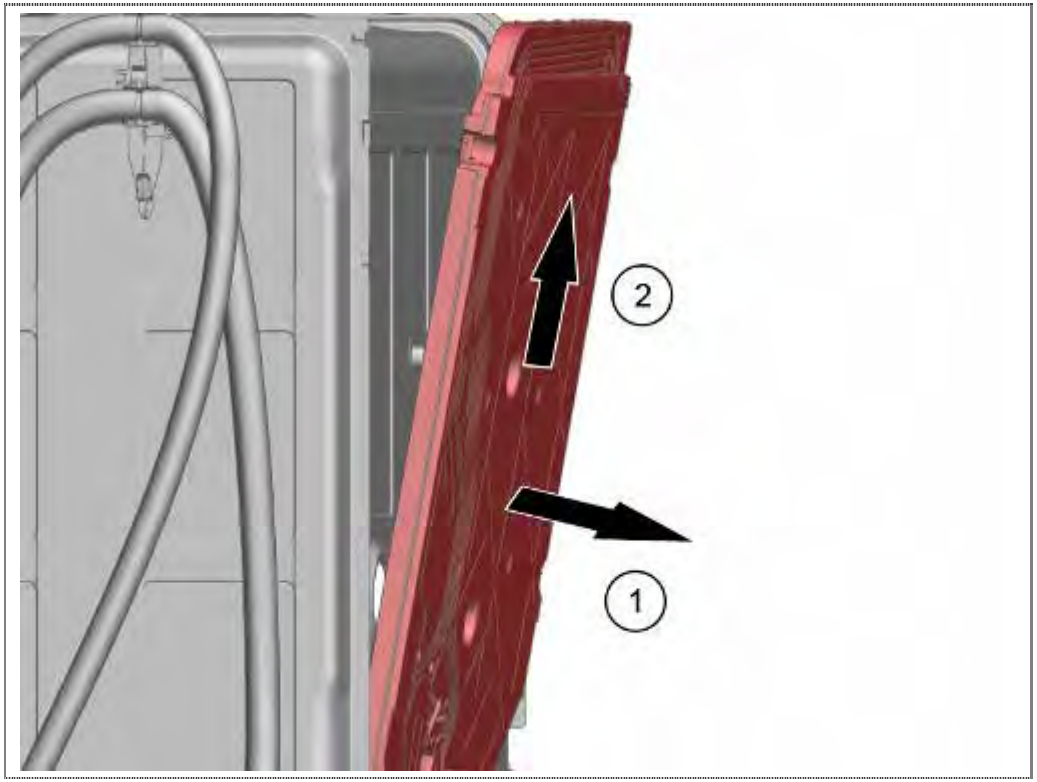


1. Remove both Torx screws on the outside of the tank



1. Remove the front catches
2. Remove the rear catches

After prolonged operation the heat exchanger may become stuck to the bitumen insulation and be difficult to remove.



1. Carefully separate heat exchanger above the container.
2. Lift to the top

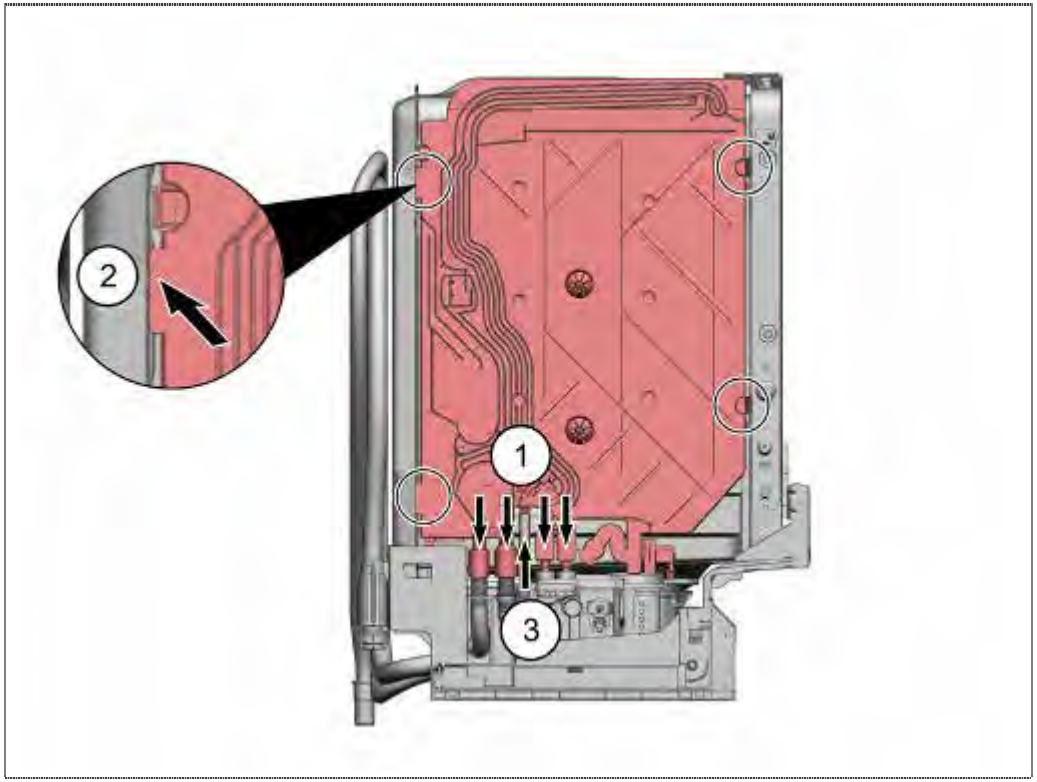
6.40.2 Mounting heat exchanger

Assembly sequence

► The assembly sequence described here is to be kept.

Prevent leakage

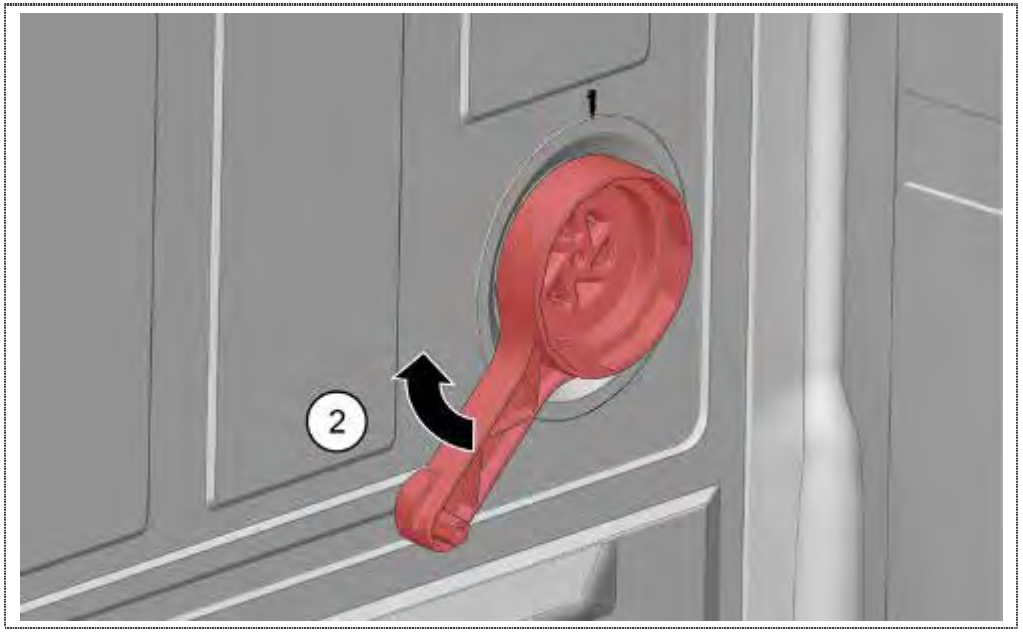
► Avoid squeezing of the compounds for softening water and drain hoses, as well as seals



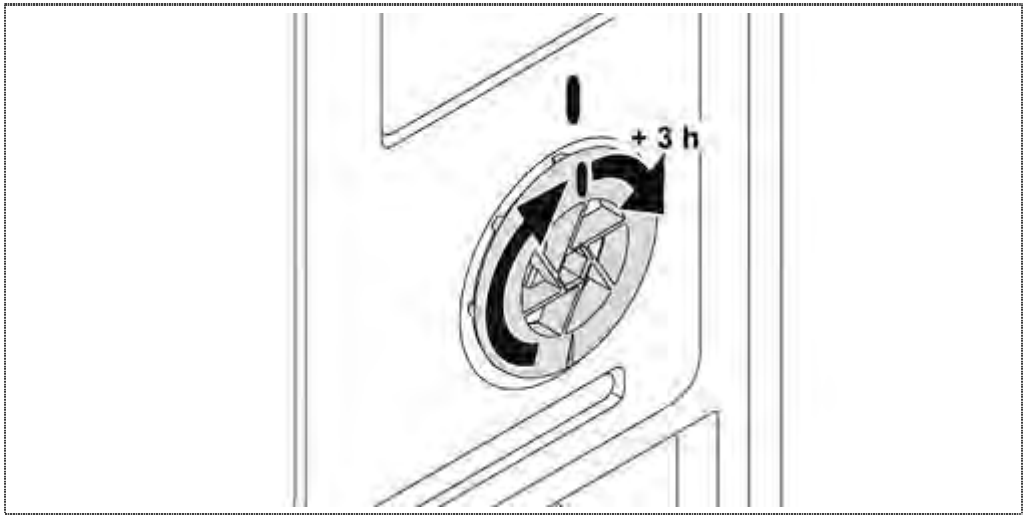
1. Insert the heat exchanger to the connections of water softener and drain hoses.
2. Press the heat exchanger to the container and lock the heat exchanger on the container
3. Slip water inlet hose to heat exchanger and fix it with the clamp.

Leakage

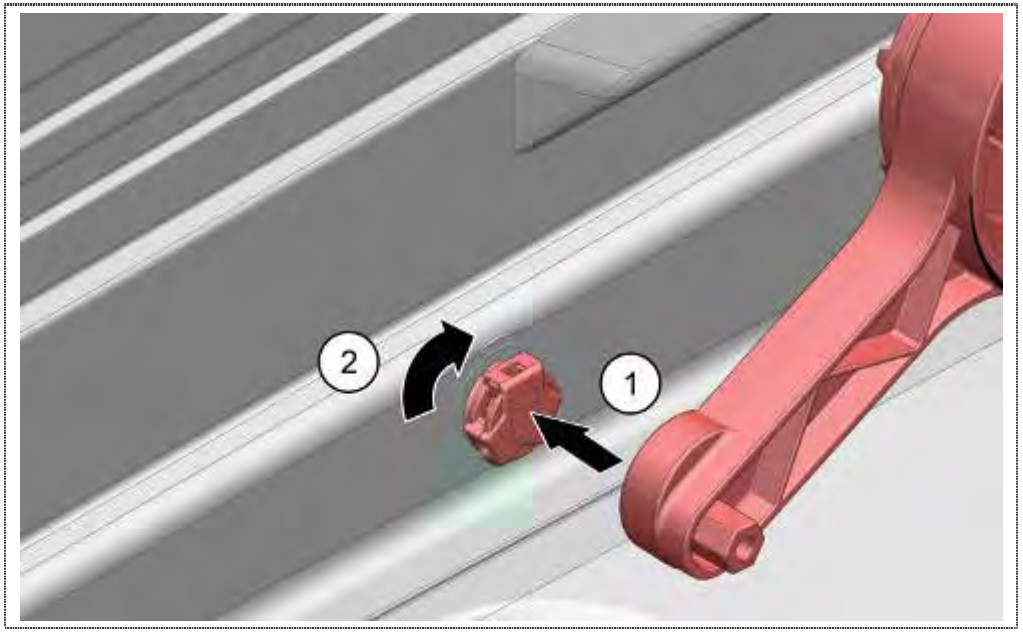
► Pay attention to the correct position of the sealing in the expansion opening.



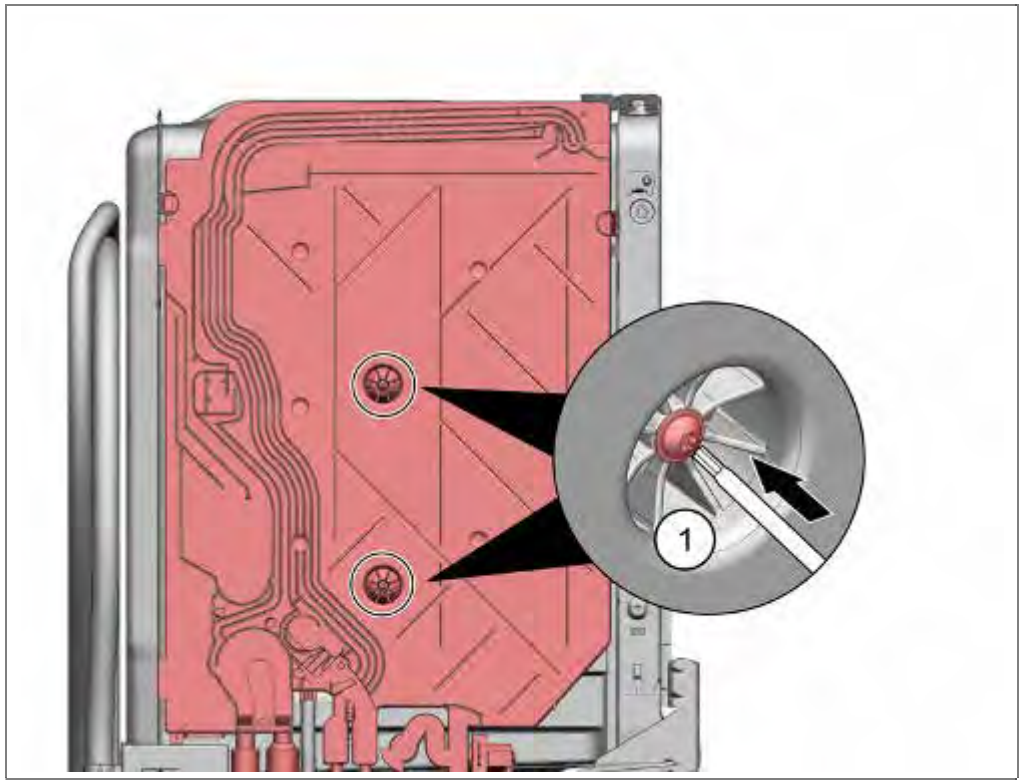
1. Tighten the expansion opening nut to the marking.



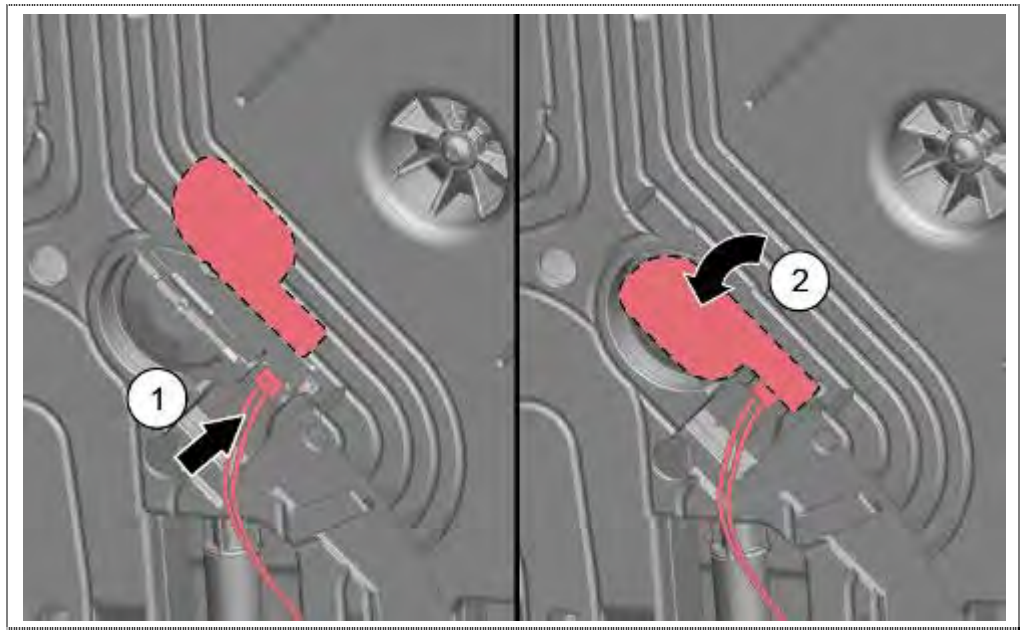
1. To prevent leakage, around the value + 3 hours (1/4 revolution) continue to tighten.



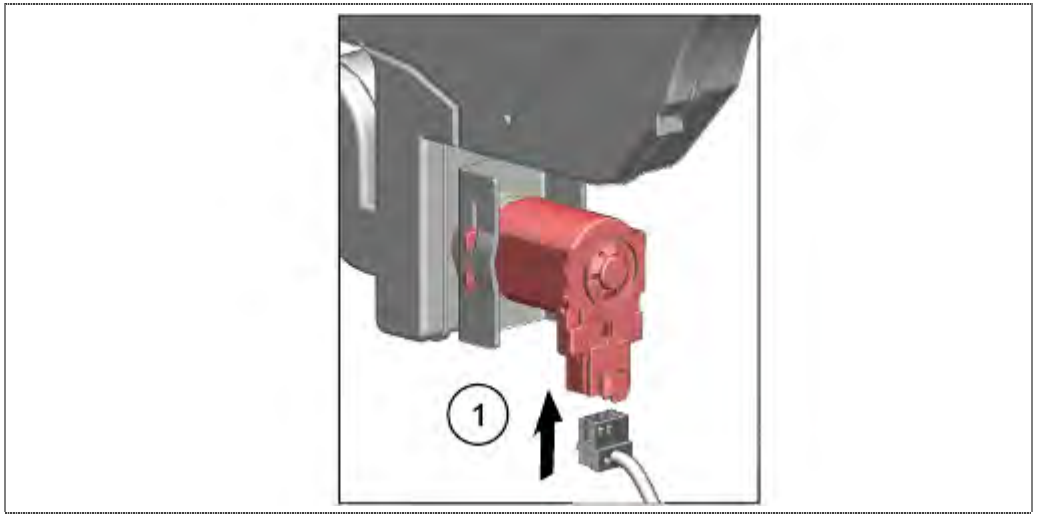
1. Insert Water inlet connection, tighten it and push cap (optional) onto the water inlet connection



1. Screw heat exchanger with the container.



1. Connect connector to the impeller PCB.
2. Bend the flap back.



1. Establish plug connection on the drain valve again.

Leaking

► Perform After mounting leakage test.

6.41 Replacing flow sensor

Requirement:

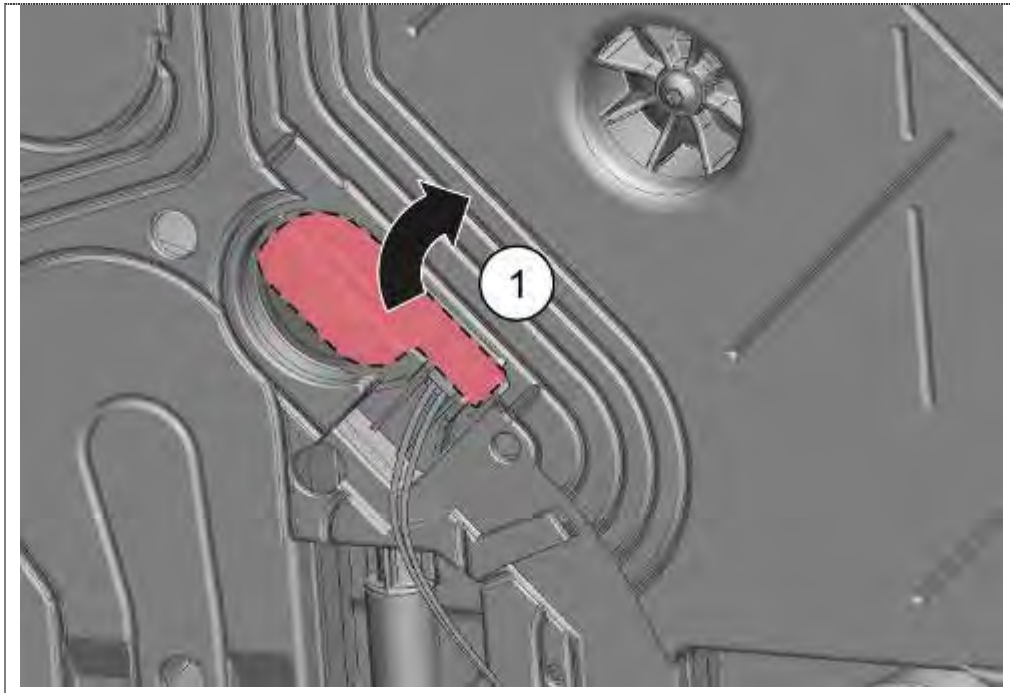
► Side panel on left removed

Risk of breakage

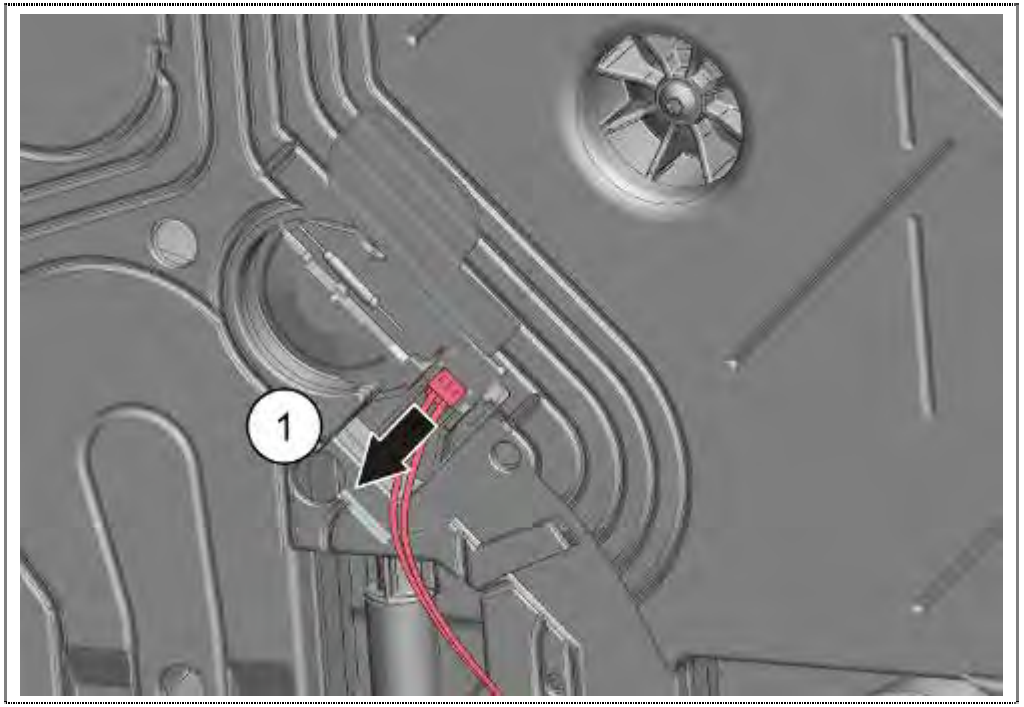
► Do not bend or kink boards with a flow sensor in the flask!

► Component is very sensitive!

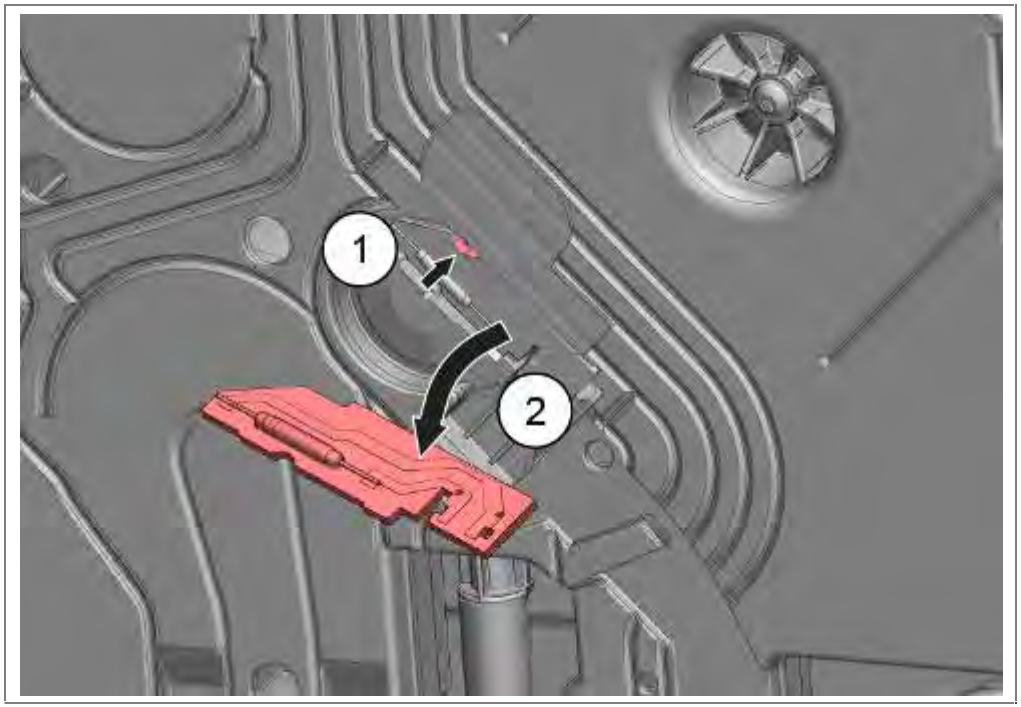
6.41.1 Removal



1. Carefully bend out the plastic flap on the heat exchanger / water inlet.

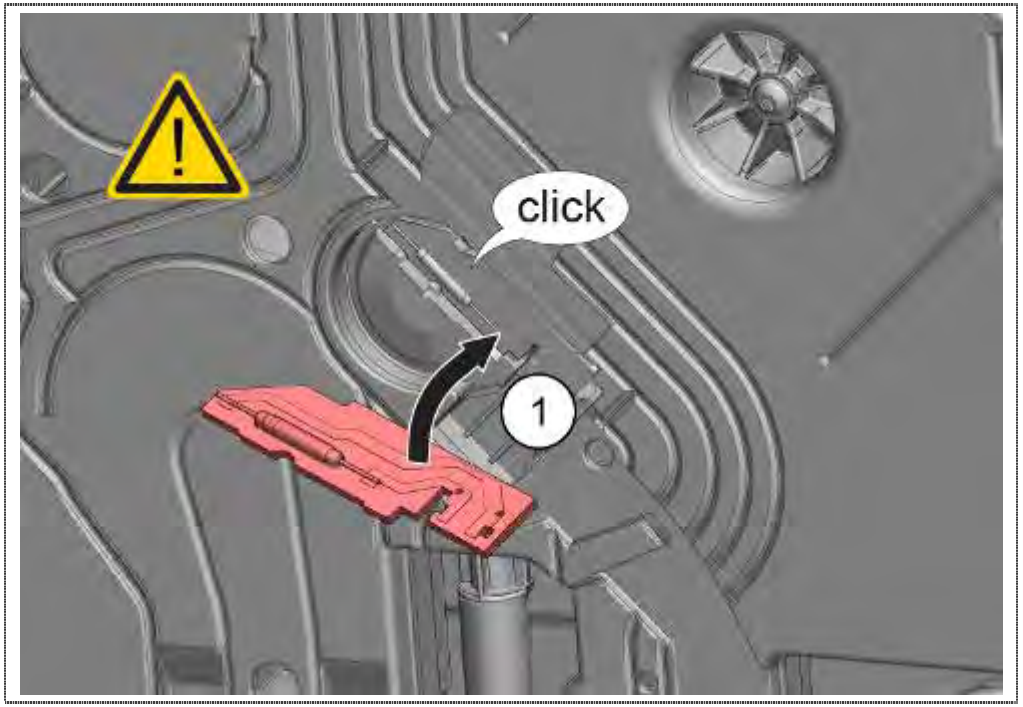


1. Loosen plug-and-socket connection



1. Loosen lock.
2. Remove PCB.

6.41.2 Assembling



NOTE	**Destruction Flow Sensor**
	► Board not bending or kinking. Risk of fracture of the glass bulb on the board.

1. Inserting complete board with flow sensor and latching.

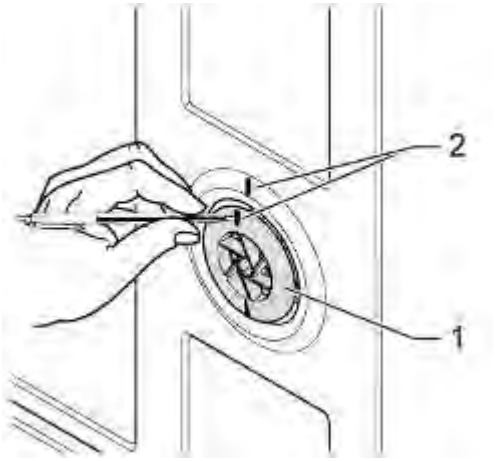
Install the electrical connection again and bend back the plastic flap.

6.42 Replacing liquor reservoir with duct

Requirement:

- ► Right side panel removed.
- ► Liquor reservoir drained.

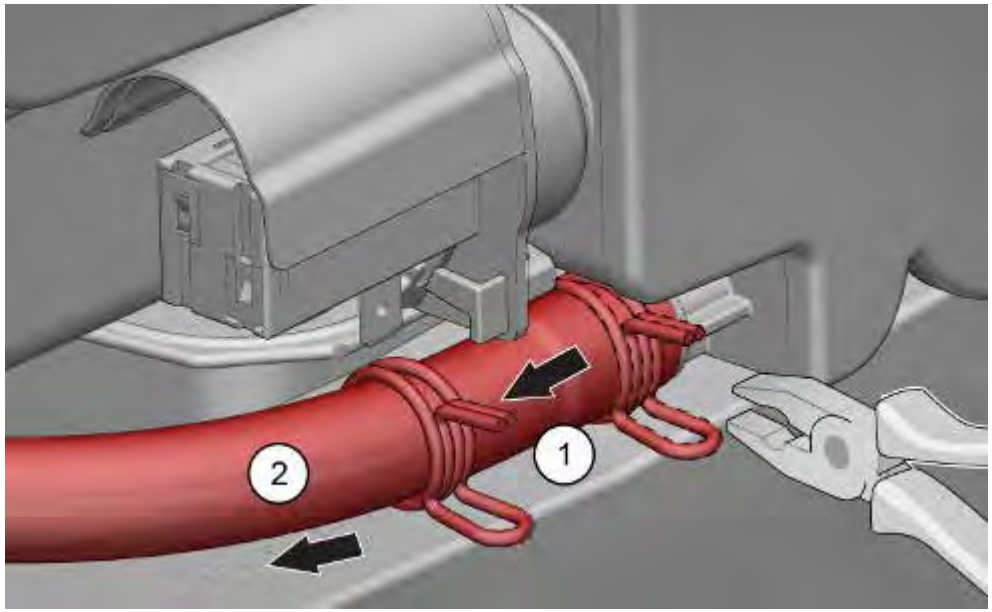
6.42.1 Removal of liquid reservoir



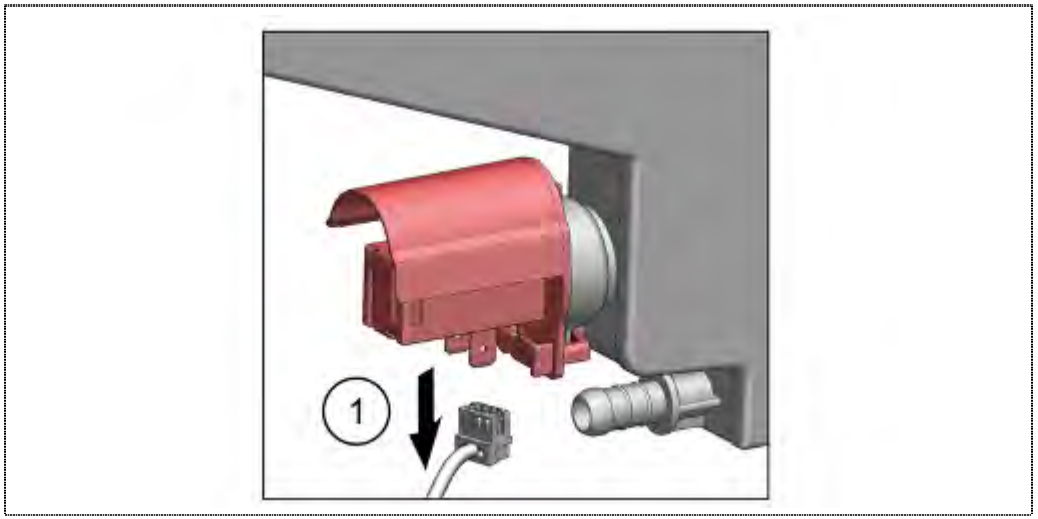
1	Steam vent nut	2	Mark

1. Mark the steam vent nut in mounting position.

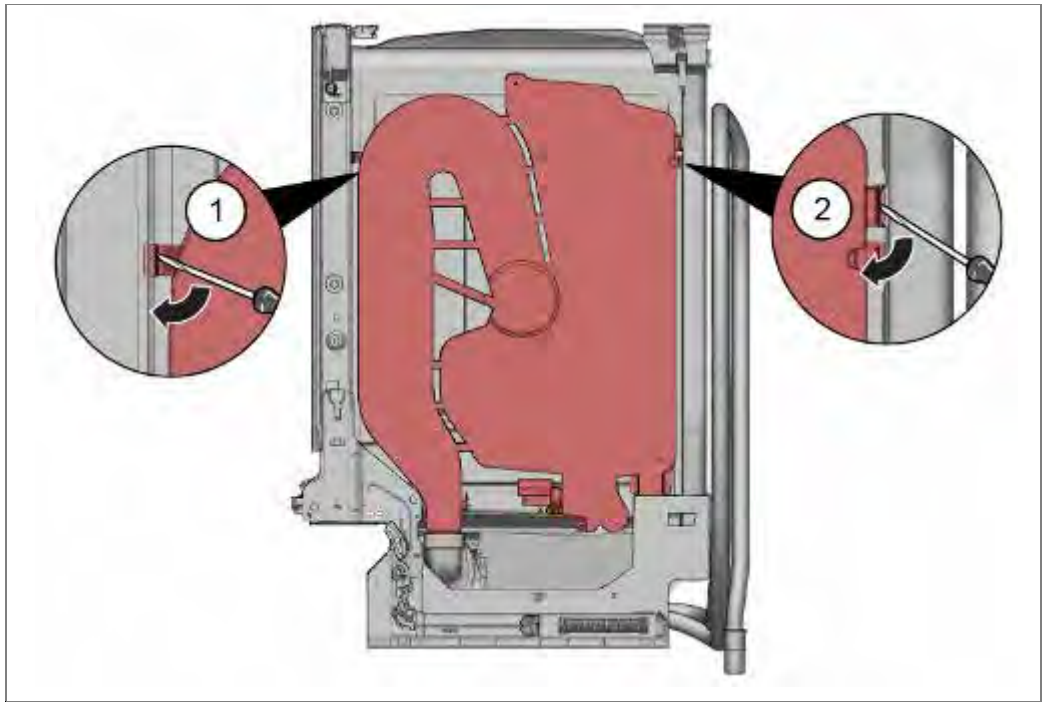
2. Remove the steam vent nut.



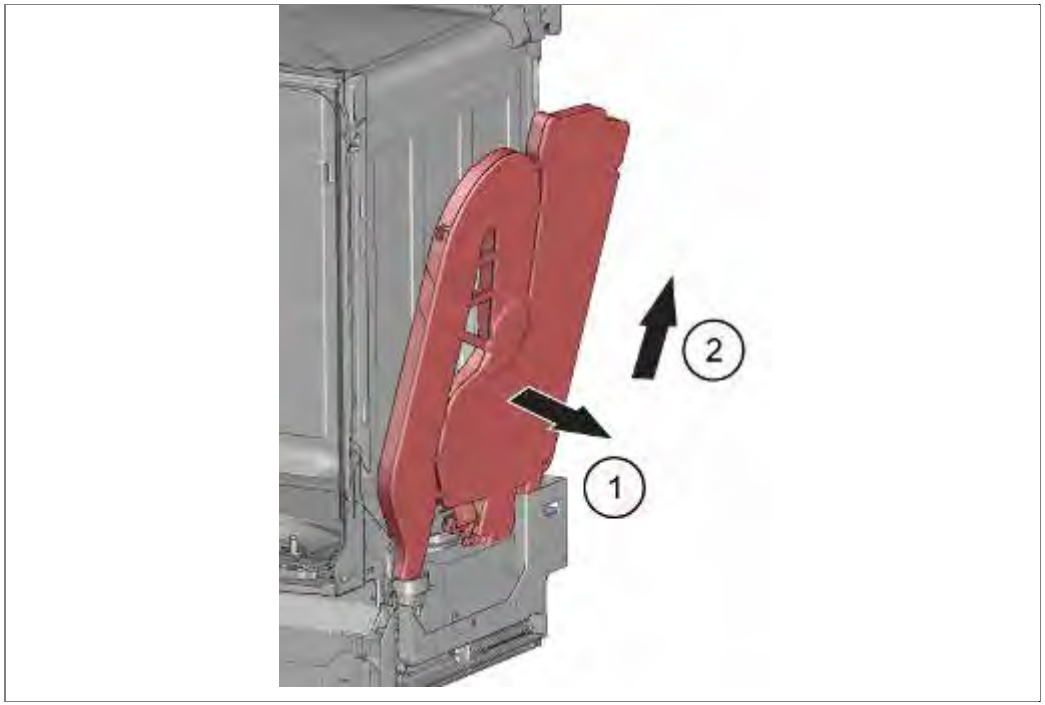
1. Remove clamb.
2. Remove hose.



1. Disconnect electrical connection.

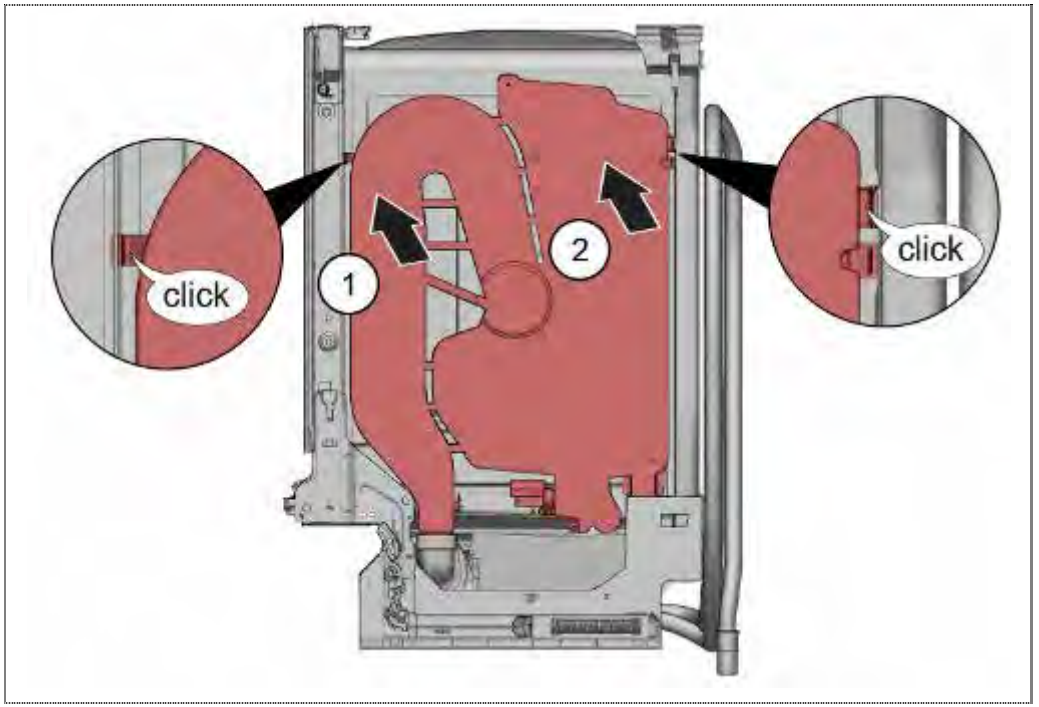


1. Loosen catch left
2. Loosen catch right.



1. Tilt the fleet reservoir / duct away from the device
2. Lift it tot he top.

6.42.2 Assembling fleet reservoir / duct



1. Insert the liquor reservoir / duct to the catch.
2. Press the fleet reservoir / duct to he tub till it´s fixed.

1. Tighten the expansion opening nut to the marking
2. To prevent leakage, around the value + 3 hours (1/4 revolution) continue to tighten..

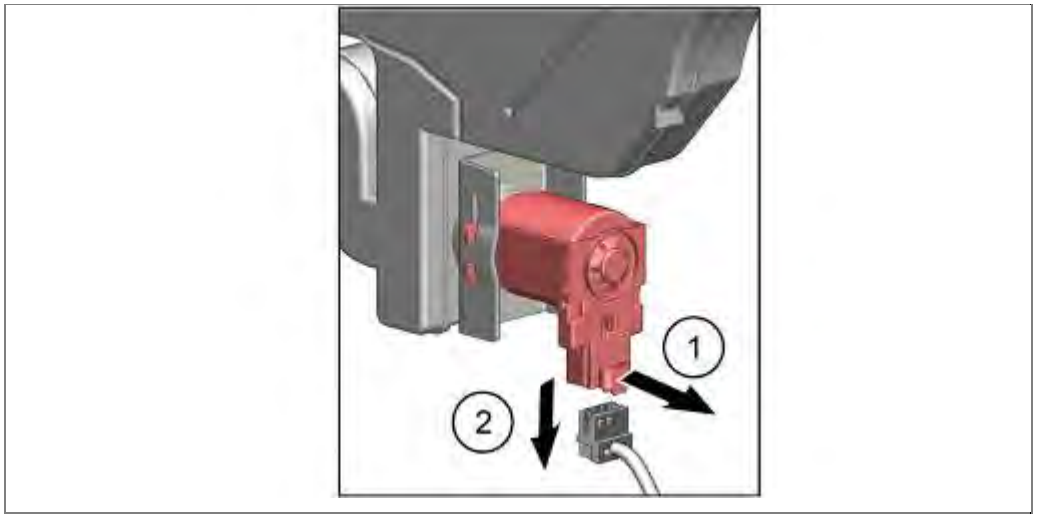
Leakage

► Pay attention to the correct position of the sealing in the container opening.

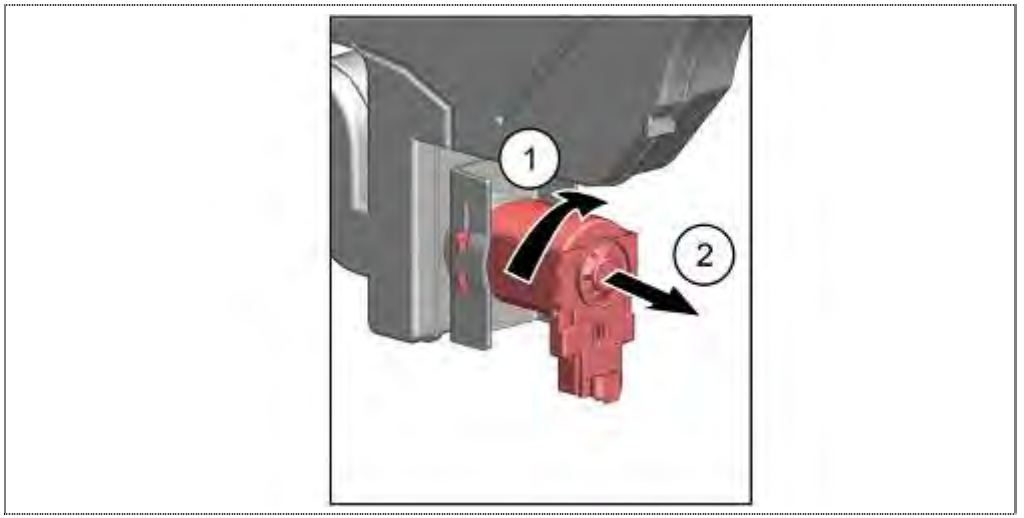
6.43 Replacing drainage valve

Drainage valve

- If the valve has to be replaced, drain or catch water.
- It is not necessary to remove the drainage valve in order to remove the heat exchanger!



1. Unlock the lock.
2. Disconnect the connector



1. Remove the drainage valve by rotating it in a clockwise direction.
2. Pull out of the heat exchanger.

Reassembly takes place in reverse order.

- After mounting the valve check tightness .

6.44 Replacing the regeneration valve

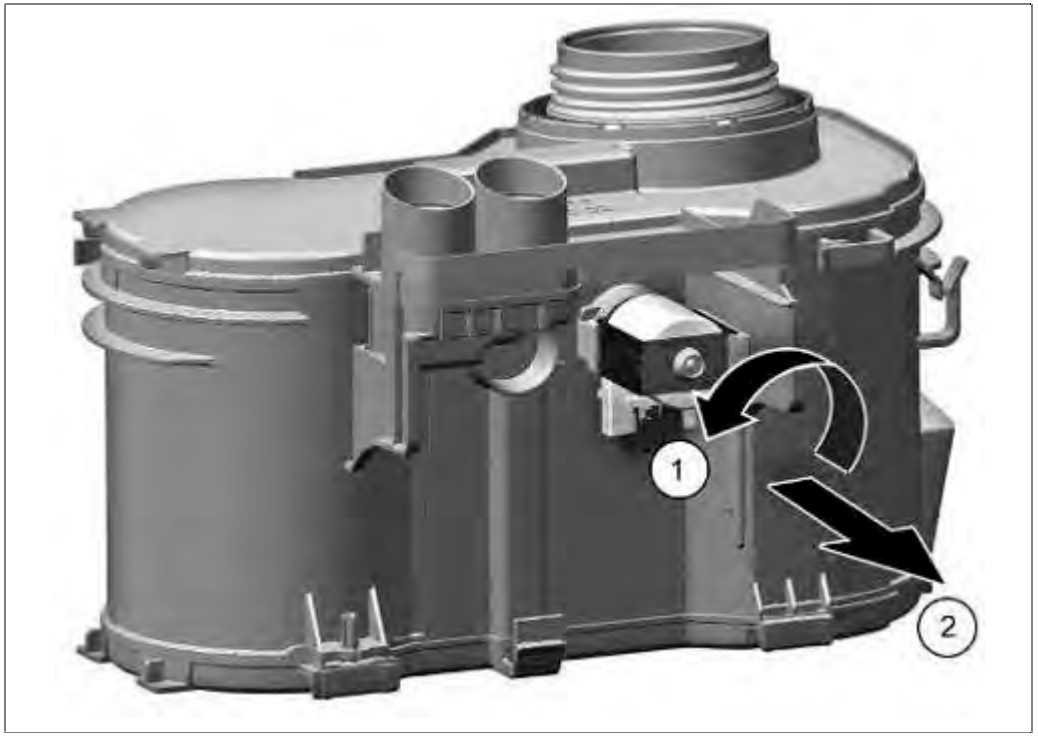
Requirement:

√ Side panel on left removed.

√ Optionally: Heat exchanger emptied.

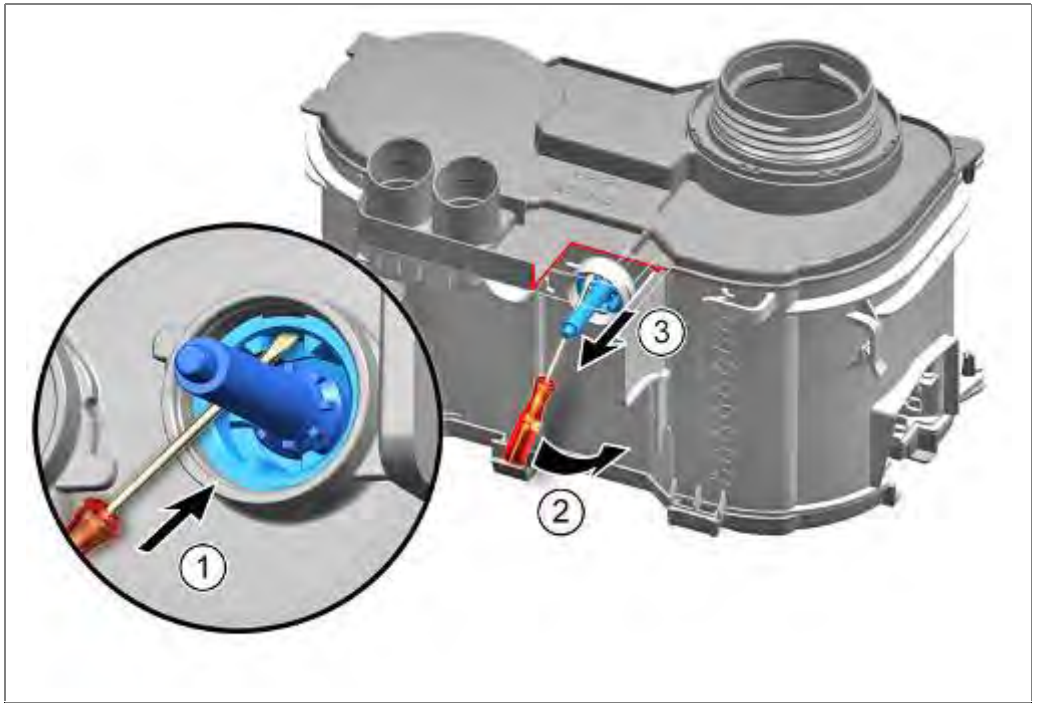
√ Water drained from the salt dispenser.

6.44.1 Removal



1. Rotate valve anti-clockwise.
2. Pull out valve forwards.

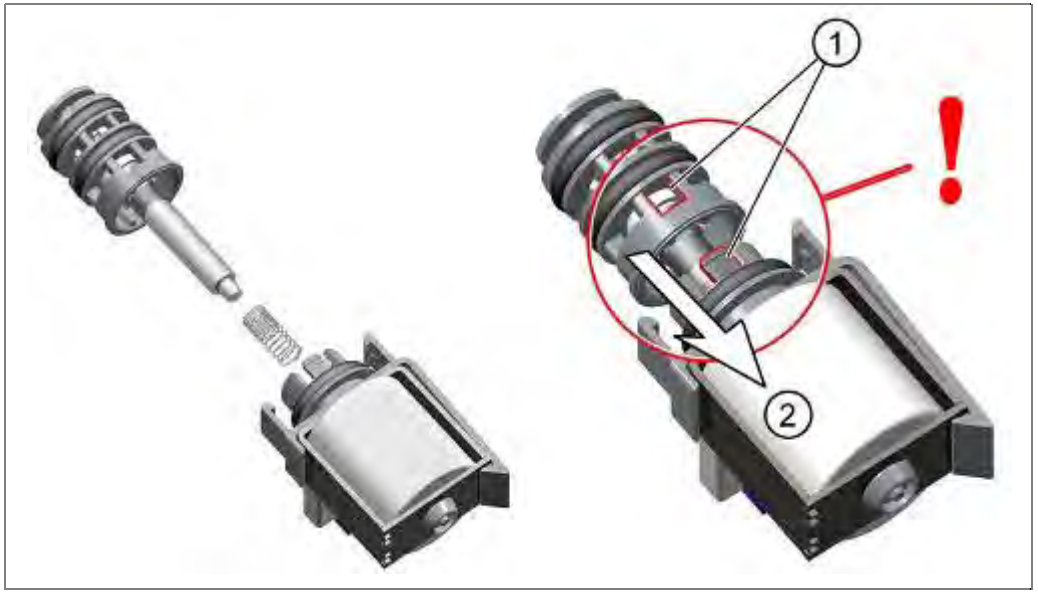
6.44.2 Remove anchor



1. Insert a small screwdriver in the valve position
2. Lever the valve insert carefully loosely
3. Remove the valve insert from the regeneration unit

Install in reverse sequence.

6.44.3 Positioning the armature



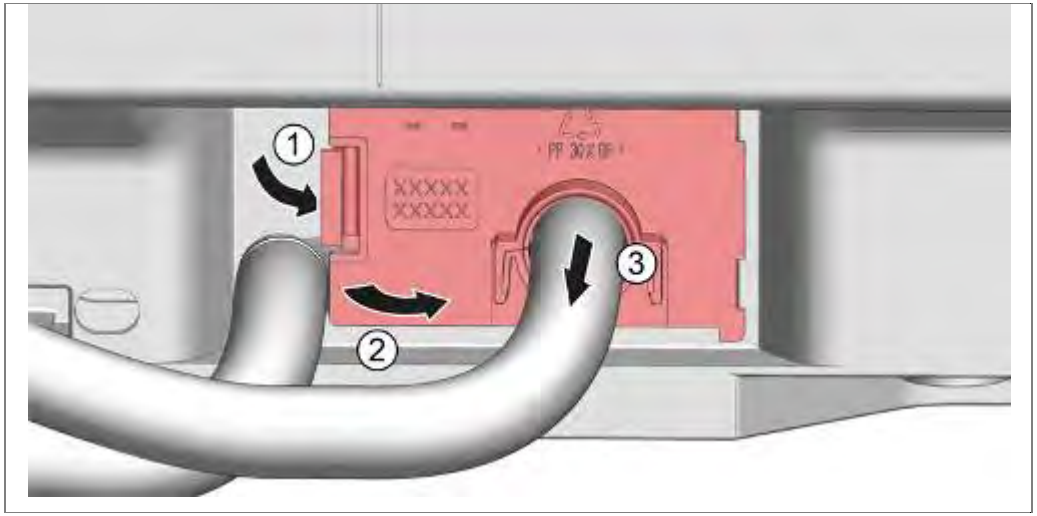
1. Align the marked points.
2. Press valve with spring back into the coil until the valve engages.

6.45 Replacing the drainage hose

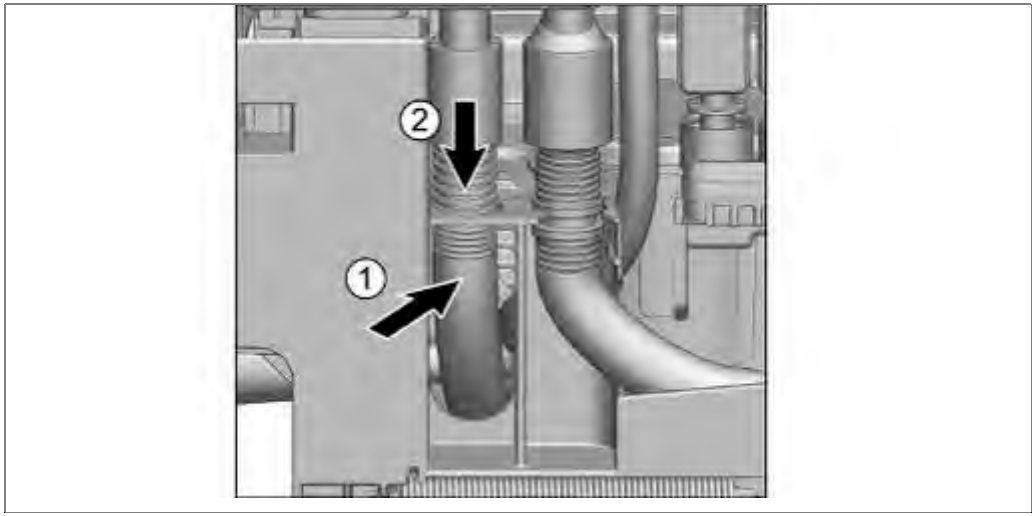
Requirement:

√ Left side panel removed.

6.45.1 Removal



1. Loosen the panel catch mechanism.
2. Fold the panel to right side.
3. Fold out the panel.



1. Press drainage hose backwards out of the holder.
2. Remove downwards from the heat exchanger / water inlet.

6.45.2 Installation

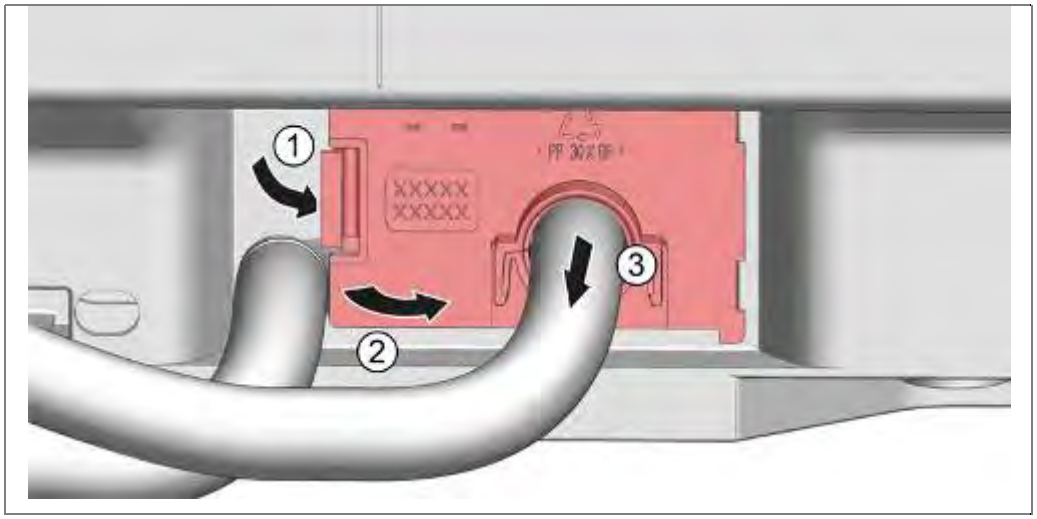
Is in reverse sequence.

6.46 Replacing the supply hose

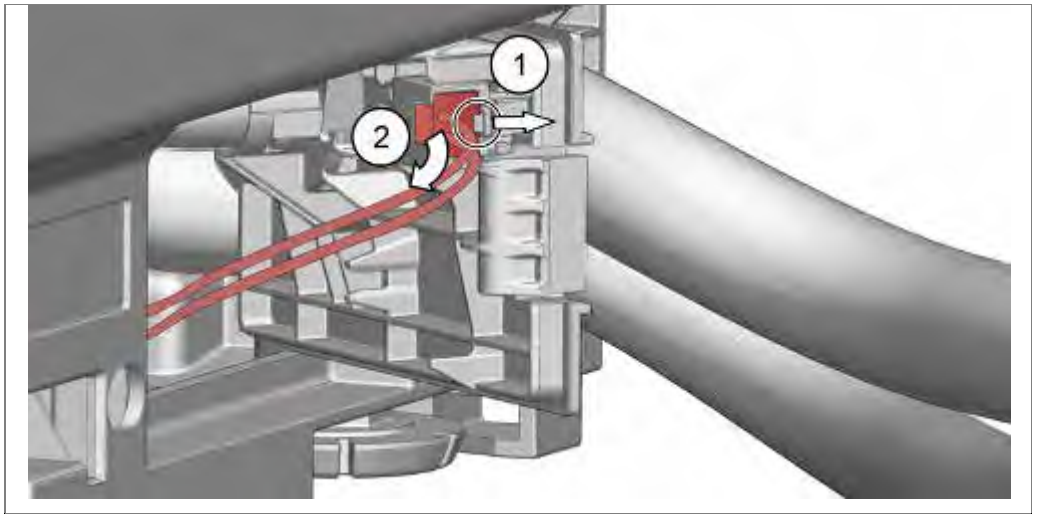
Requirement:

√ Left side panel removed.

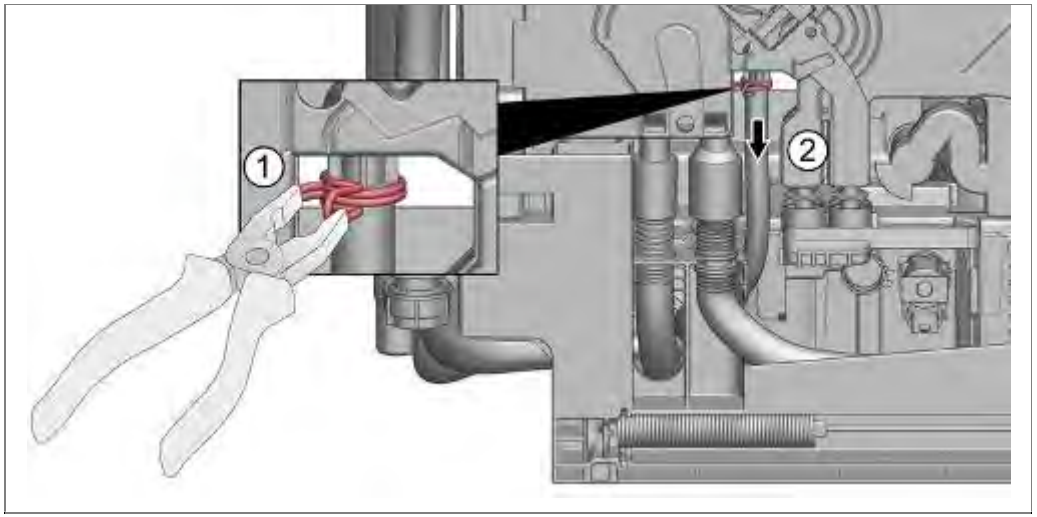
6.46.1 Removal



1. Loosen the panel catch mechanism.
2. Flap to the right hand side.
3. Fold out the panel.



1. Unlock the lock
2. Disconnect electrical connection.



1. Open clamp.
2. Remove supply hose from the heat exchanger / water inlet.

6.46.2 Installation

Is in reverse sequence.

Leakage

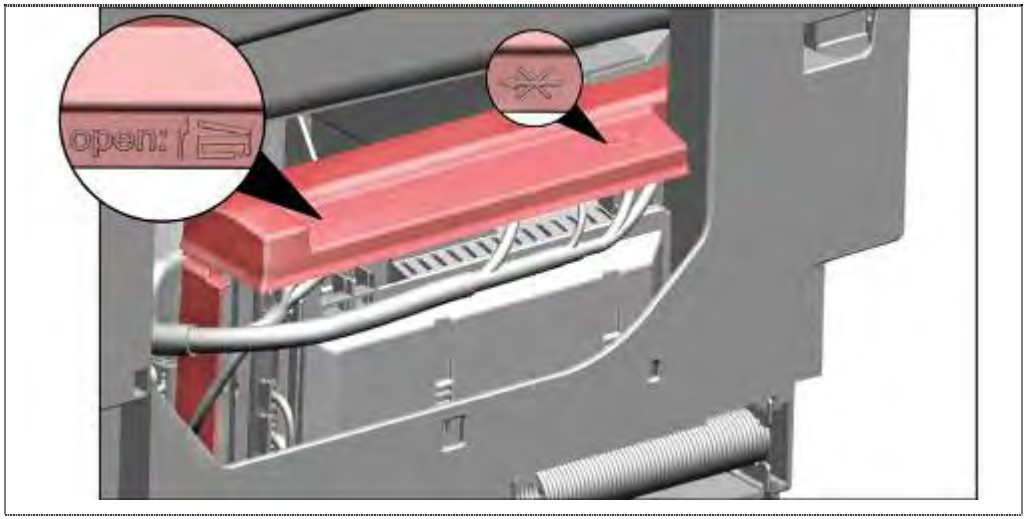
► After assembling is finished, start customer service test program and check for leakage.

6.47 Replacing the power module

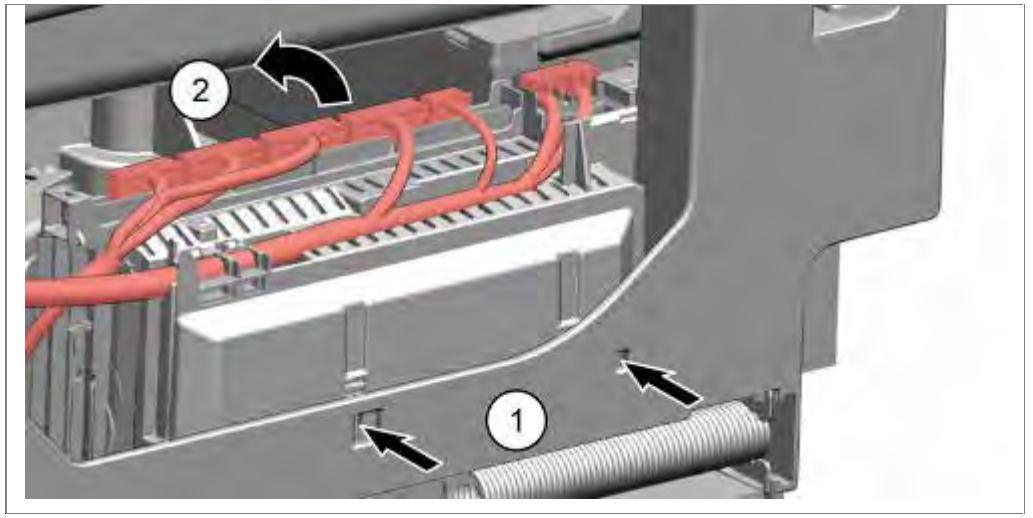
Requirement:

- ► Right side panel removed.
- ► Optional liquor reservoir removed.
- ► Power cord removed from the appliance.

6.47.1 Removal

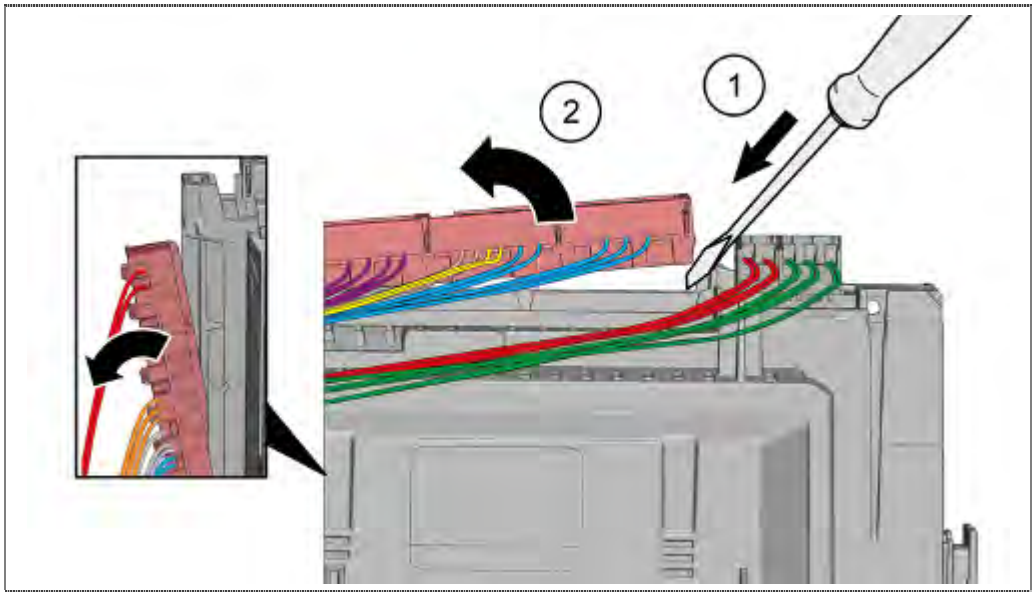


1. Loosen the lid on the left latching.
2. Remove the cover upwards.



1. Loosen catches and
2. lift off module.

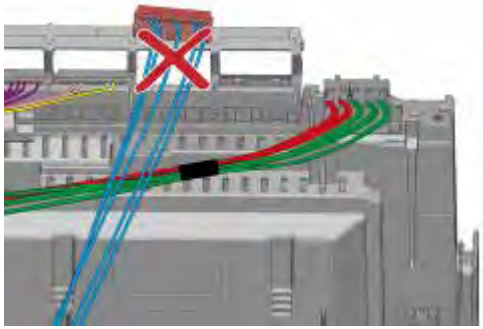
6.47.2 Loosen cable harness



1. Loosen catch and
2. Lift off complete coding frame with plugs.

Coding frames

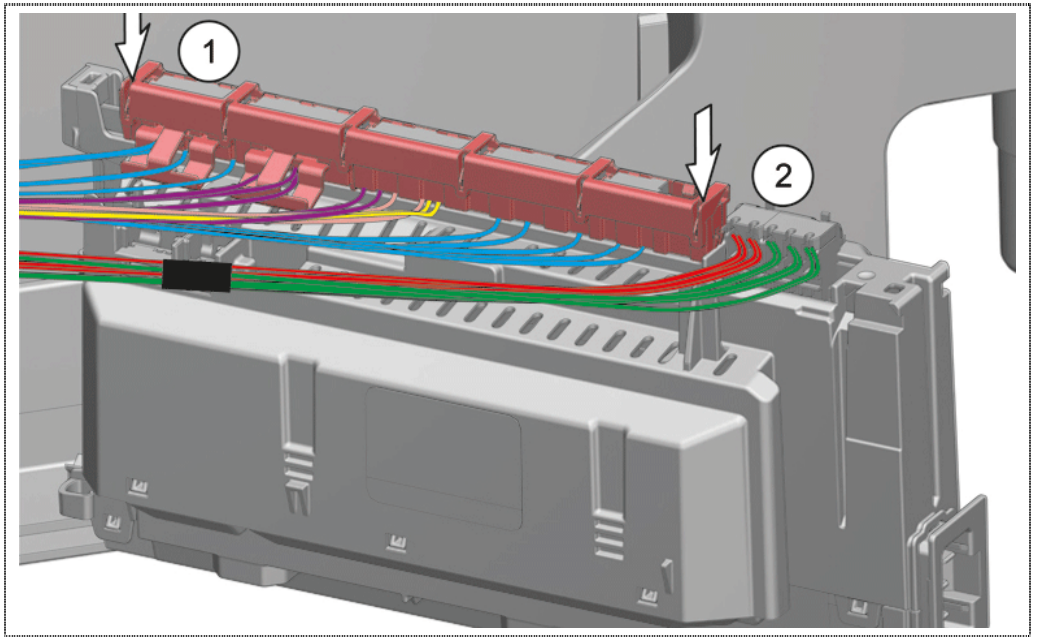
- The coding frames are a component of the wiring harness and remain not on the module.
- The coding frame can be opened only when needed



Components which come into contact with electro-static voltage will be damaged beyond repair

- ► Before carrying out any work, apply protective system to components susceptible to electrical discharge.
- ► Observe measures to protect the components suscep-tible to electrical discharge.

6.47.3 Installation



1. Insert coding frame into the guide.
2. Press down until the catch clicks into position.

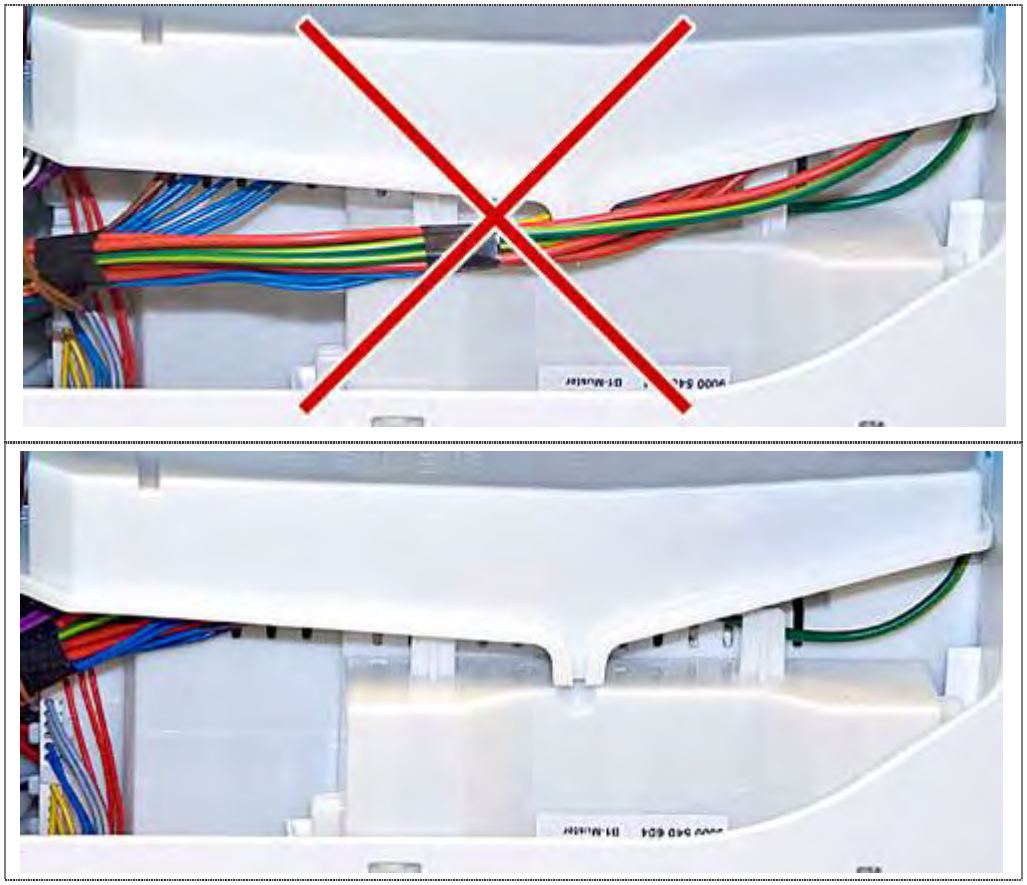
Plugs

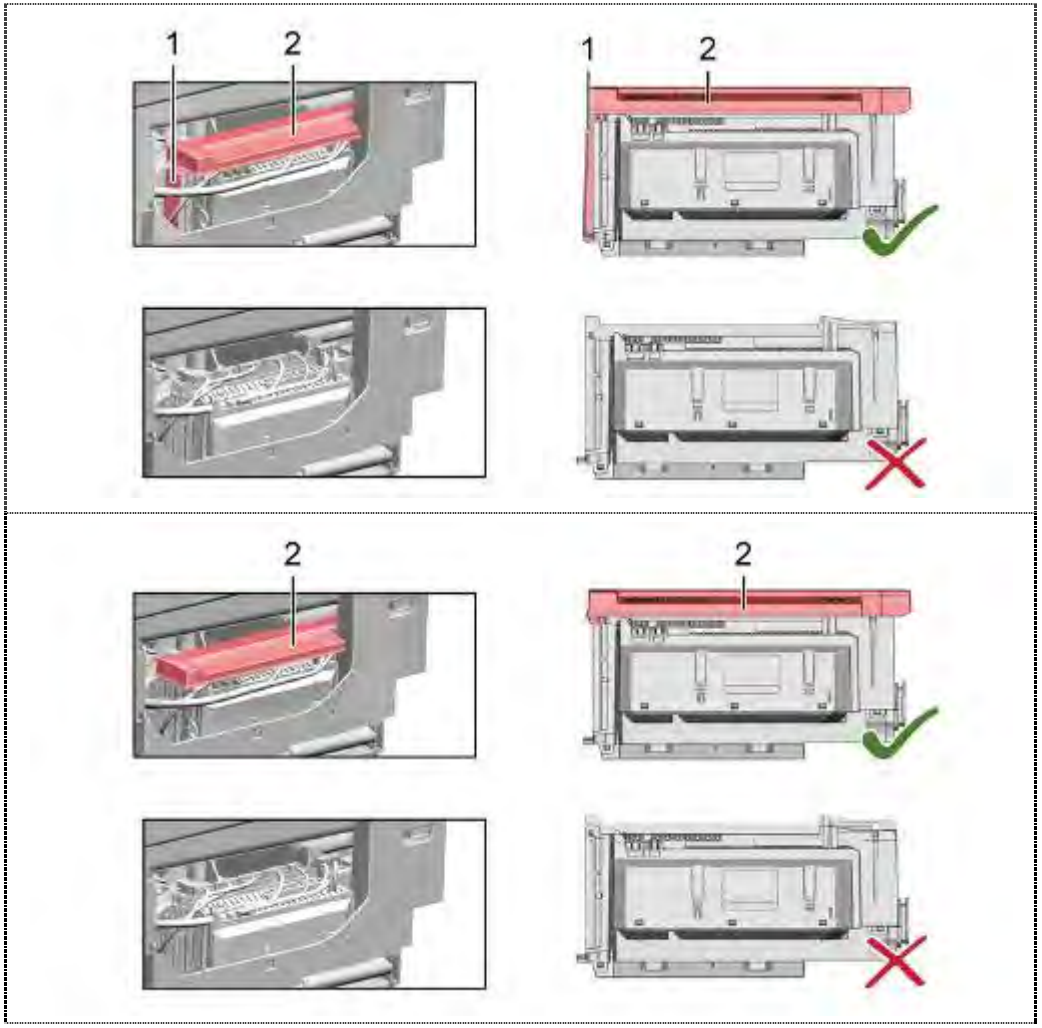
- ► Respect for tighten the plug within the coding frame.

Installation is in reverse sequence. The power module must engage audibly into the base pan. Re-attach the splash guard cover.

Laying of cables

- ► The optional cover (1) and the upper housing part (2) must be mounted .
- ► Cable must be laid under the housing shell (2) with water drain channel.



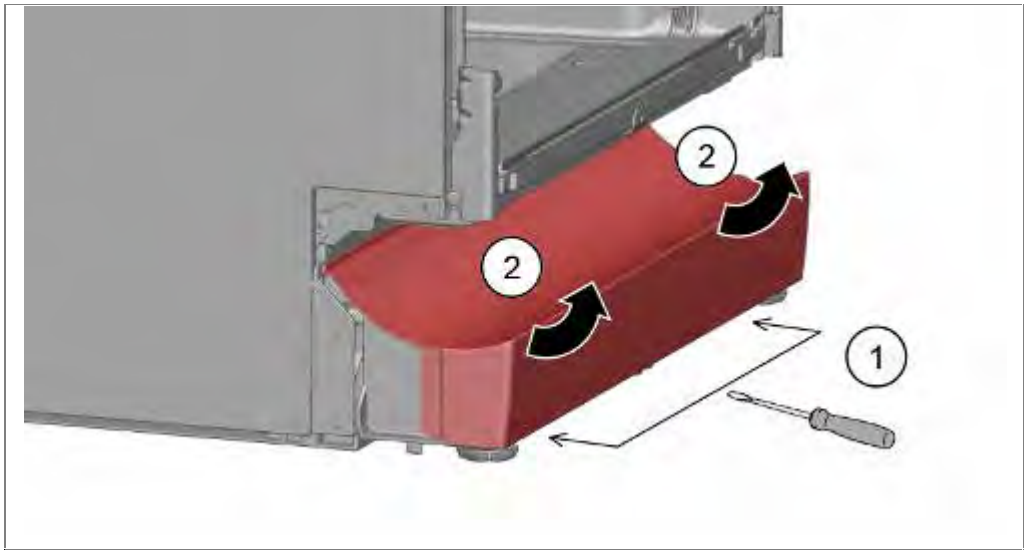


6.48 Replacing base panel and plate

6.48.1 Removal

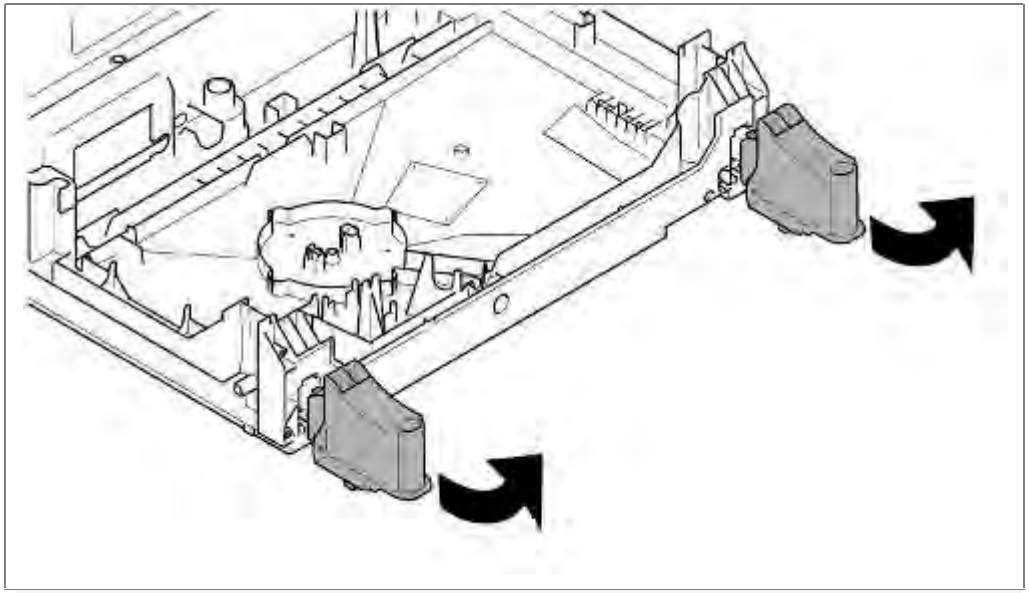
Incorrect removal

- If the base panel is slackened at the side and removed, the two holders may break off. If only one holder is damaged, the side can be changed, as both holders are the same.
- It is recommended to place your feet under the front of the appliance to relieve the load on the base panel.

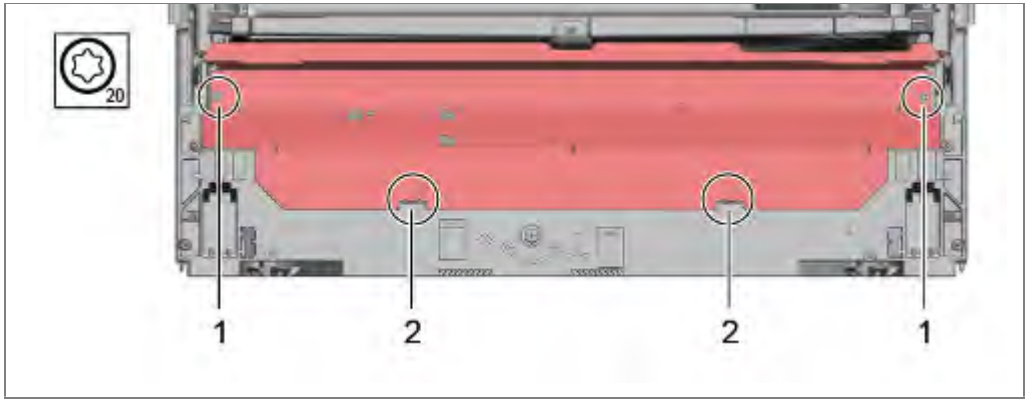


The underside of the base panel is secured with 2 catches.

1. Insert a screwdriver into the guides (1) and remove the catch mechanism downwards.
2. Remove panel upwards.

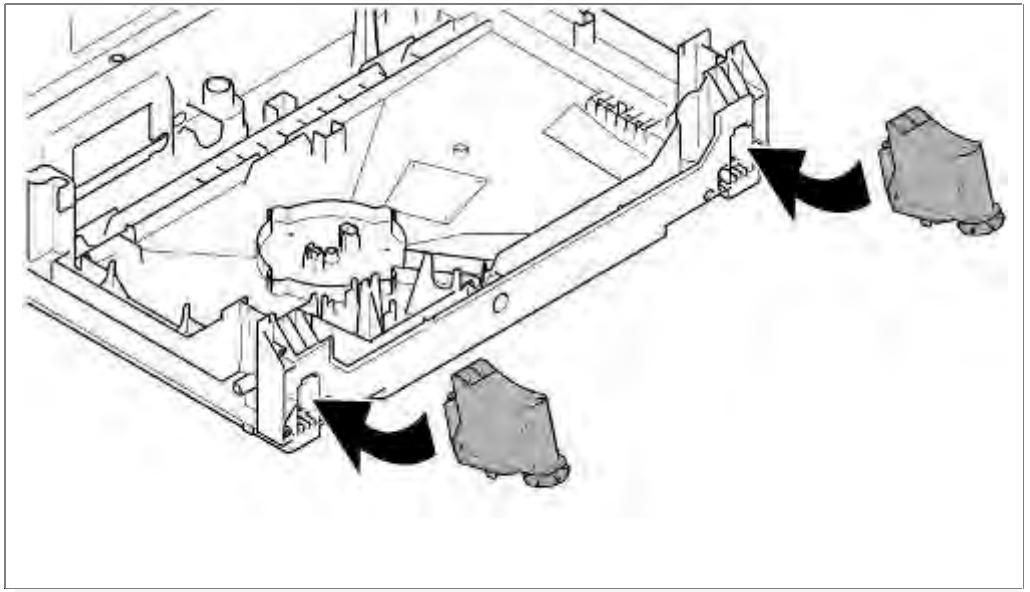


1. Decrease feet forward

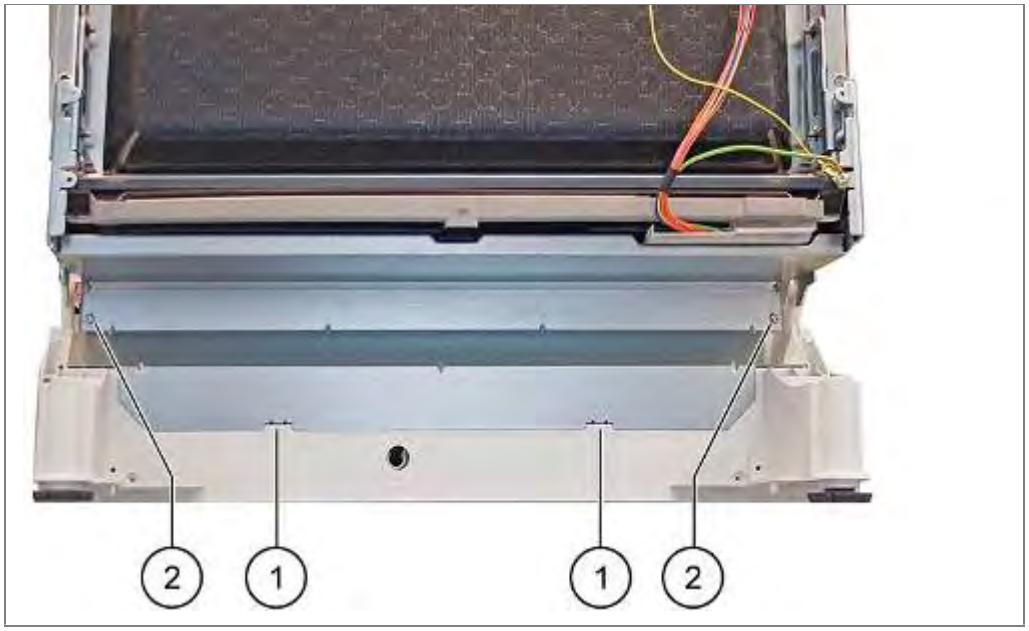


1. Loosen base plate by unscrewing the Torx screws.
2. Lever the plate out of the catches and remove.

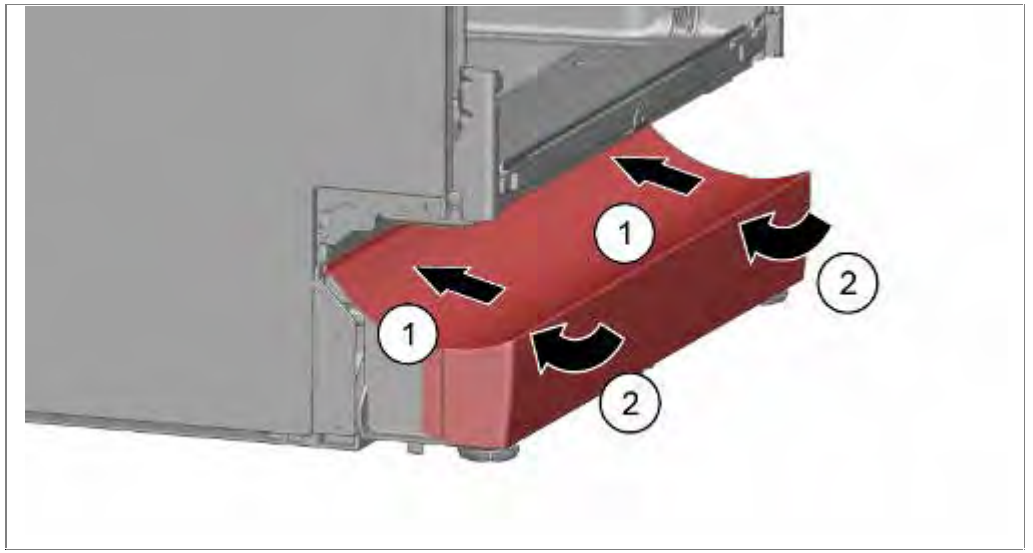
6.48.2 Installation



1. Insert feet into the bottom tray.



1. Place base plate in the catches.
2. Press up and screw together.



1. Put base panel on top.
2. Press down until it clicks into position.

6.49 Replacing float switch

Special auxiliary aids:

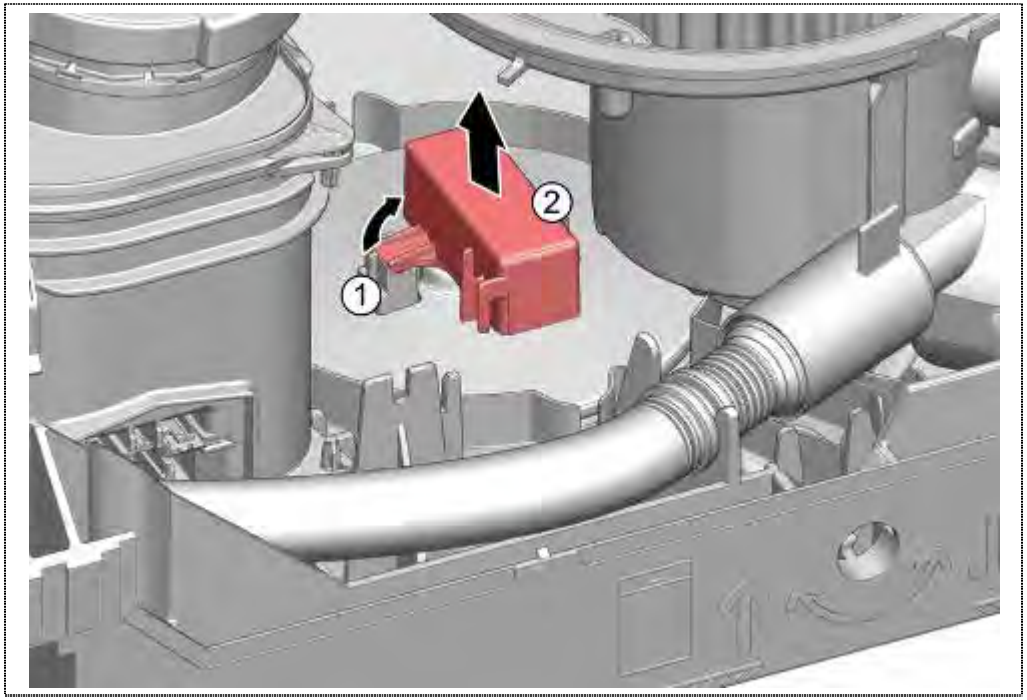
√ Long screwdriver

6.49.1 Removing float switch

Requirement:

√ Base has been removed

√ Base plate has been removed



3. Loosen locking
4. Switch remove upwards.

6.49.2 Installing float switch

Press float switch from the top in the float and lock.

6.50 Replacing non-return valve

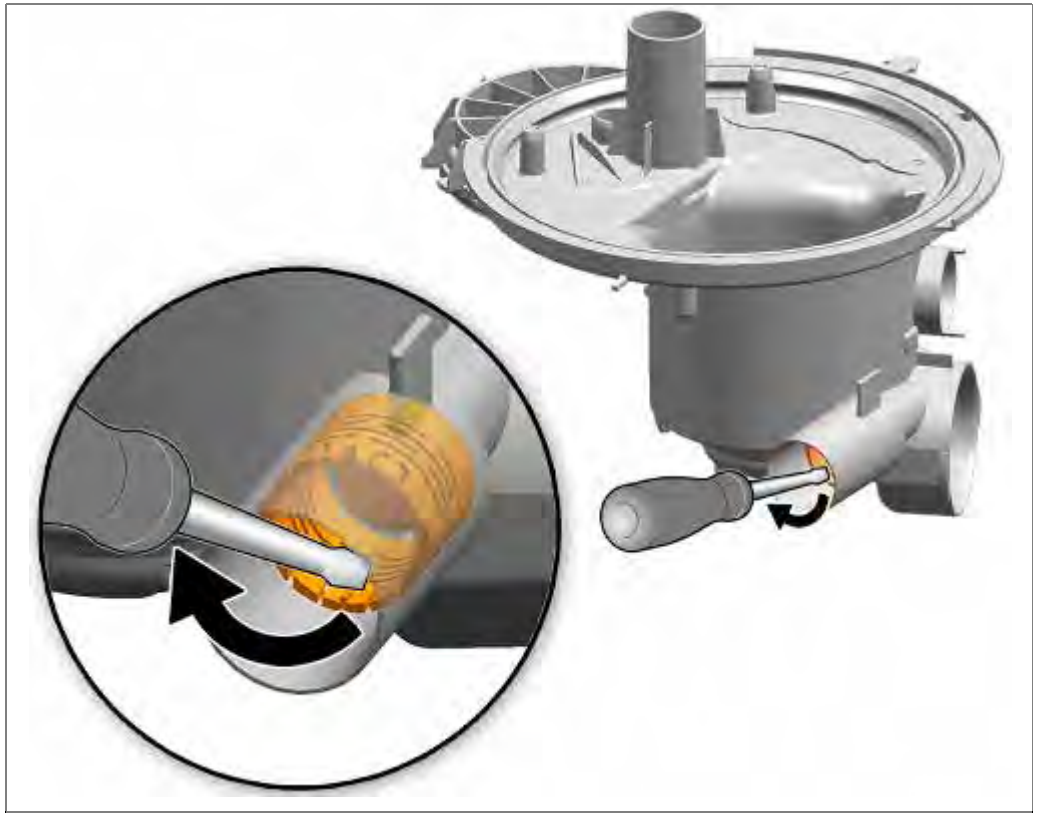
Requirement:

- ► Outer door removed
- ► Base panel and plate removed
- ► Water removed from pump sump
- ► Drainage hose removed from pump sump

Scratches

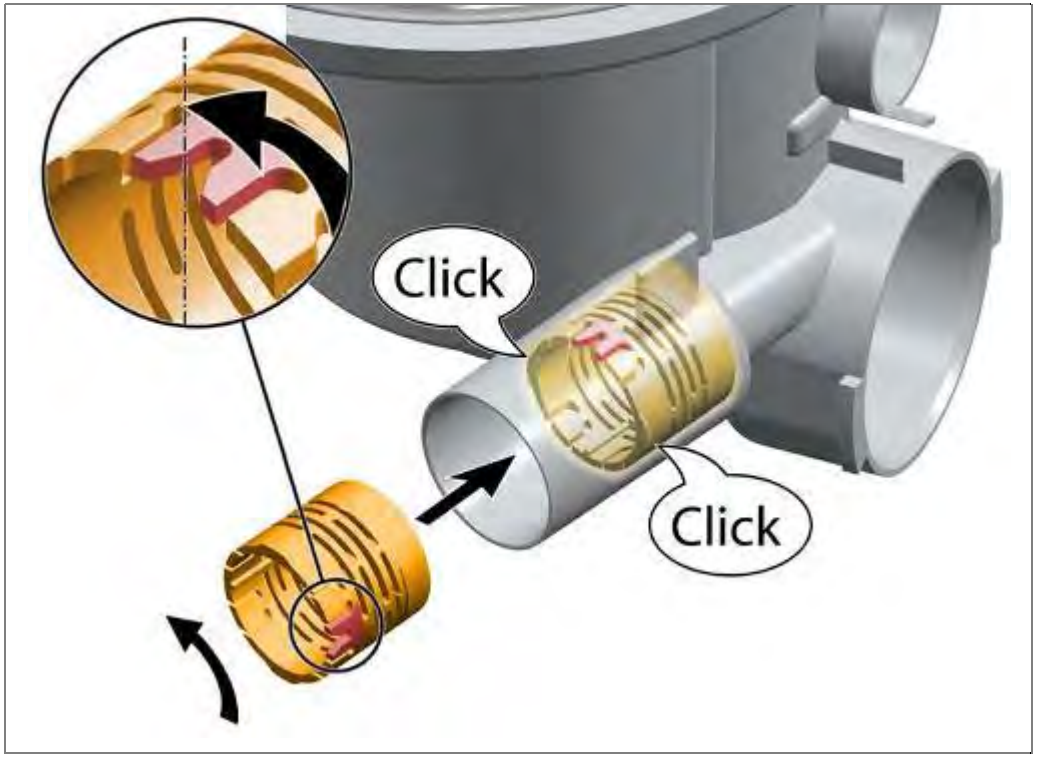
- ► During removal, do not scratch the inside of the outlet connection with a sharp-edged screwdriver. Leaks may occur.

6.50.1 Removal



1. Loosen the valve with a screwdriver clockwise and remove it.

6.50.2 Installation



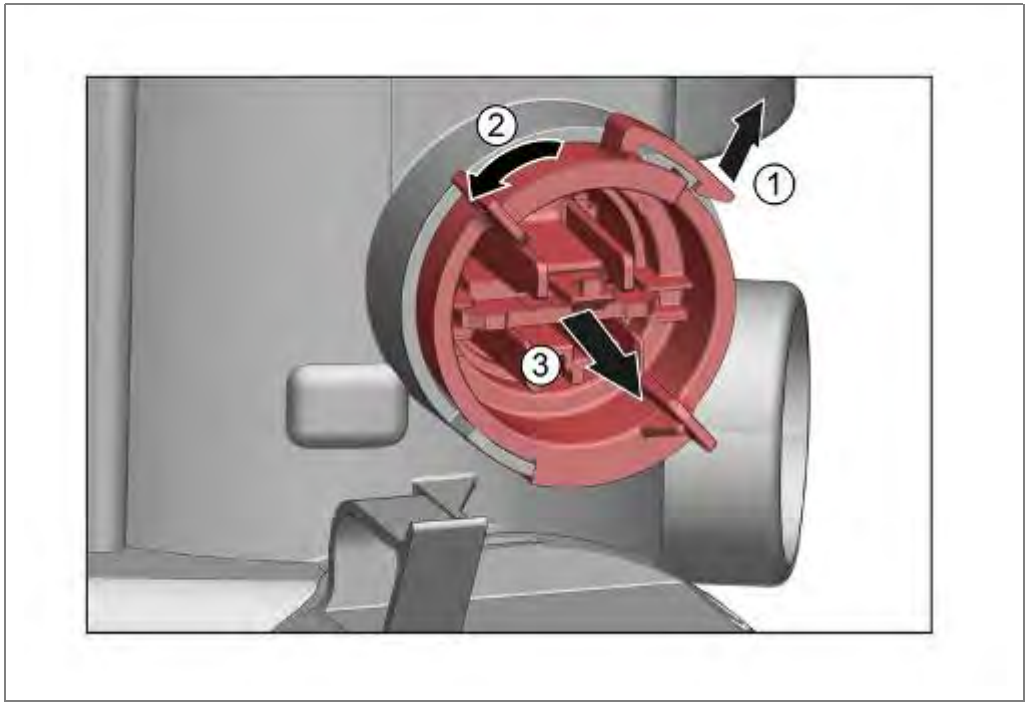
1. Insert the valve in the pump sump.
2. Lock counter-clockwise.

6.51 Replacing Aquasensor, optionally

Requirement:

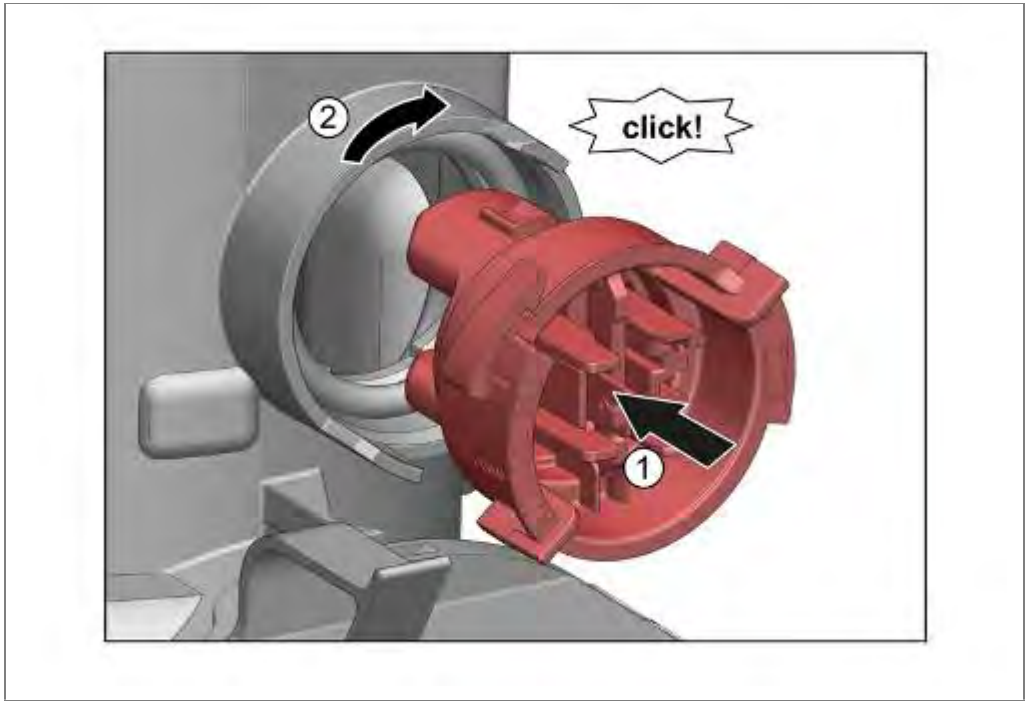
► Base panel and base plate removed.

6.51.1 Removal



1. Loosen catch mechanism.
2. Rotate Aquasensor housing by 90° to the left.
3. Pull out forwards.

6.51.2 Installation



1. Press Aquasensor with board edgewise into the pump sump.
2. Rotate 90° to the right and lock in position.

Seal

► To facilitate rotating the Aquasensor, the seal can be lubricated with Promol or rinse aid.

6.52 Folding down rinsing tank

The rinsing tank must be folded down all the way from the base pan for the following work:

- ► Replacement of the water softening system.
- ► Replacement of the pump sump.
- ► Replacement of the heating pump.
- ► Replacement of the water points.

6.52.1 Requirements

Remove overflow channel

Remove drainage hose

Remove float switch safety system

Open supply hose grommet

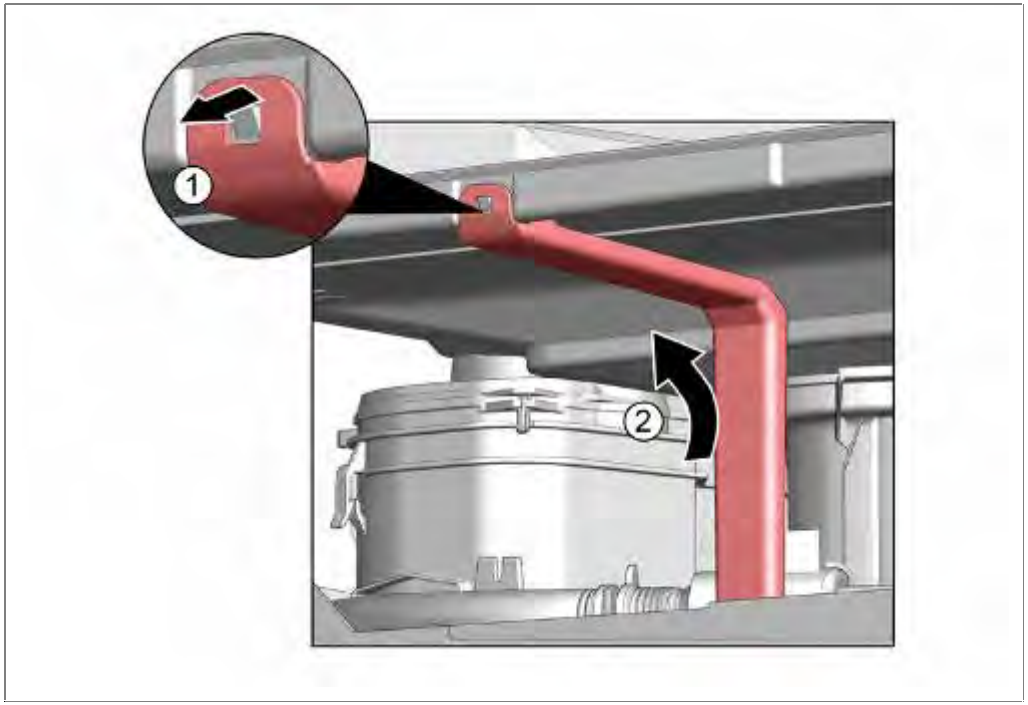
Remove power module

Remove filling hose of water storage tank (optionally)

Disconnect actuator of water storage tank (optionally)

Disconnect emotion light (optionally)

6.52.2 Removing overflow channel

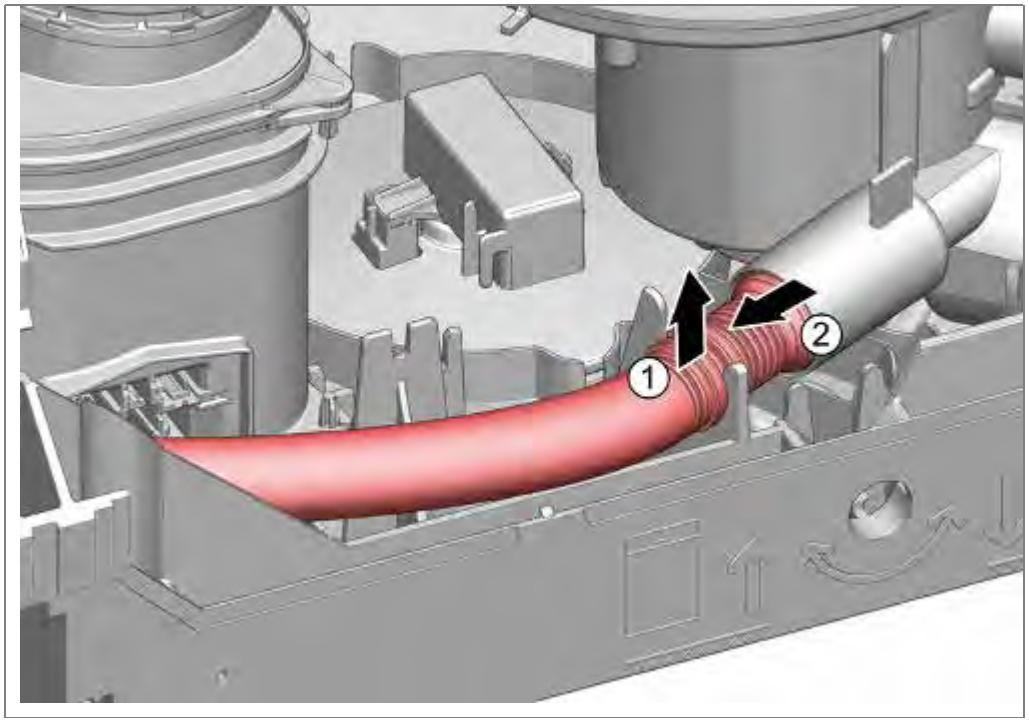


1. Detach from the upper catch mechanism.
2. Take out of the lower guide.

6.52.3 Removing drainage hose

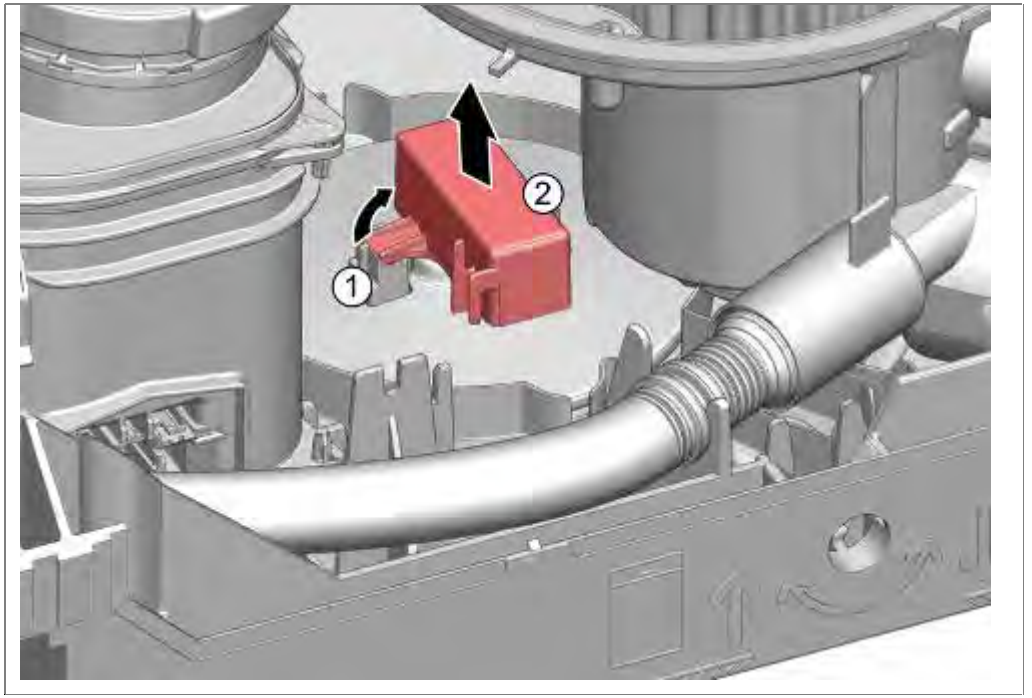
Residual water

► When the drainage hose is removed, residual water may run out. Catch water or remove from the base pan with suction syringe.



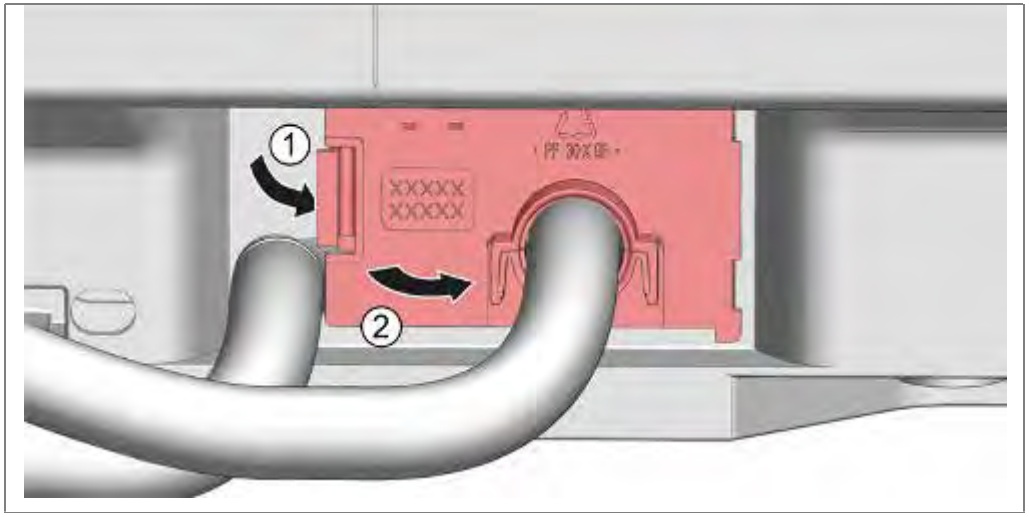
1. Press flexible drainage hose upwards out of the fixing.
2. Remove from pump sump.

6.52.4 Removing float switch safety system



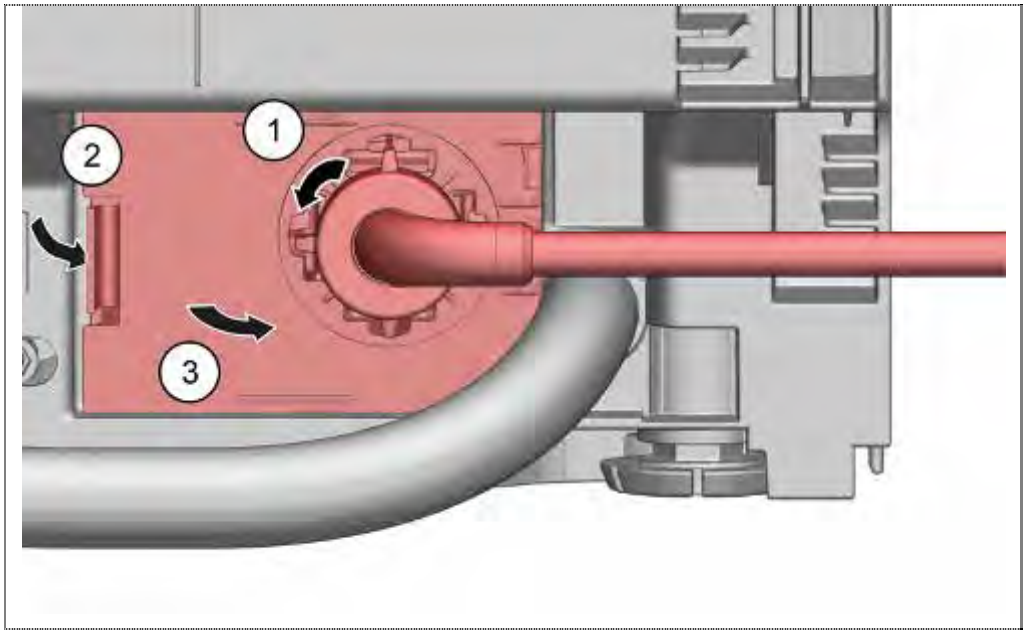
1. Loosen catches.
2. Remove switch upwards.

6.52.5 Opening supply hose grommet (aquasop models)



1. Loosen the panel catch mechanism.
2. Fold out the panel.

6.52.6 Opening supply hose grommet (water inlet valve models)



1. Loosen locking lever.
2. Fold the cover with the inlet hose outward.
3. Remove supply hose.

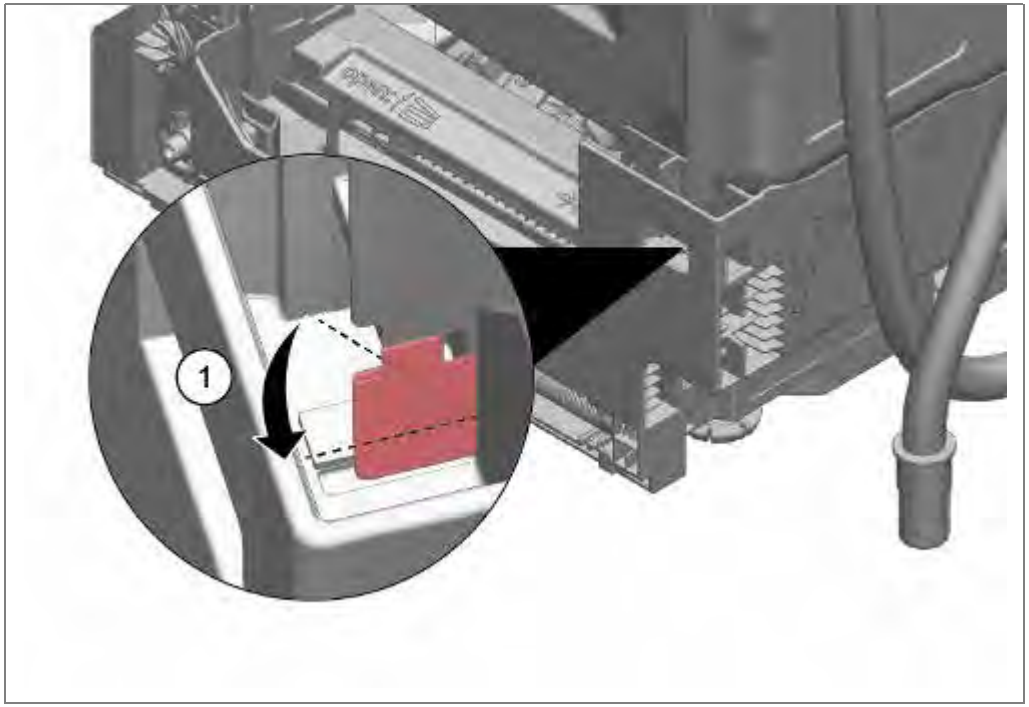
6.52.7 Removing power module

See chapter entitled replacing the power module.

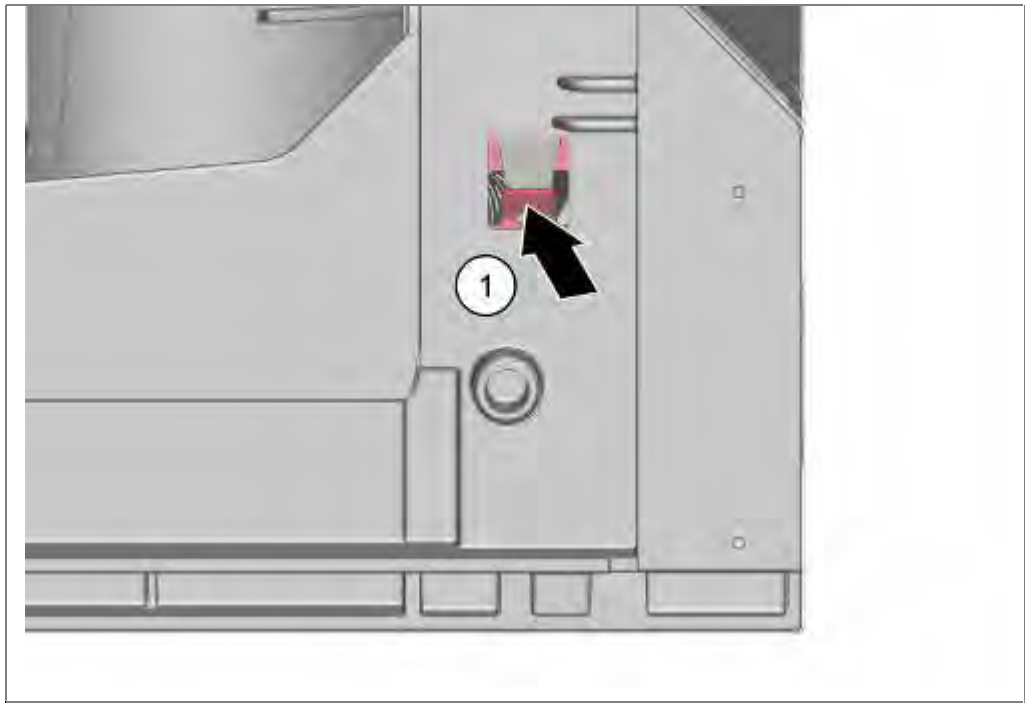
6.52.8 Loosening the tank catch mechanism

The rinsing tank is held and locked at the front and rear in guides on the base.

The rinsing tank is fixed at the rear on the left and right with sheet-metal brackets. These are bent by a plastic lug on the base pan.



1. Using a screwdriver, straighten sheet-metal brackets.

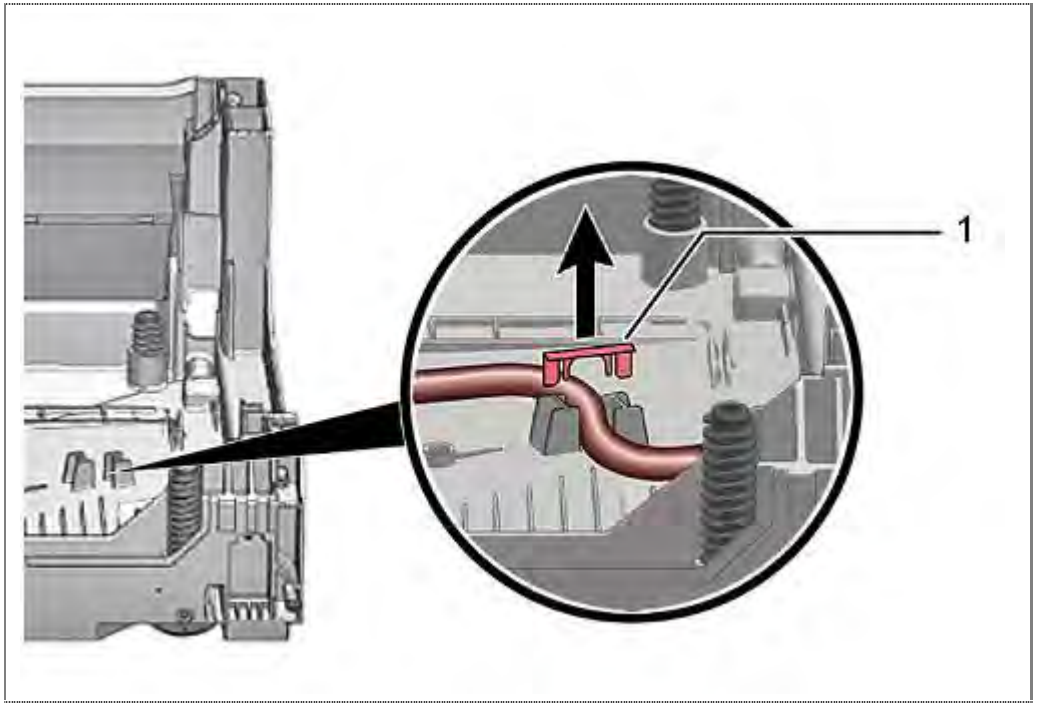


1. Using a screwdriver, detach hinge plates at the front side from the top of the catch mechanism. To do this, bend in the hinge plate catch mechanism.

6.52.9 Folding down the rinsing tank

- ► Close salt dispenser.
- ► Always check that the salt dispenser cover is screwed shut to prevent salt solution from running out subsequently when the tank is folded down!
- ► Check that the blow-out opening of the zeolite heater is secure!
- ► Protect support surface for the rinsing tank from being scratched.
- ► Tank is seated firmly in the guides and requires only a little force to lift it out. To facilitate handling, the appliance can be placed on its back and the base pan carefully removed.

  In the case of free-standing appliances, ensure that the weight does not fall out of the base pan.

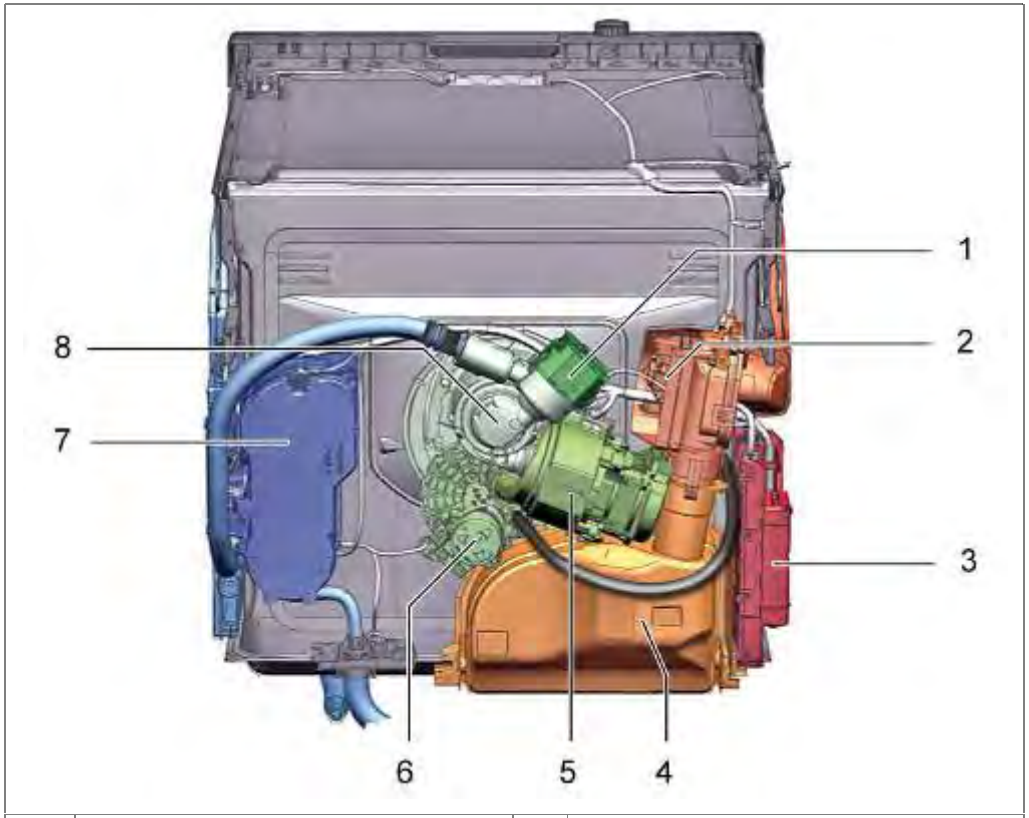


1. For devices with fleet storage is to remove the retaining clip (1) of the tube gently.

1. Carefully lift rinsing tank upwards.
2. Place rinsing tank towards the rear.

► If the appliance is on its back and the base pan is removed, ensure that the weight does not fall out of free-standing appliances.

6.52.10 Components on the tank



1	Drain pump	5	Heating pump
2	Fan motor	6	Water points with motor and pulse transmitter
3	Power module (not fixed to the tank)	7	Water softening system
4	Zeolite container	8	Pump sump

6.53 Replacing pump sump

Requirement:

√ Rinsing tank folded down

√ Heating pump removed

√ Water points removed

√ Drain pump removed

√ Supply pipe removed

6.53.1 Removal

Risk of injury!

Sharp-edged sheet-metal parts

► The edge of the sheet metal at the opening for the pump sump may be sharp-edged!

► Wear gloves.

Loosen 4 screws (1. to 4.) in the interior container and remove pump sump downwards.

6.53.2 Installation

Ensure that the seal is correctly positioned!

Brush with a little Promol or rinse aid.

Clean tub bottom.

Place pump sump from below directly and without tilting it on the container.

- ► the screws in indicated order to prevent leaking.
- ► Tighten the screws by hand. Do not use a power driver -> not overtighten.

Insert and tighten screws in reverse sequence:

1. at rear left
2. at rear right
3. at front right
4. at front left

6.54 Replacing heating pump

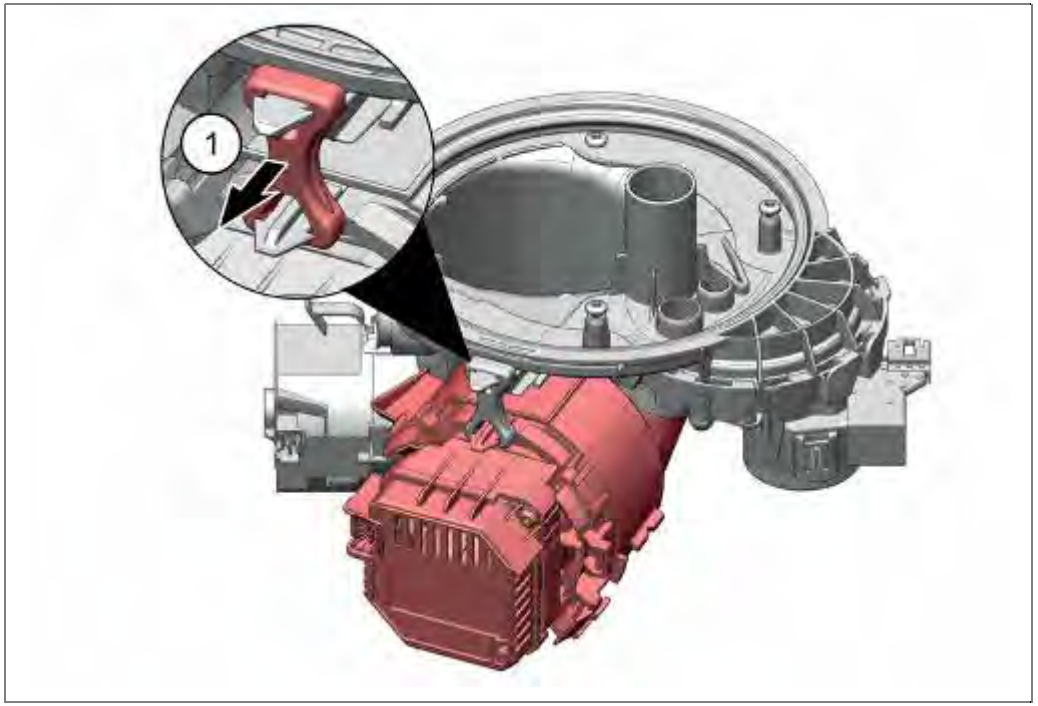
6.54.1 Removing heating pump

Requirement:

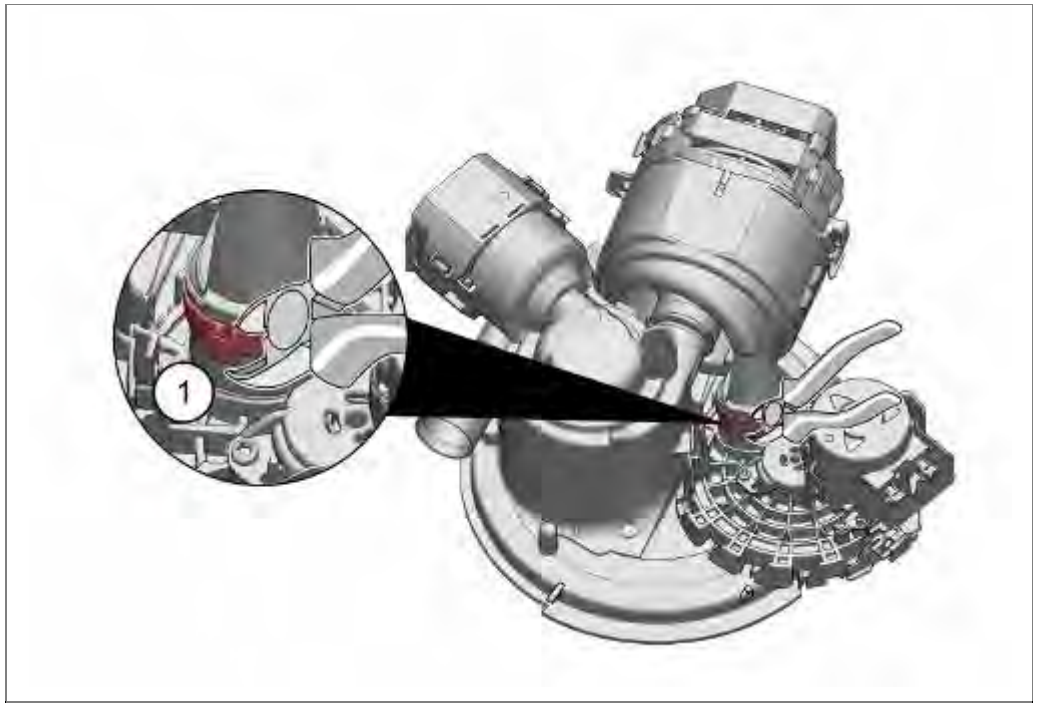
Rinsing tank folded down

Do not open heating pump.

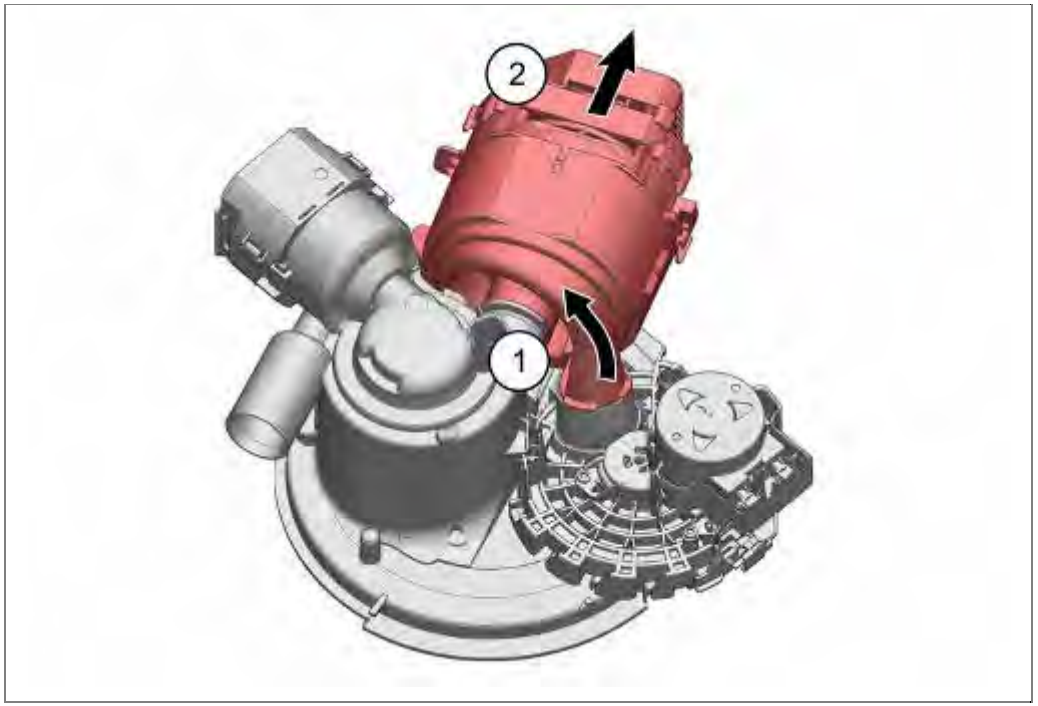
► The heating pump can be replaced as a whole component only. Individual parts are not available.



1. Detach rubber holder from between pump unit and pump sump.

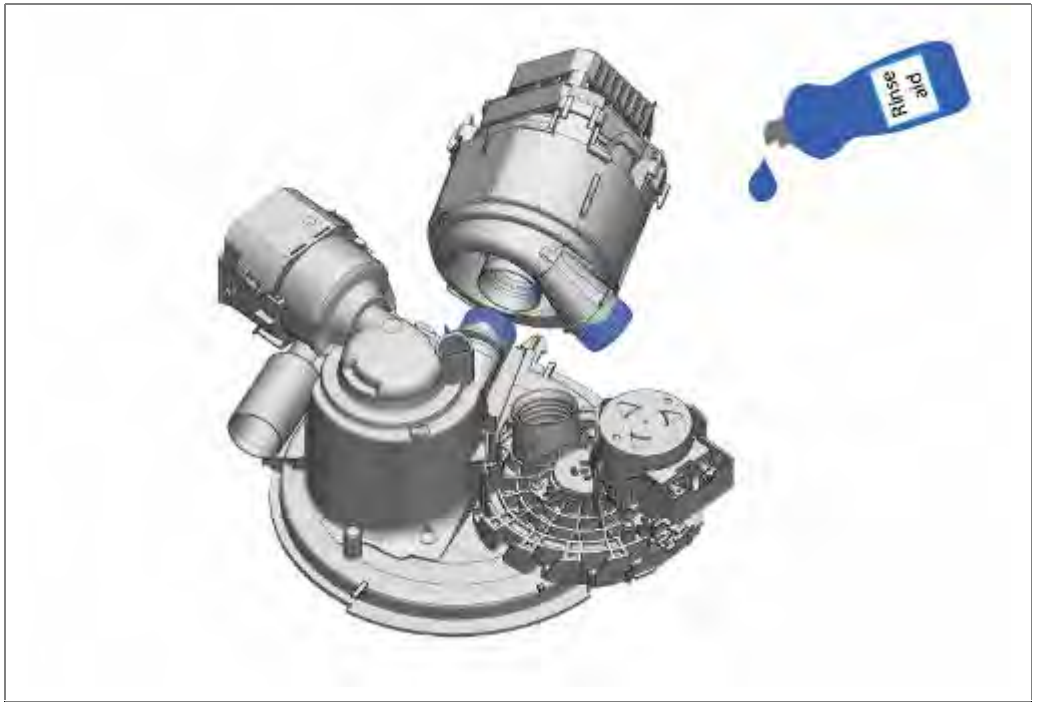


1. Using side cutters, loosen the hose clamp on the water points connection.

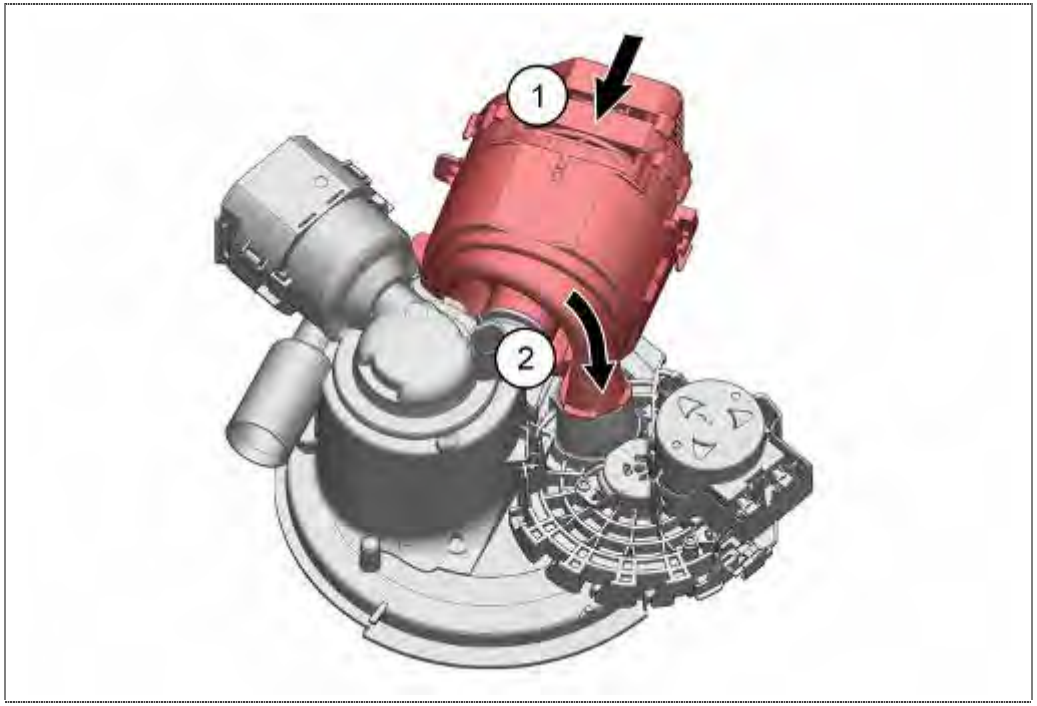


1. Carefully remove/rotate heating pump off the water points hose.
2. By gently rotating the heating pump, pull it backwards.

6.54.2 Installing the heating pump



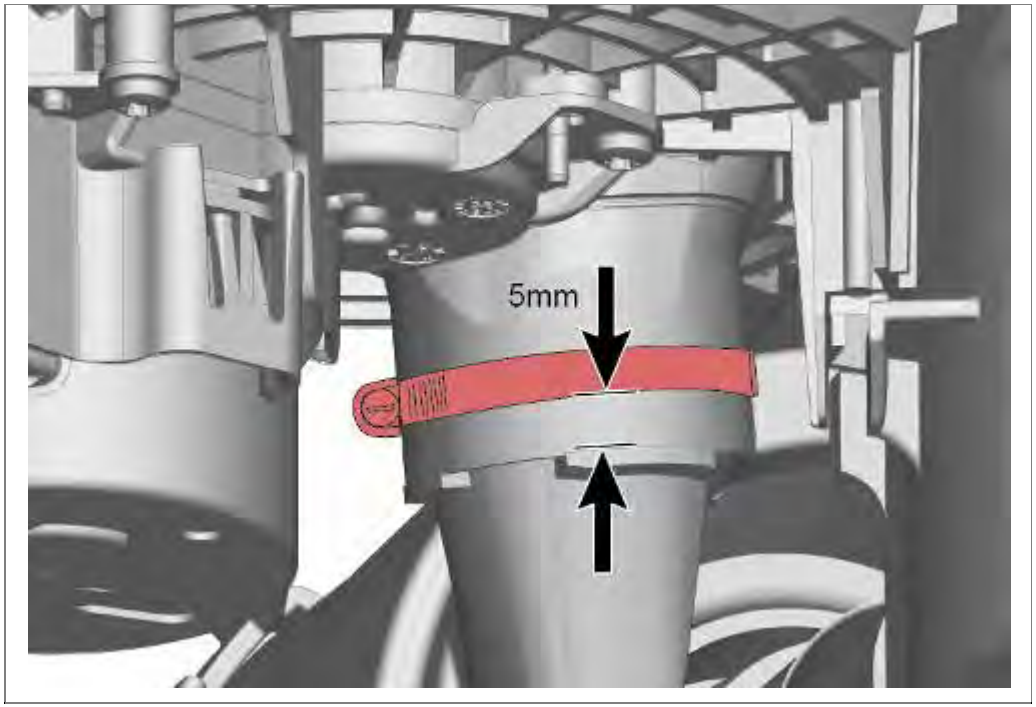
Moisten inside of rubber seal with rinse aid.



1. Push heating pump onto the pump sump and
2. press outlet channel into the water points.

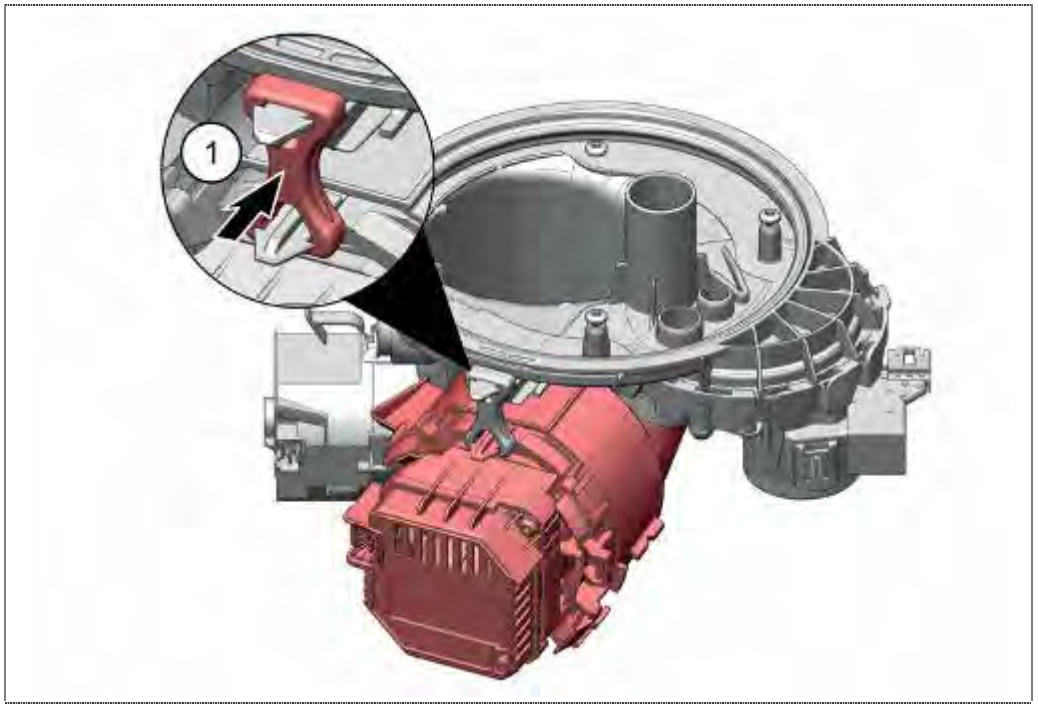
Drain pump seal

- The replaced seal for the intake channel must be inserted all the way into the housing of the heating pump.



Tighten the hose clamp as illustrated.

- Hose clamp mat. no.: 172272 is required for the re-installation.
- The hose clamp is supplied with the spare parts water points, pump sump and heating pump (set).



1. Attach rubber mount between the pump unit and pump sump well

6.54.3 Cleaning the heating pump

The heating pump must be cleaned from the outside only. If the heating pump is opened, the leak tightness can no longer be guaranteed when the heating pump is closed again.

6.55 Replacing water points

Requirement:

√ Rinsing tank folded down

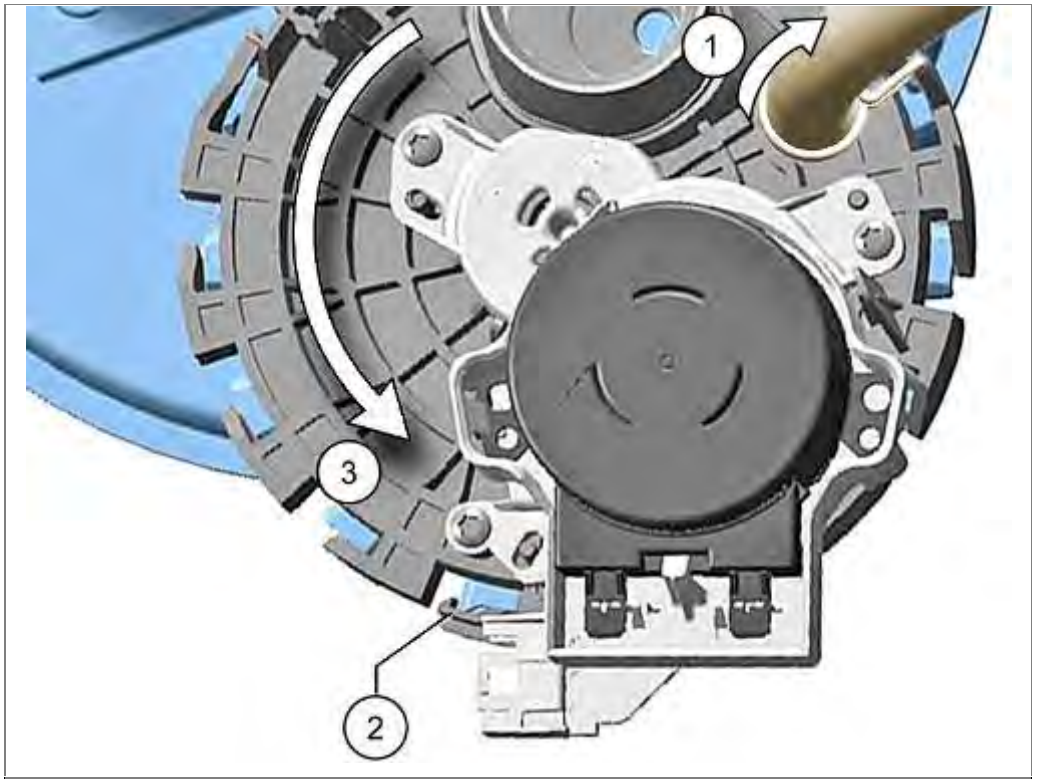
√ Circulation pump removed

6.55.1 Removal

Loosen the water points

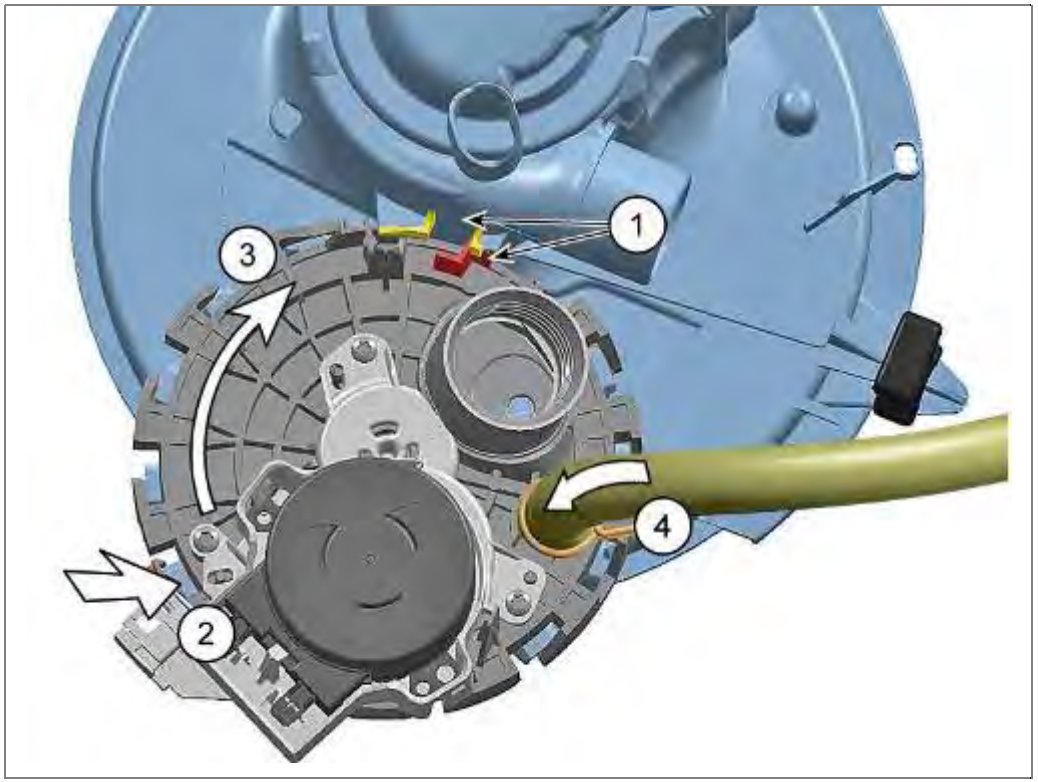
► The water points housing requires effort to turn!

► Wear gloves.



1. Remove the hose for water storage tank (optionally)
2. Loosen catch mechanism.
3. Rotate water points counter clockwise.

6.55.2 Installation



Brush rubber seal with a little Promol or rinse aid.

1. Position Z–shaped piece of the water points between the two bars of the pump sump.
2. Press water points flat on the pump sump.
3. Lock in position by rotating in a clockwise direction.
4. Fix the hose from water storage tank again (optionally)

6.56 Replacing water softening system

Requirement:

√ Rinsing tank folded down.

CAUTION

Risk of injury!

Sharp-edged sheet parts

► The edge of the sheet at the opening for the water softening system may be sharp!

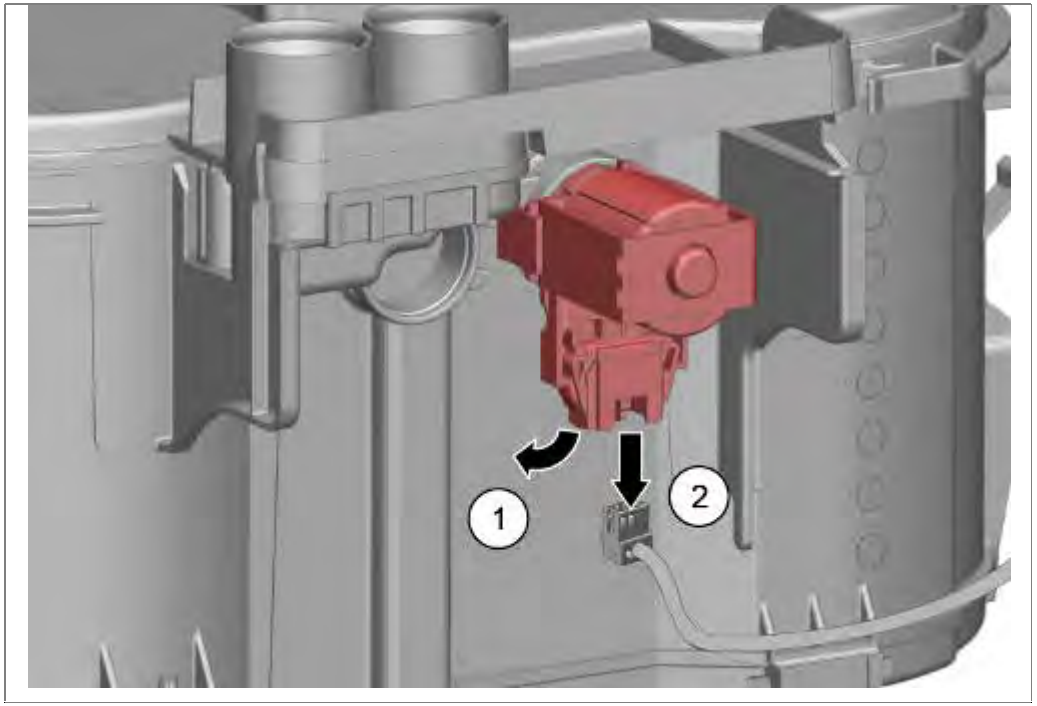
AU-models

Conditional from manufacturing, Australia models have partially a "dummy" – water softener without softening pellets. The valve is replaced by a blind plug.
It is important to ensure that the lid is always screwed to the water softener.

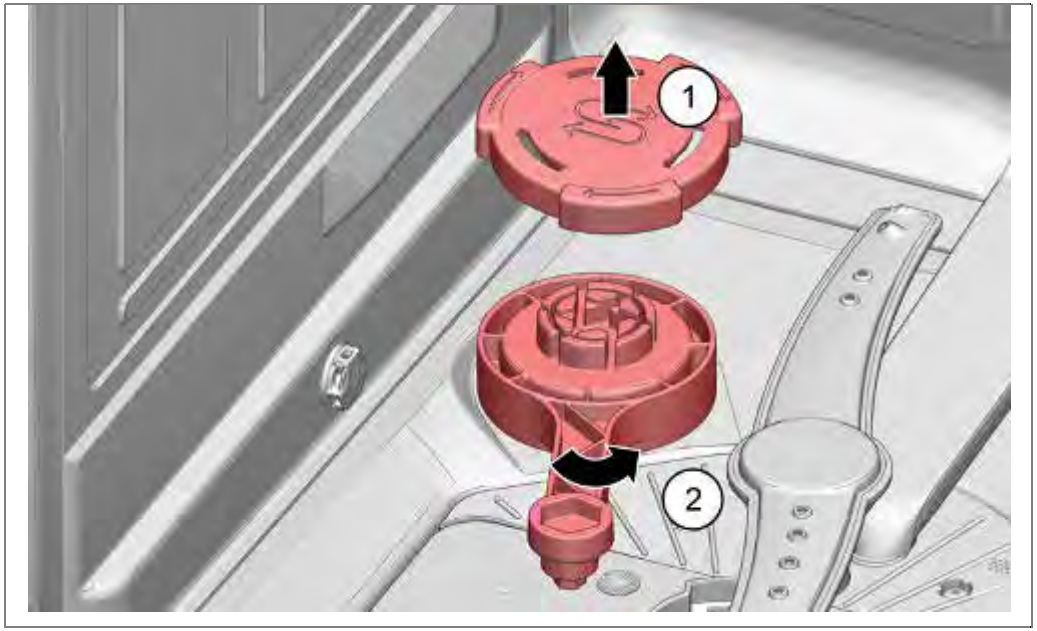
Rust

If salt or brine from the water softener comes into the device, immediately after completion of the repair starting a washing program. , .

6.56.1 Removal

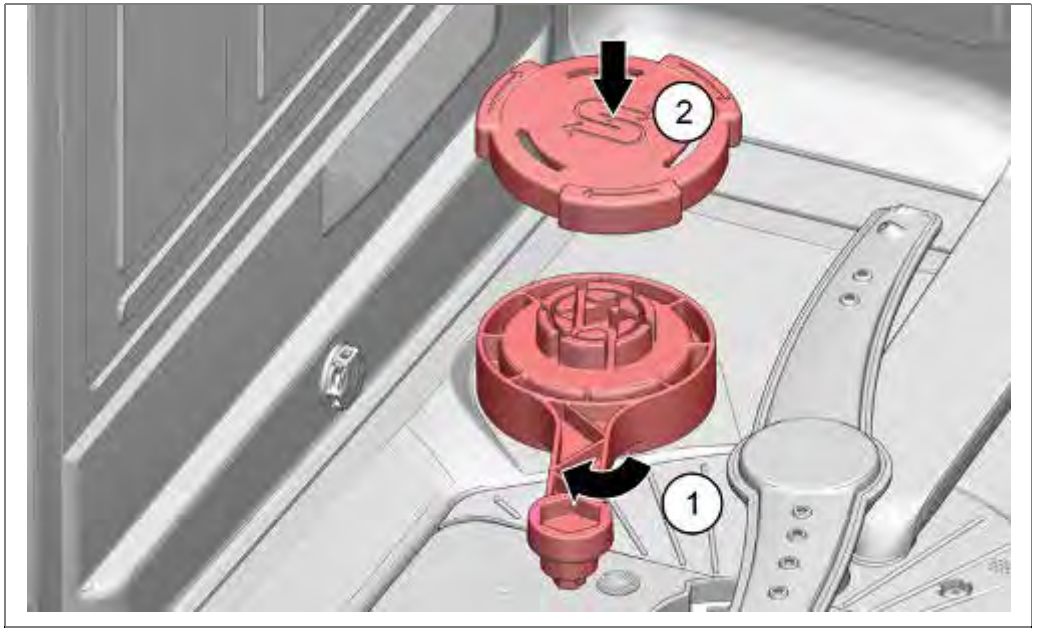


1. Loosen plug-and-socket connection on the regeneration valve.
3. Remove wire



1. Salt dispenser cover removed.
2. Loosen salt dispenser nut with special tool mat. no.: 342189.
   Remove water softening system downwards.

6.56.2 Installation



Push water softening system from below into the rinsing tank.

1. Tighten salt dispenser nut with special tool mat. no.: 342189.
2. Screw on cover.

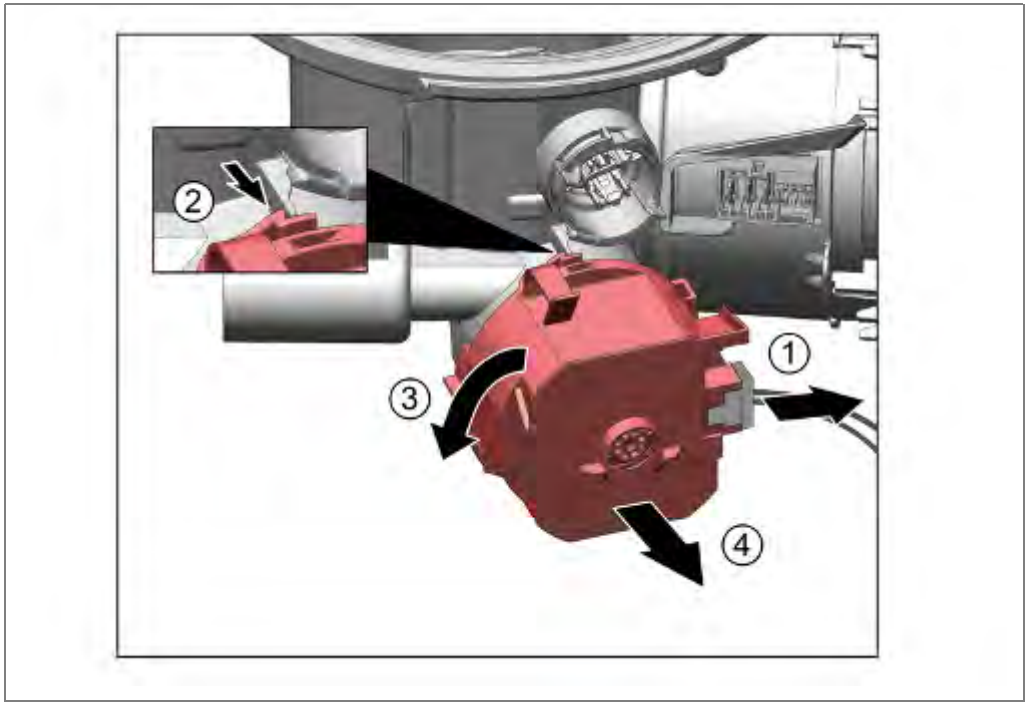
6.57 Replacing the drain pump

Requirement:

√ Base panel and plate removed.

√ Water drained.

6.57.1 Removal



1. Remove plug.
2. Pull catch mechanism lever (1) for the drain pump forwards.
3. Rotate drain pump clockwise.
4. Remove pump forwards out of the pump sump.

6.57.2 Installation

► Proceed in reverse sequence.

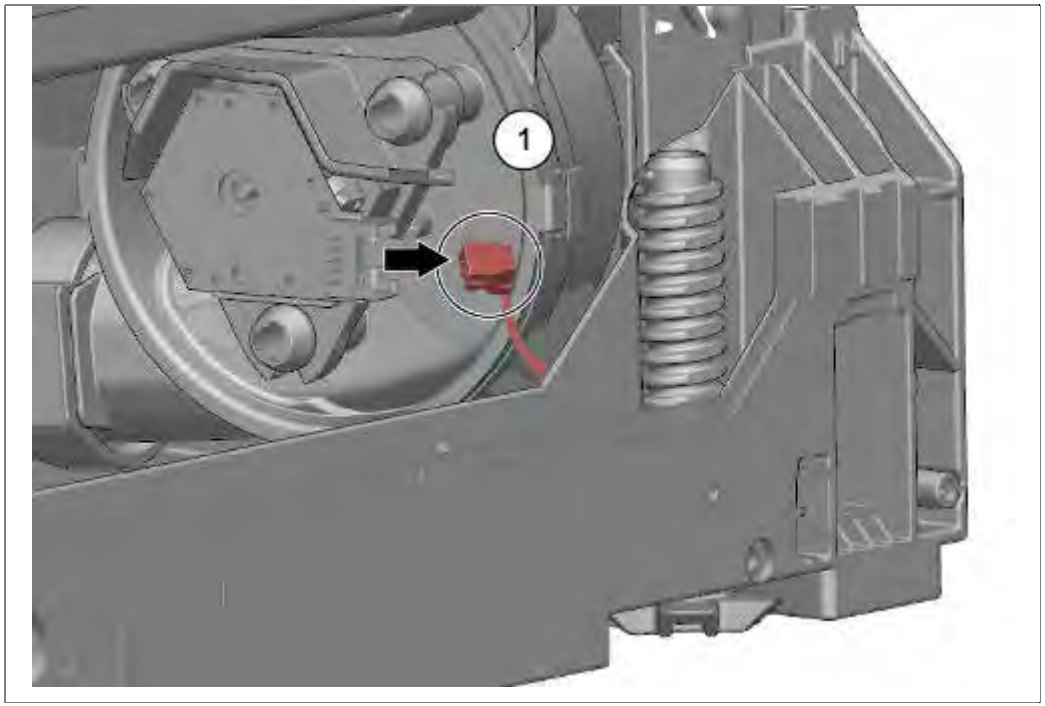
6.58 Replacing fan motor for zeolite auxiliary heater

Requirement:

√ Container folded down

√ Fan duct removed

6.58.1 Removal



1. Disconnect electrical connection on the fan motor.

1. Remove fan motor with fan housing from the air channel.

6.58.2 Installation

Is in reverse sequence.

6.59 Replacing Zeolite container

Requirement:

√ Container folded down

√ Fan motor with fan housing removed

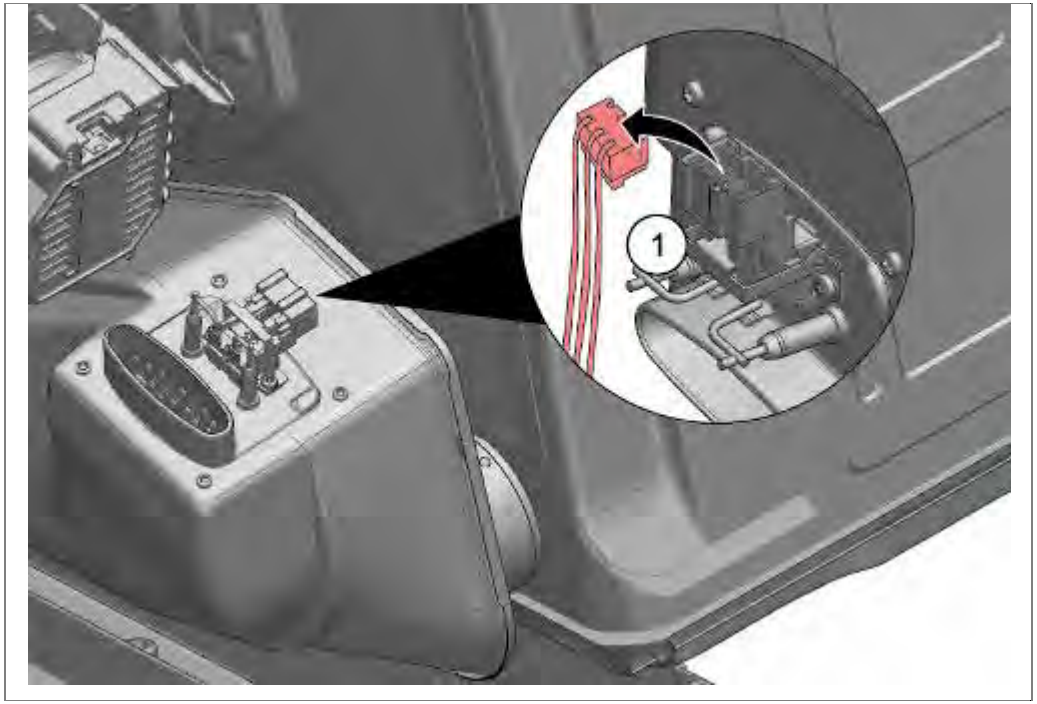
Sharp-edged parts!

Risk of injury

► Wear gloves.

CAUTION

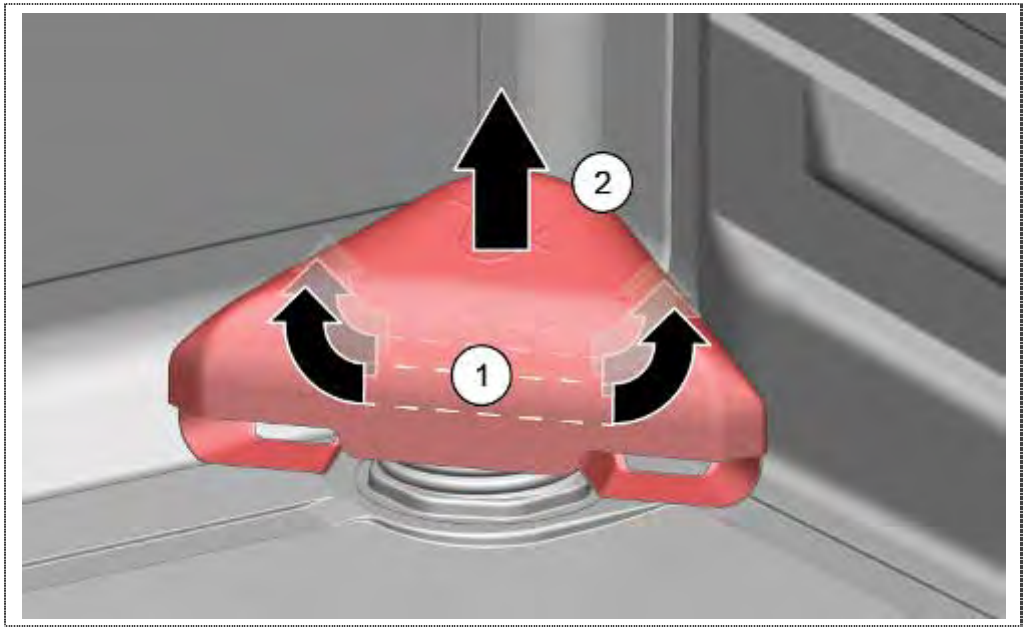
6.59.1 Removal



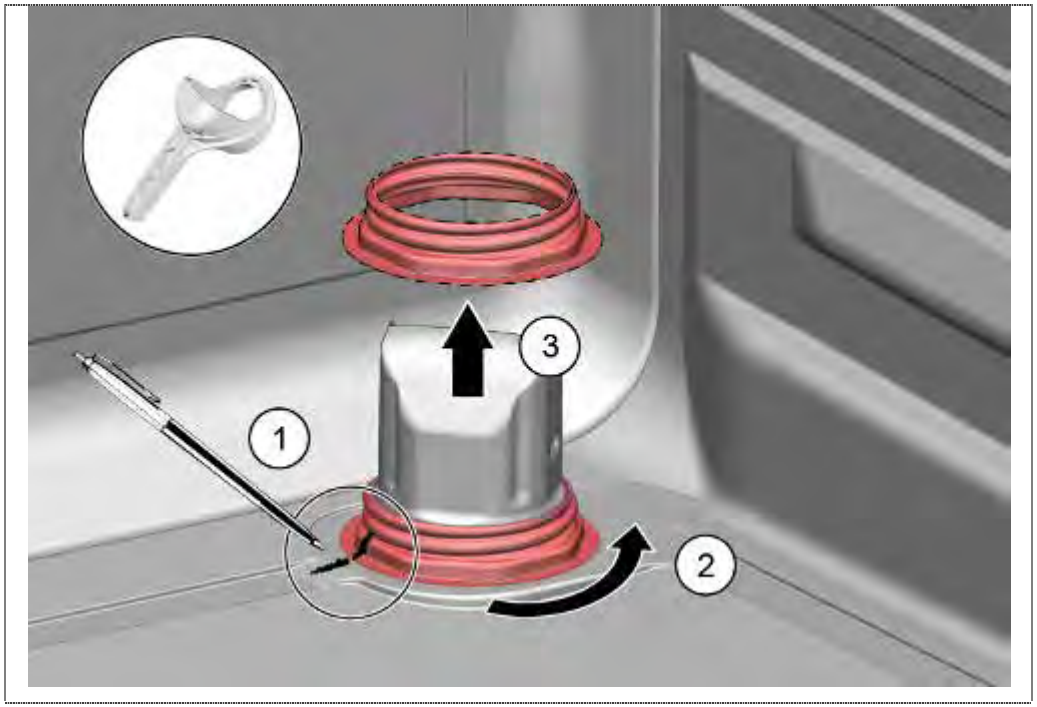
1. Disconnect electrical connections on the zeolite container.

Secure zeolite container.

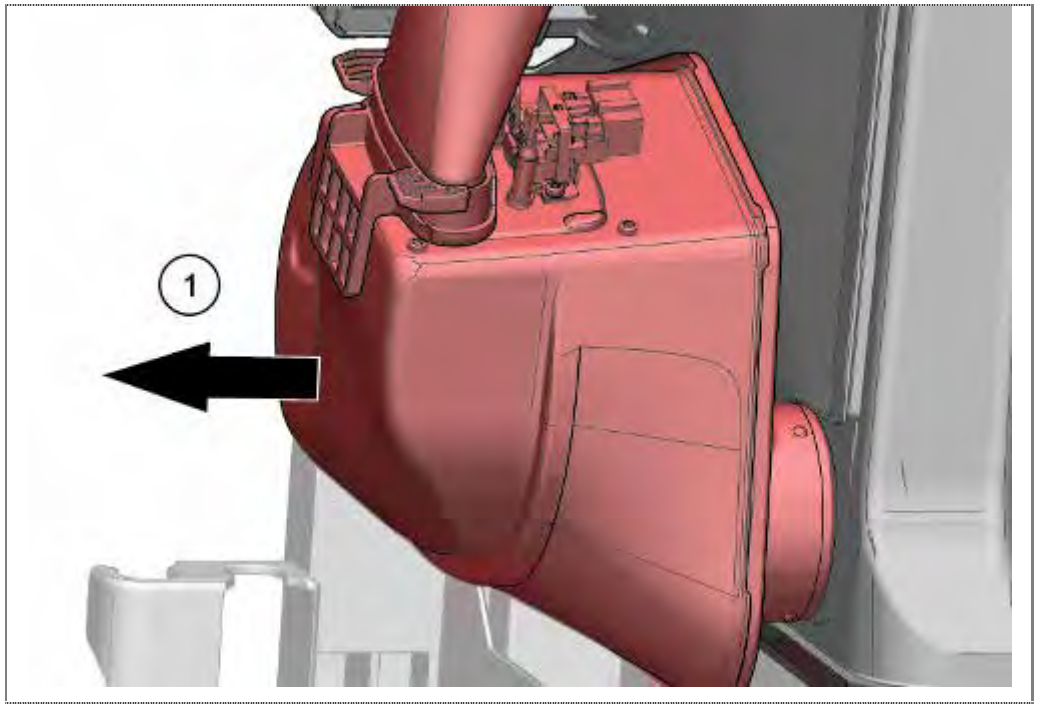
► When the blow-out cap has been detached, the entire zeolite container is loose. Secure/hold the zeolite container to prevent it from dropping.



1. Loosen cap by lateral shaking.
2. Pull upwards.

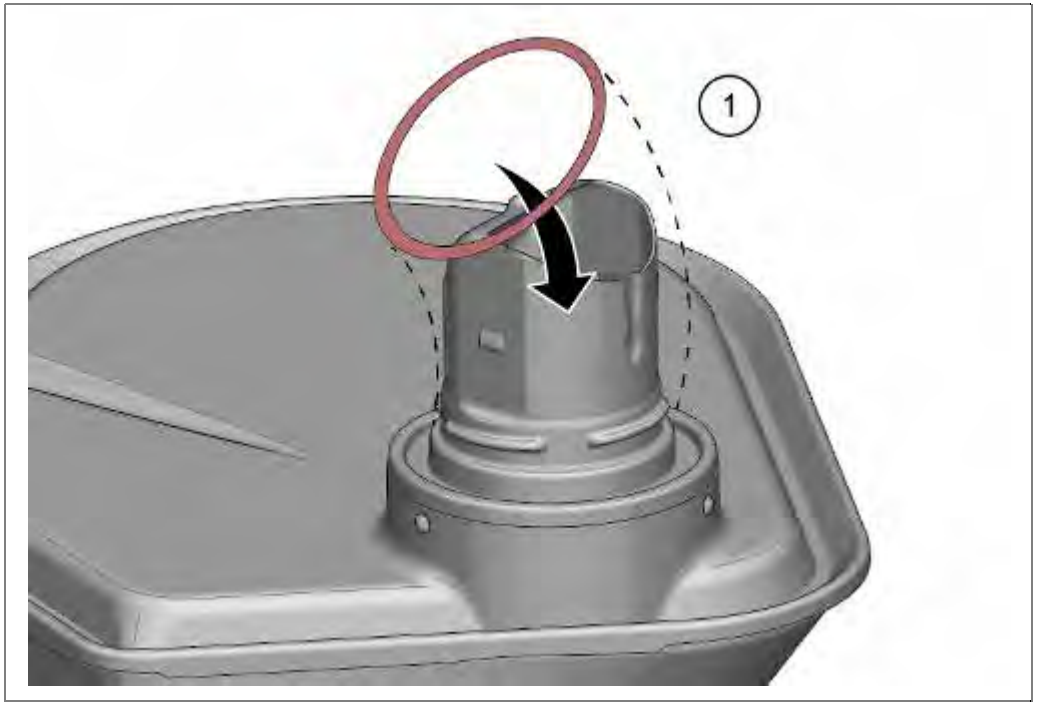


1. Mark the position of the mother-Zeolit container.
2. .Solve it with special tool.
3. Remove it upwards.

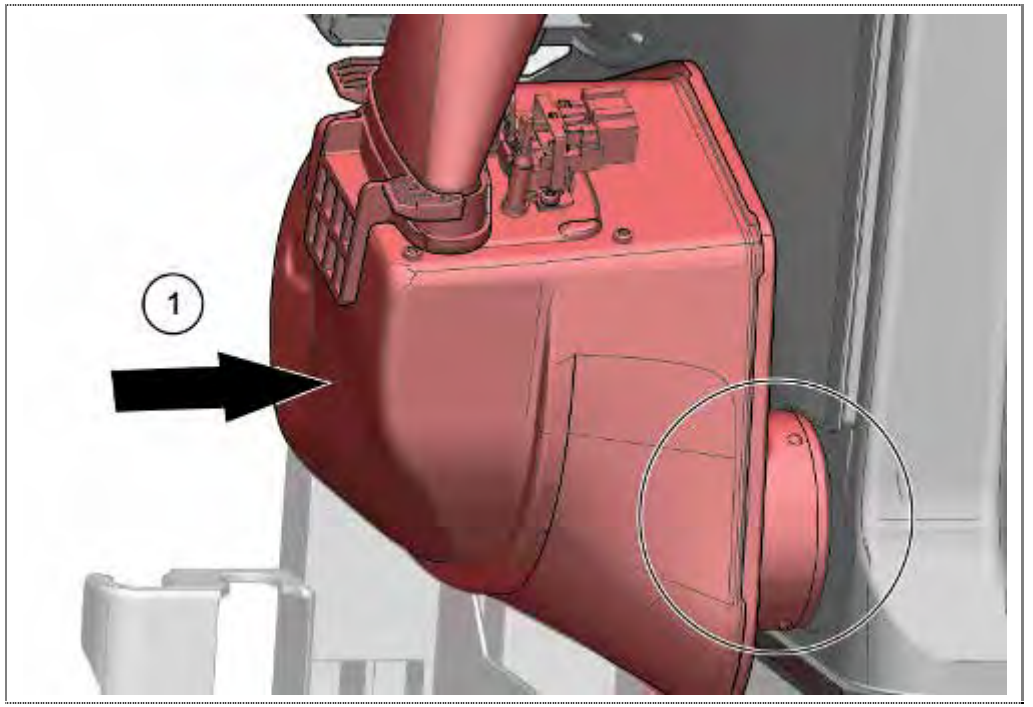


1. Remove Zeolit container from tub.

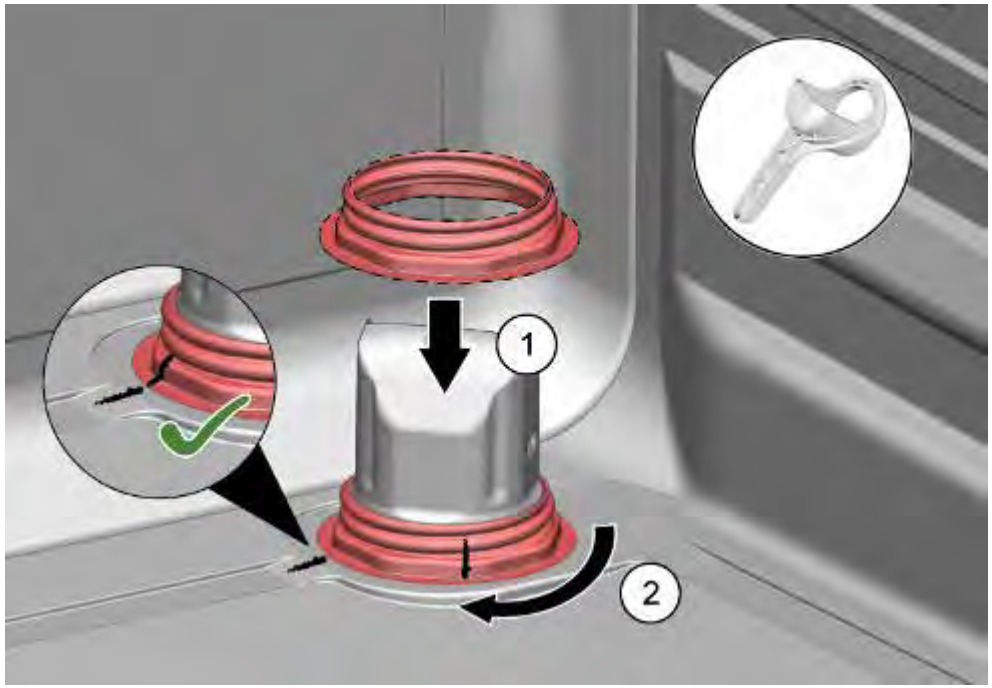
6.59.2 Installation



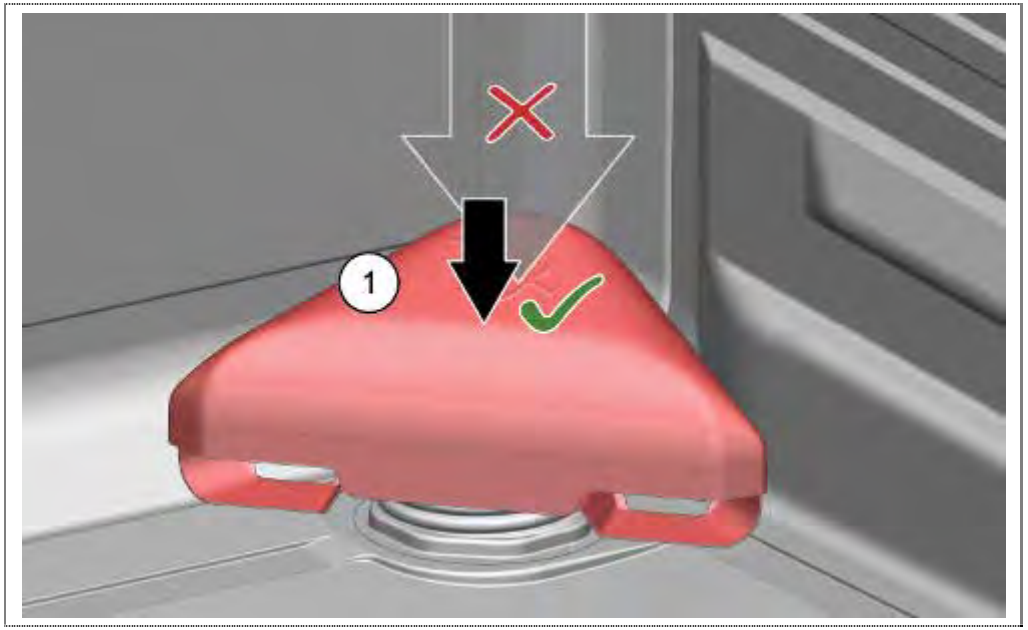
1. Fix the sealing.



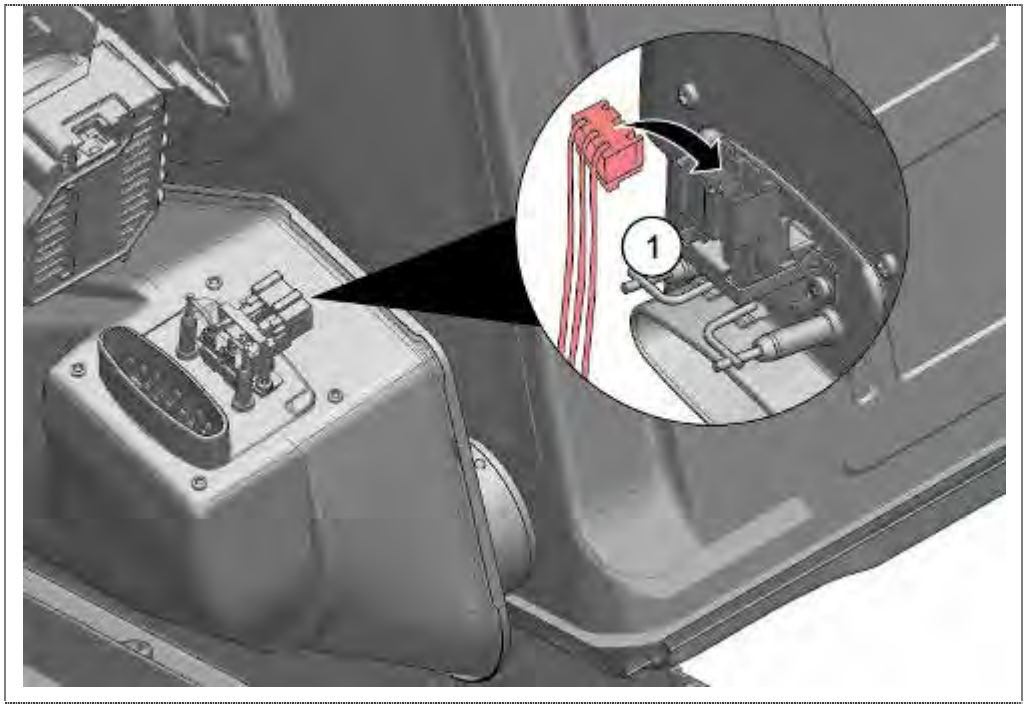
1. Insert zeolite container gently into the opening of the tub.



1. Place the mother of Zeolit container in position.
2. Tighten with special tool until the marking.



1. Put the cap carefully and evenly to the exhaust opening of the zeolite container.
   Do not knock or press on with tools!



1. Restore electrical connections

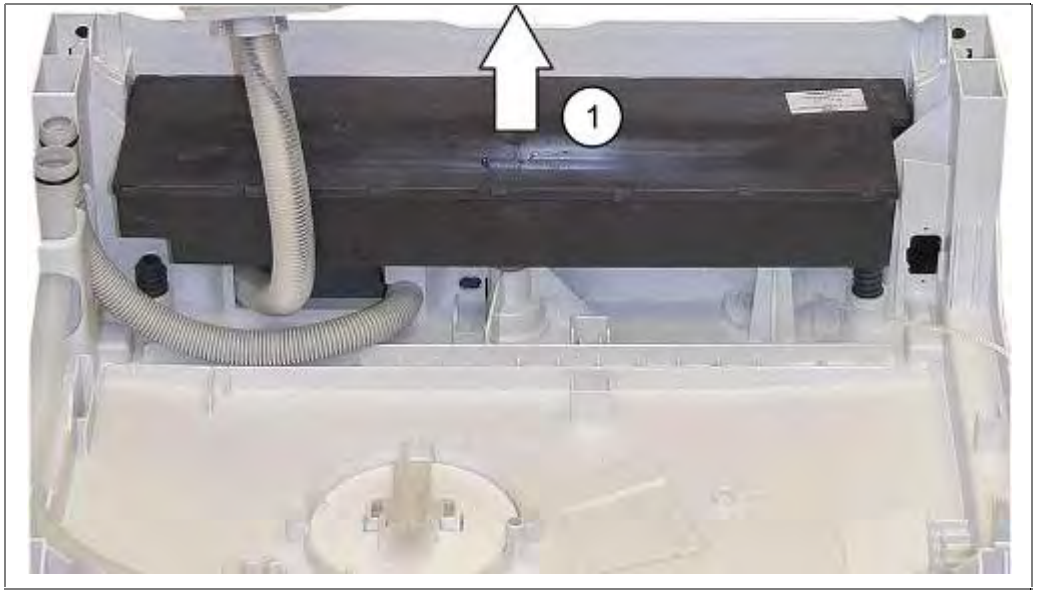
Lower spray arm

► After the final assembly check that the lower spray arm moves freely and is not blocked by the cap.

6.60 Counterweight

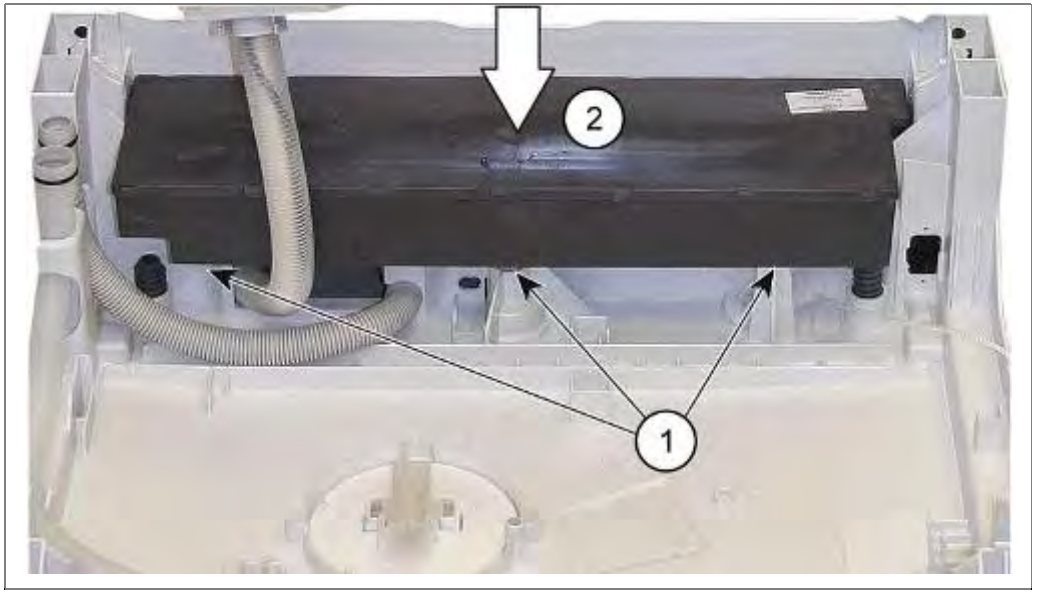
√ Rinsing tank folded down

6.60.1 Removal



1. Remove the weight upwards.

6.60.2 Installation



1. Check weight for correct position.
2. Insert weight into the recesses.

6.61 Attaching the rinsing tank

6.61.1 Attaching the rinsing tank

Ensure it is seated correctly.

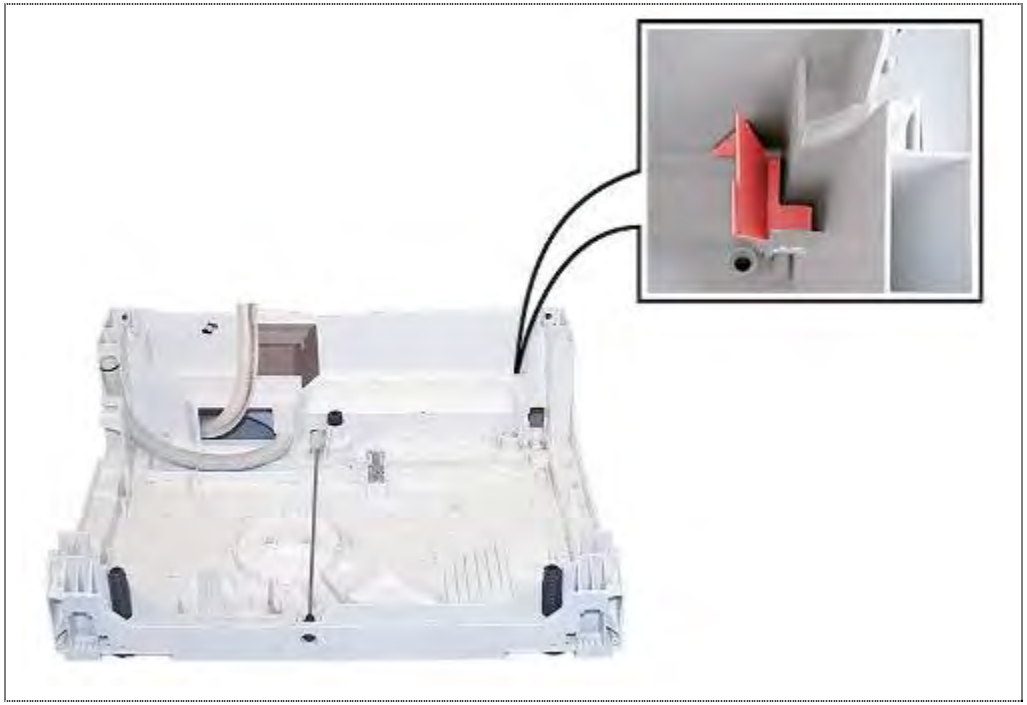
- ► Ensure that the weight is installed correctly in free-standing appliances.
- ► If the heat exchanger is mounted on the rinsing tank, ensure that the hose connections are clean.
- ► Do not trap supply and drainage hoses.
- ► Push water softening system into the guides.
- ► Protect power module from jamming.
- ► Protect cable harness from crushing.

CAUTION

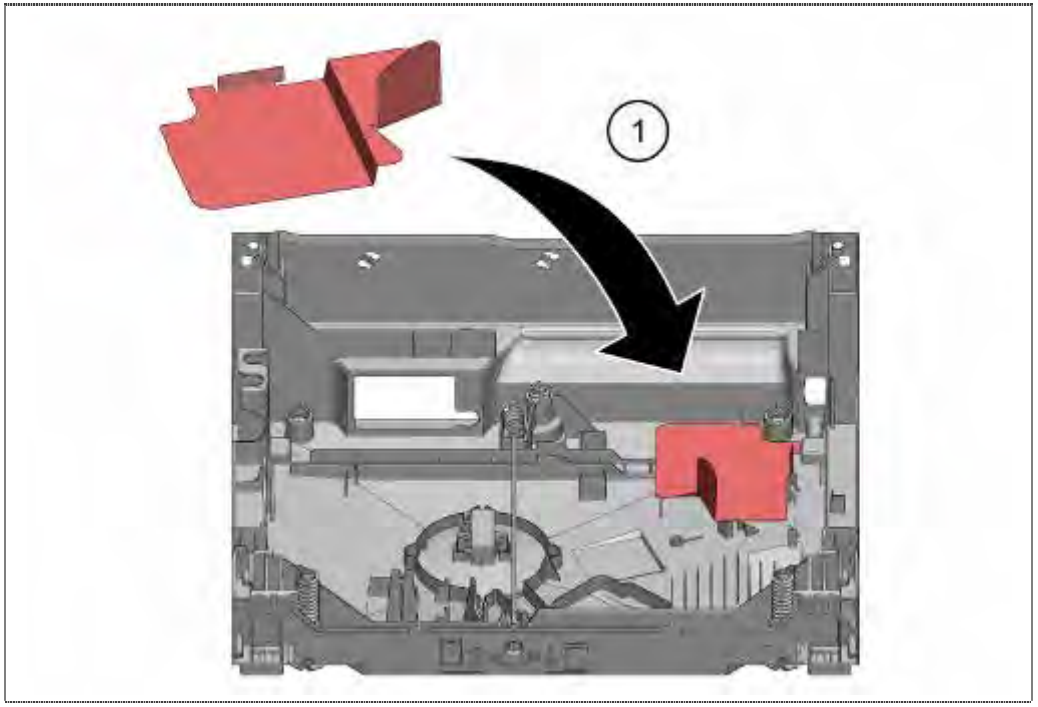
Damage!

Fan housing

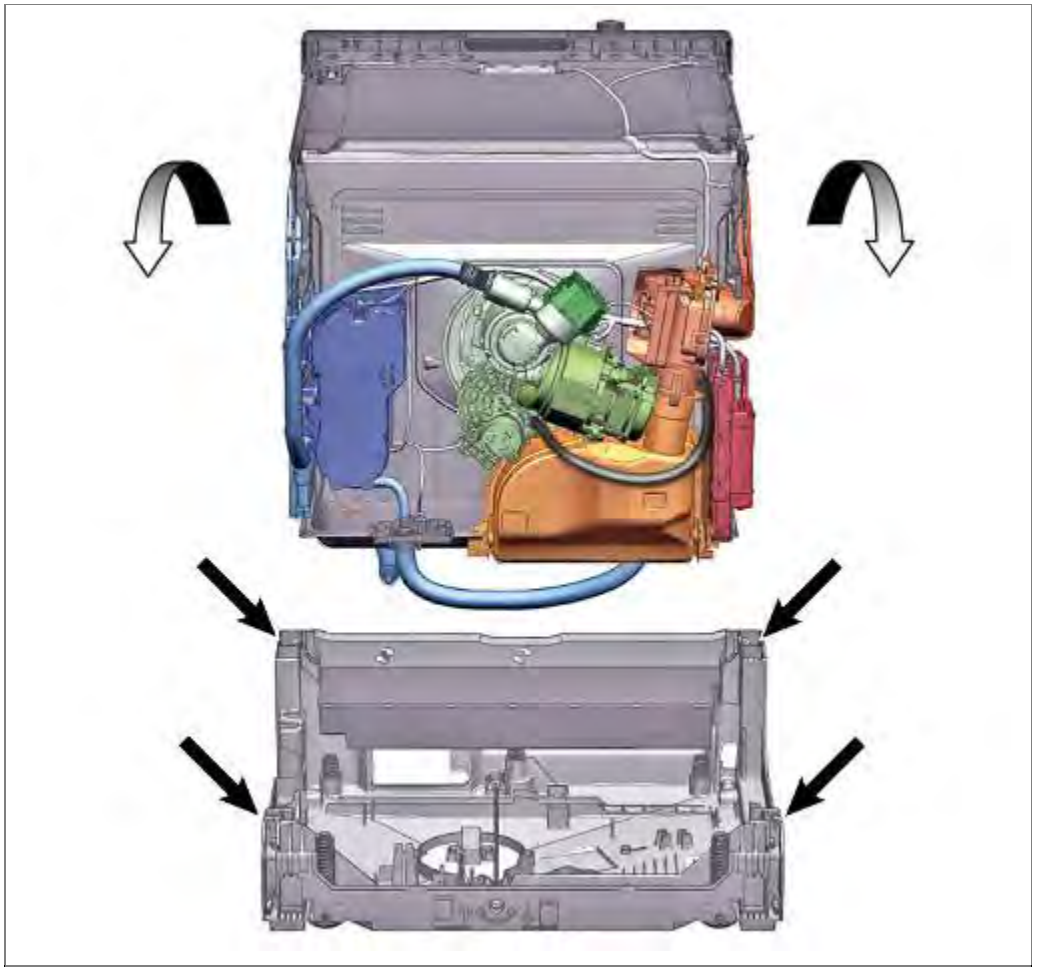
- ► On the underside of the fan housing is a protruding pin. A rubber ring is attached to this pin to prevent fan noises from being transferred to the base pan. If the fan housing is inserted incorrectly or at an angle into the base pan, this pin may break off.



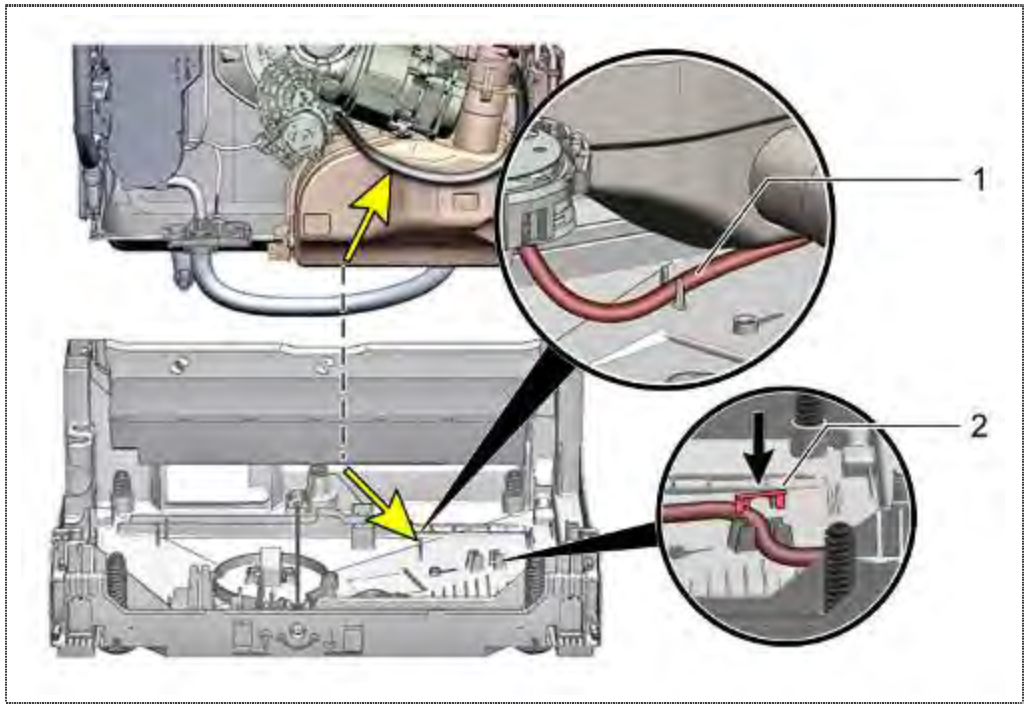
Position support bracket for zeolite container.



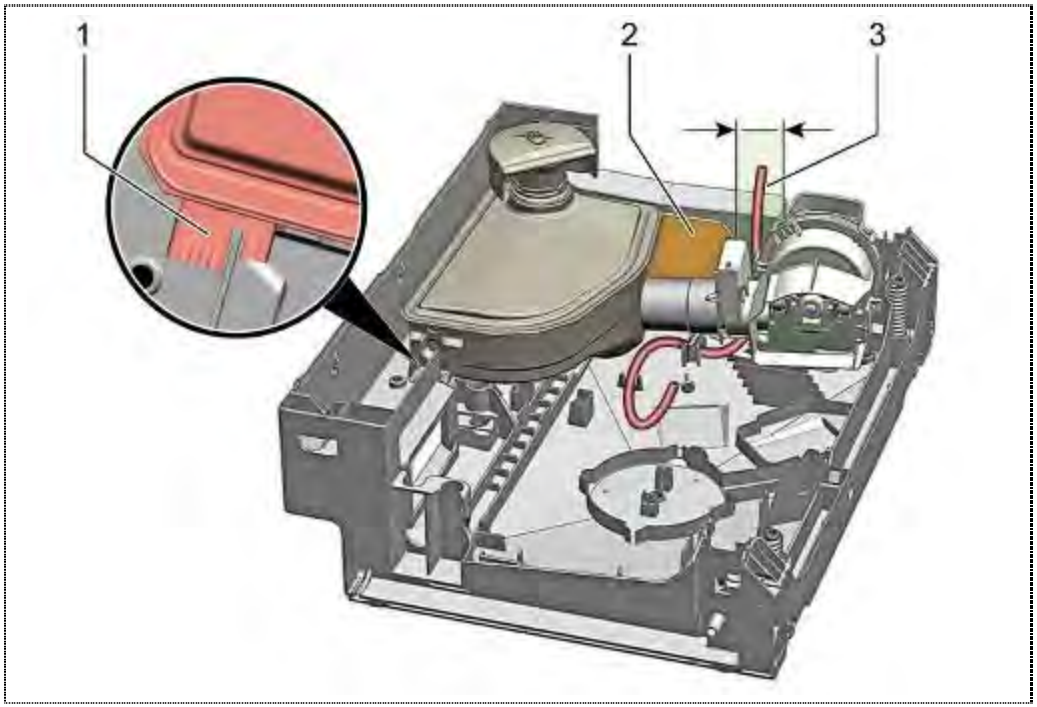
2. Insert protection shield



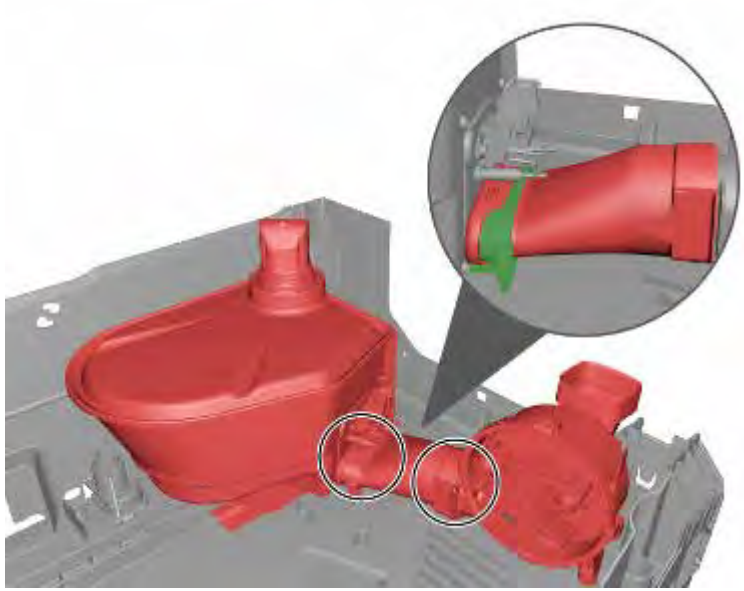
1. Carefully fold the rinsing tank forwards.
2. Insert into the guides.



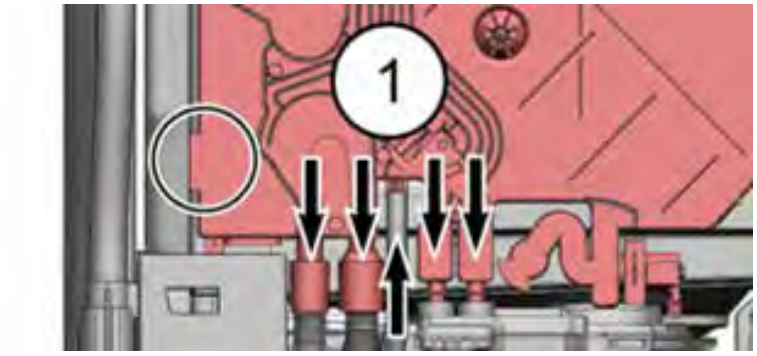
1. Insert the tube of the optional water storage tank in the provided holder.
2. Insert the retaining clip (optionally).



1. Ensure that the zeolite container is in the guide.
2. Ensure that heat shield is mounted.
3. The hose to the water storage tank must be installed in the marked area.

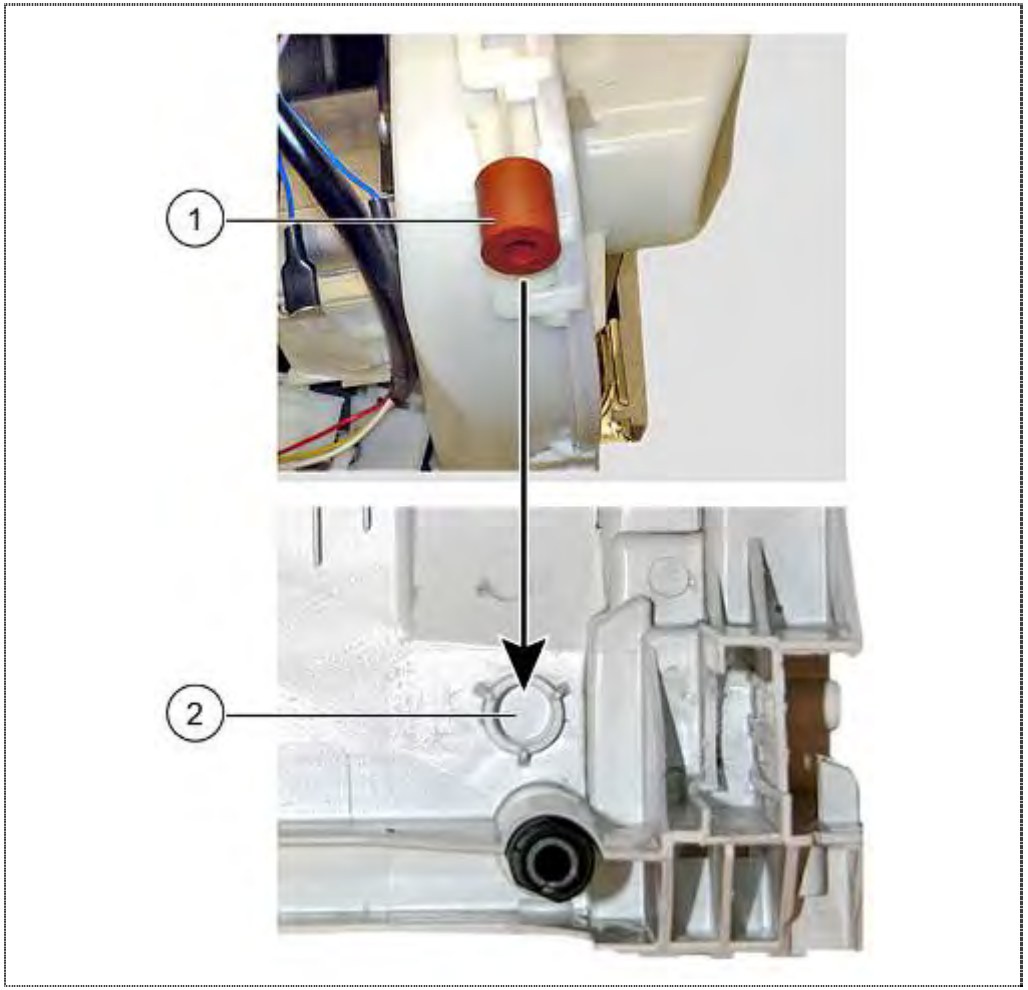


1. Take care of correct installing of Zeolith sytem.



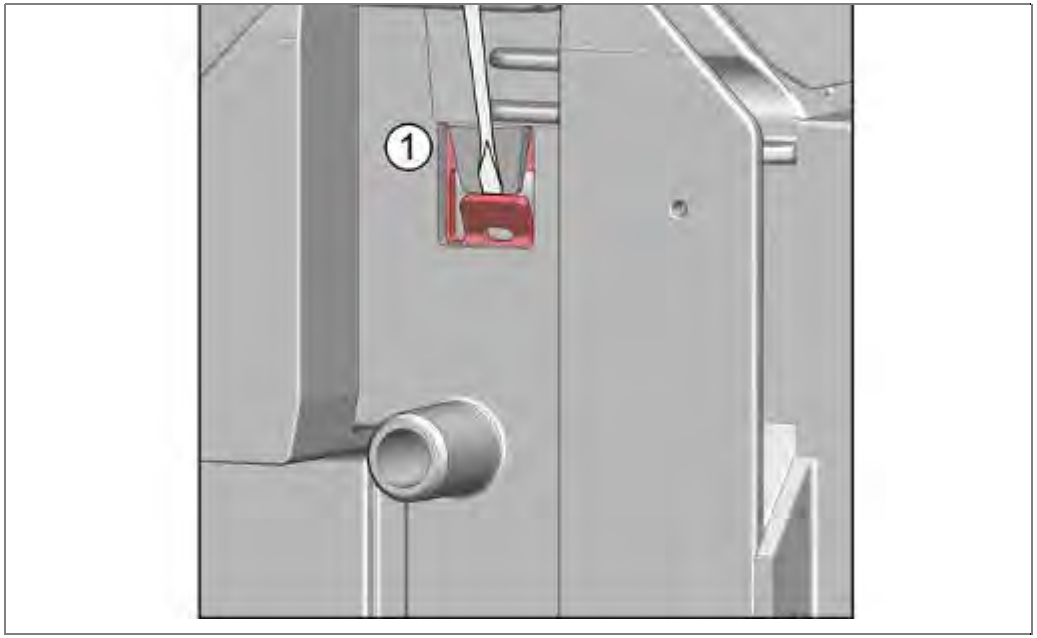
1. Ensure that the connection is faultless without crushing the terminals on the heat exchanger.

6.61.2 Securing the fan motor

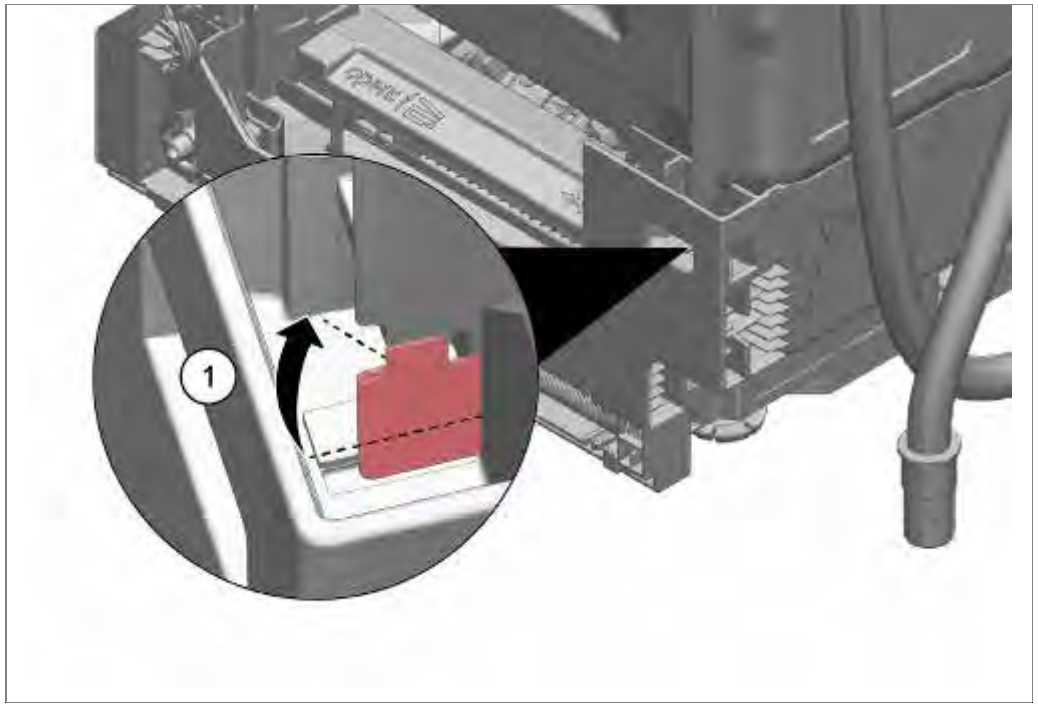


2. Lower housing pin with rubber ring into the base pan.
2. Secure in the recess.

6.61.3 Securing tank catch mechanisms

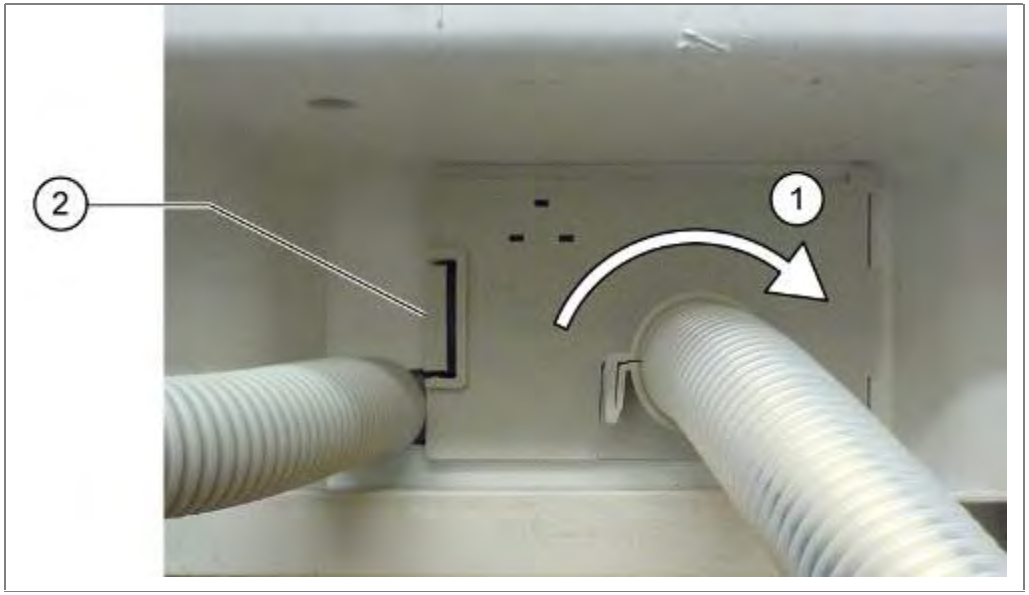


1. Using a screwdriver, bend hinge plate catch mechanism outwards.



1. Using a screwdriver, bend over sheet-metal brackets.

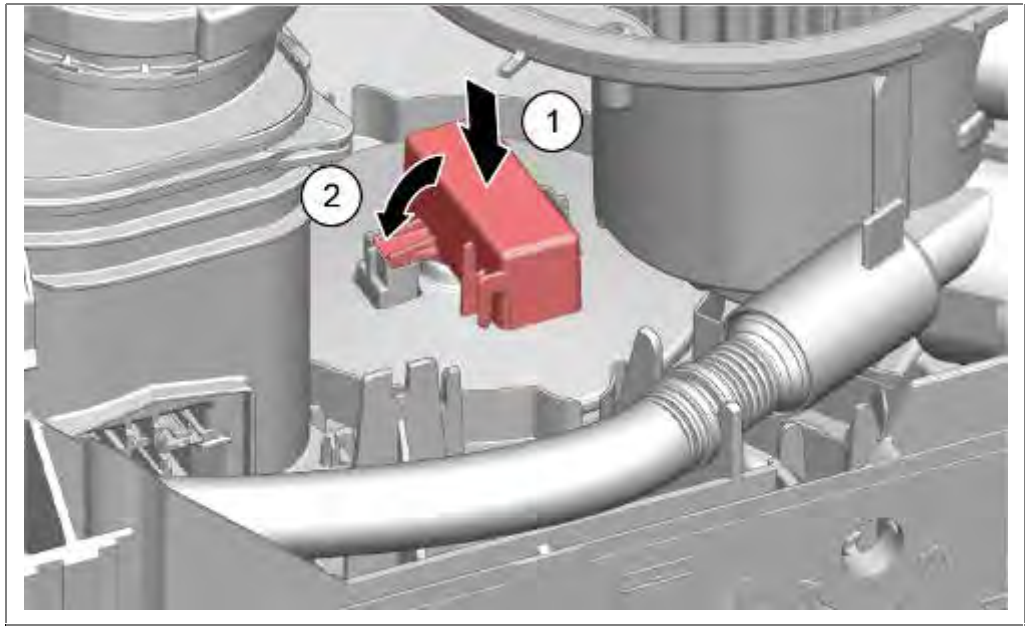
6.61.4 Installing the supply hose



Take the hose bushing out of the base pan.

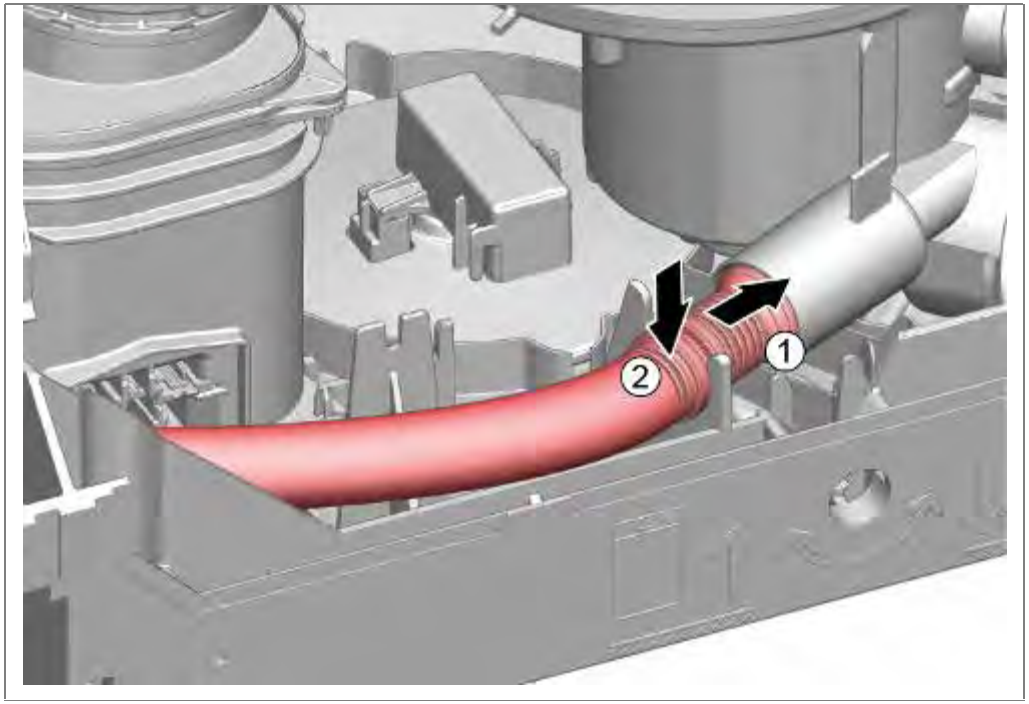
1. Insert panel.
2. Lock panel.

6.61.5 Installing float switch safety system



1. Press float switch into the catch mechanism of the base plate.

6.61.6 Connecting the drainage hose



1. Push drainage hose into the pump sump.
2. Press flexible drainage hose into the fixing.

Installing ventilation duct

See chapter install water storage tank

Visual inspection

.

► Finally a visual check is on possibly gotten jammed or wrongly engaged construction units to accomplish cables or hoses

6.62 Loading appliance software -> Capa touch operating module

Requirement:

√ UDA with cable and adapters

√ Computer

√ I-Service software

√ Power module installed in the dishwasher or set in the programming station-logistic

√ Outer door or right side panel removed.

DANGER

Exposed live parts

Risk of electric shock!

- ► Disconnect the appliance from the power supply.
- ► Do not touch housing, frame or components.
- ► Use residual-current-operated circuit-breaker if tests have to be conducted with the power on.
- ► Ensure that the resistance of the protective conductor does not exceed the standardized values.
- ► UDA connected only on the upper side of the module with fixed coding frame (material number 15000166)-> risk of short circuit.

CAUTION

Voltage peaks when disconnecting/connecting the plug-in contacts

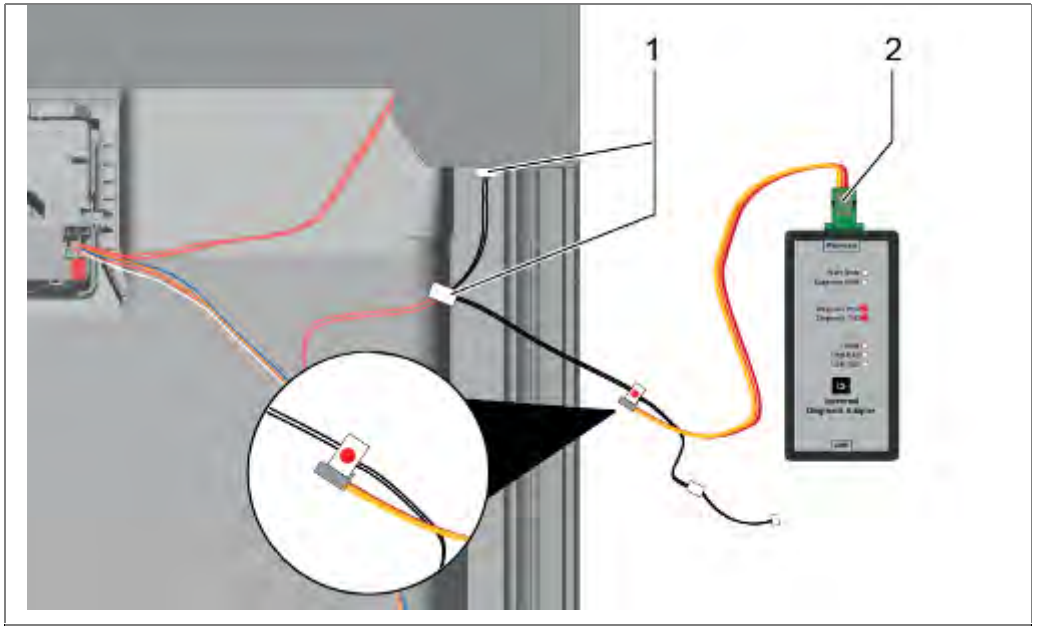
The operating module or the power module will be destroyed by the mains potential on the earth cable of the bus system.

- ► Disconnect the appliance from the power supply before disconnecting/connecting plug-in connections.
- ► Do not connect Y cable to the power module.

6.62.1 Steps for copying Software:

1. Disconnect the machine from the power supply.
2. Connect the UDA to the machine (at the inner door or at the power module).
3. Connect the UDA to the computer.
4. Connect the machine to the power supply.
5. Switch on the appliance.
6. Make sure, that appliance is not running in a (test) program.
7. Start the iService program on the computer and load the software until the message that the installation has been successfully completed.
8. The machine must be disconnected from the power supply for a minimum of 10 seconds. (Hardware Reset; all the LEDs on the control module must turn off).
9. Disconnect the UDA from the machine.
10. Connect the machine to the power supply.
11. If the door is closed:
    The display shows S:00 and the factory test program (not the CS-test program) starts.
    If the door is open:
    All the LEDs will be on.
12. Execute a Software Reset (hold the start button for 3 seconds)
13. Turn the machine off with the power button.

6.62.2 UDA connection in the inner door -> flashing Capa touch module



3. Connect the Y cable to the control module. Depending on the model, the 3 wire or 4 wire connection of the adaptor (341248) should be used. There will always be two connectors that are not used.
4. Connect the cable to the UDA.

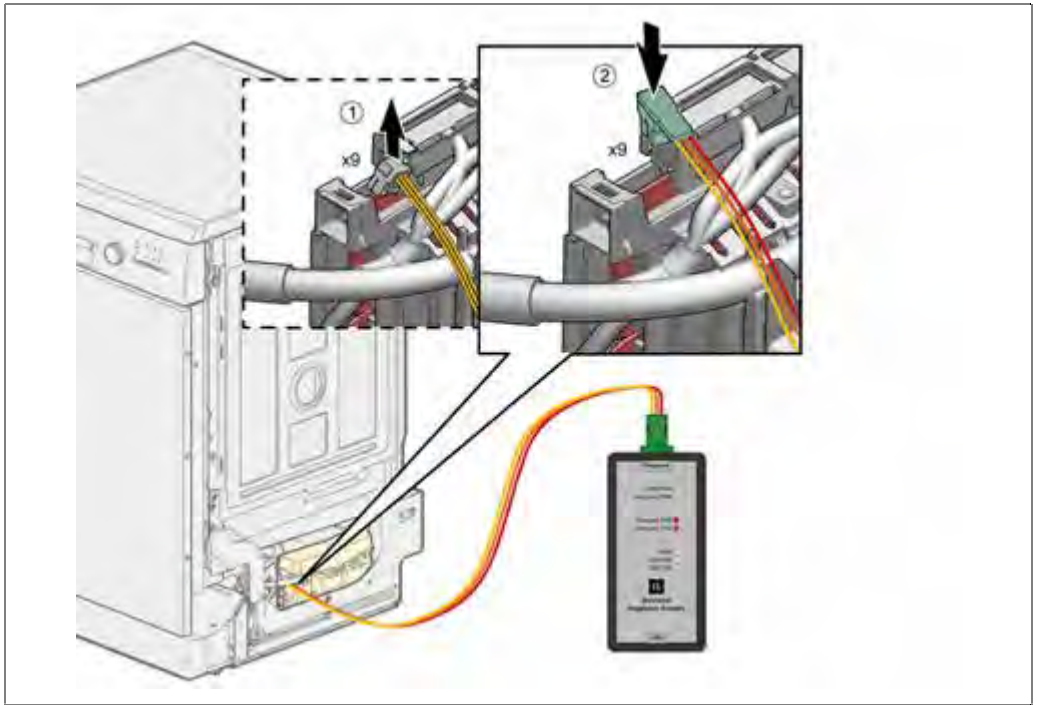
   The UDA cable is to be connected to the Y cable at the connection shown with the red dot.

Choose in the iService window the operating module for flashing.

Further Steps below.

6.62.3 Connecting the UDA to the power module

The UDA connection cable can also be connected directly to the power module. Do **not** use the Y-cable this connection.



1. The iService connection X9 can be found on the **top** of the module.

   If the X9 connection is already being used, the connection must be removed.

2. Connect the UDA connection cable to the labeled iService / D-2bus connection, X9. Connect the cable to the UDA.

NOTICE	**Damage to the Control Module**
	► If the UDA is connected somewhere other than what is instructed here, damage can occur.
	► Connect the UDA only with the coding frame in place on the top side of the module -> danger of short

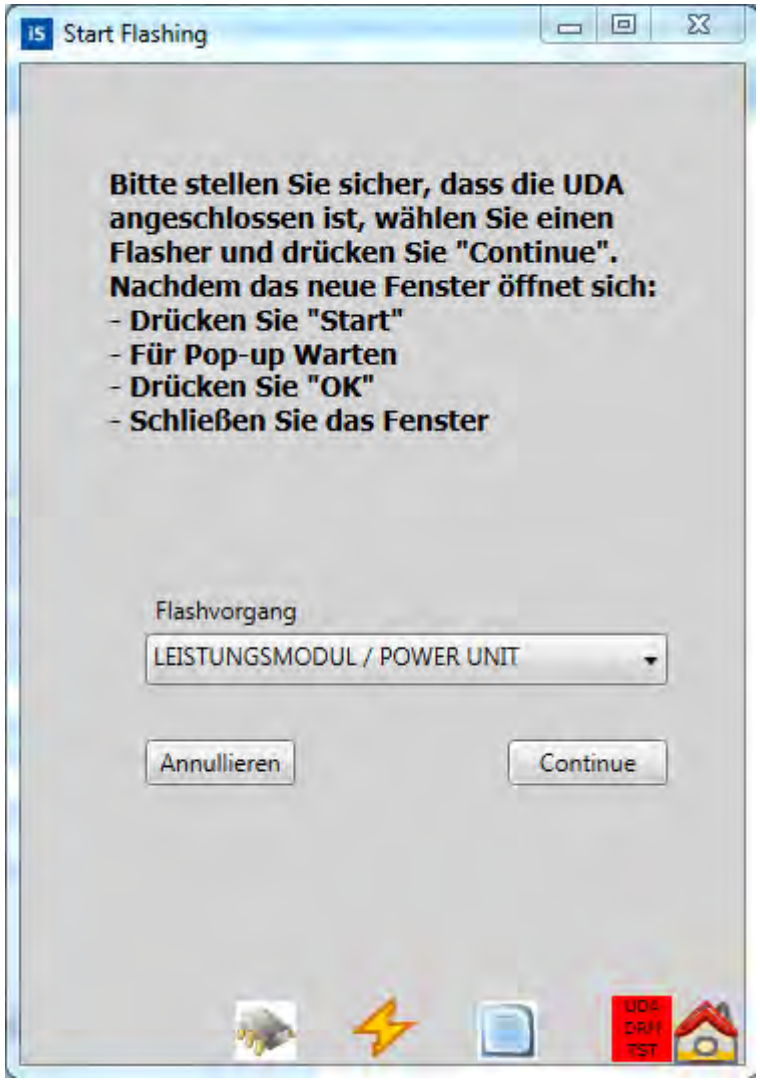
6.62.4 Flashing software

Start iService Software on the computer

Insert E-number

Select “Continue”

Continue with “Flash“.



In the field, flash process, the component must be selected, that is to be flashed.

Select “Continue”.

► For Capa touch models, the software of the operating module is separately to flash in the inner door

When the “flash” button is selected, the software will be loaded. When the flashing is completed, a message will indicate a successful process.

6.62.5 Reset

Power reset

► After a software has successfully been loaded, the machine must be disconnected from the power supply for a minimum of 10 seconds (power reset).

► After the software is flashed, or if the power reset is not properly executed, the main power switch will not work.

Software reset

► After the software is loaded to the machine, a test program will start.

► To leave the test program, push the start button (reset) for 3 seconds (software reset).

6.63 Technical specifications

Power consumption in stand by:

Operating panel with push buttons:	< 0,1 W
Operating panel with Piezoelectronic:	< 0,8 W
Time delay mode, cycle end mode & left open mode	Max. 2,5 W

Main power voltage range:

EU, CH, GB, BS, TH, AU	220-240V	50/60 Hz
UC	120V	60 Hz
BR, MX	127V	60 Hz
JP	200V	50/60Hz
TC	110V	60 Hz