JENN-AIR™

TECHNICAL EDUCATION

Flush-Mount Dishwasher for European Cabinets

Model JDB9600AW

Addendum:
New service diagnostic information is available beginning on page 180.

FORWARD

This Jenn-Air Service Manual, "Flush Mount Dishwasher" (Part No. W10720845), provides the In-Home Service Professional with information on the installation, operation, and service of the “Flush Mount Dishwasher."

GOALS AND OBJECTIVES

The goal of this Service Manual is to provide information that will enable the In-Home Service Professional to properly diagnose malfunctions and repair the "Jenn-Air Flush Mount Dishwasher.”

The objectives of this Service Manual are to:

- Understand and follow proper safety precautions.
- Successfully troubleshoot and diagnose malfunctions.
- Successfully perform necessary repairs.
- Successfully return the dishwasher to its proper operational status.

WHIRLPOOL CORPORATION assumes no responsibility for any repairs made on our products by anyone other than authorized In-Home Service Professionals.

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.

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.

NOTE

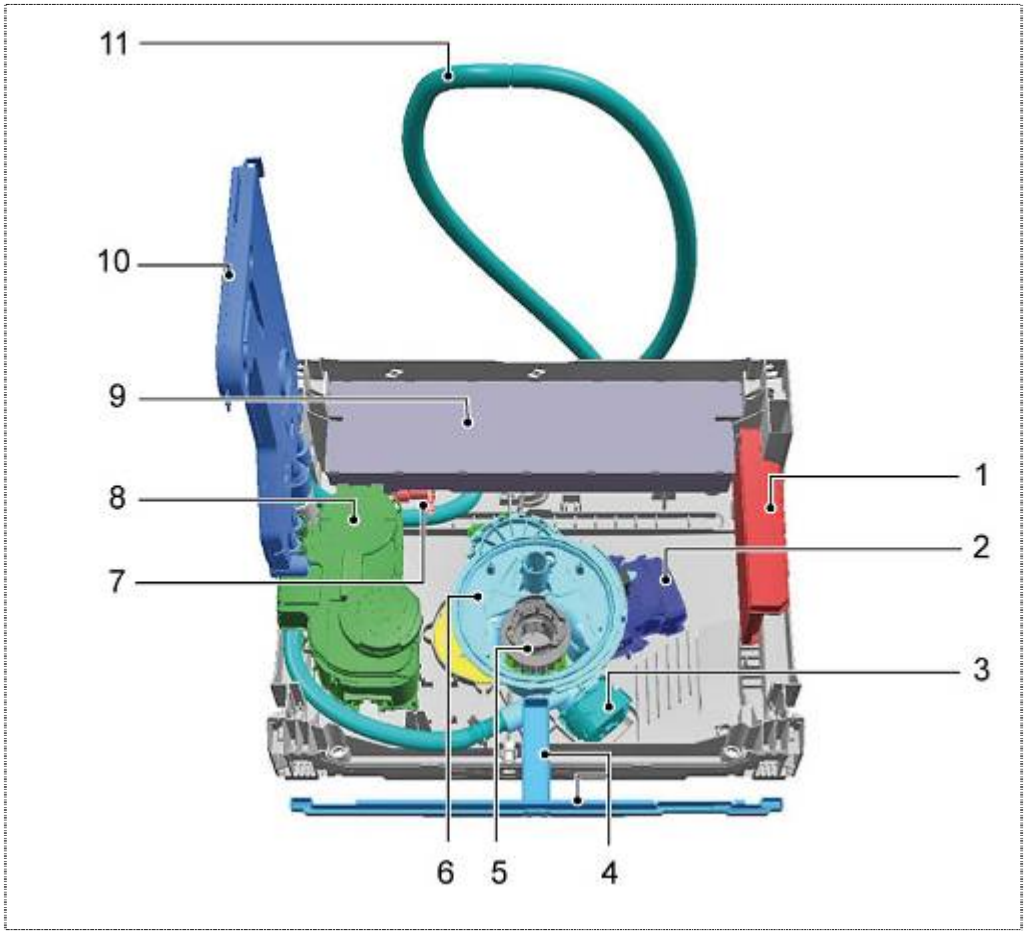
Components which are replaced haphazardly will be damaged beyond repair

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

3 CONSTRUCTION AND FUNCTION

3.1 Chapter describing design and function

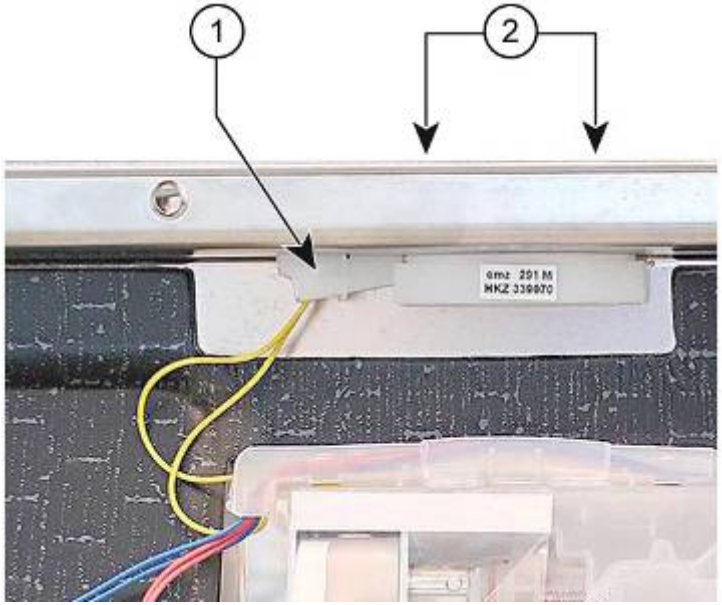
Overall view of the appliance with all components.



1	Power module	7	Inlet Valve
2	Heat pump	8	Water softener
3	Drain pump	9	Counter weight
4	Overflow conduit / gutter	10	Water inlet
5	Sealsystem	11	Outlet hose
6	Sump		

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.

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.

A permanent magnet is inserted in the door lock. 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.

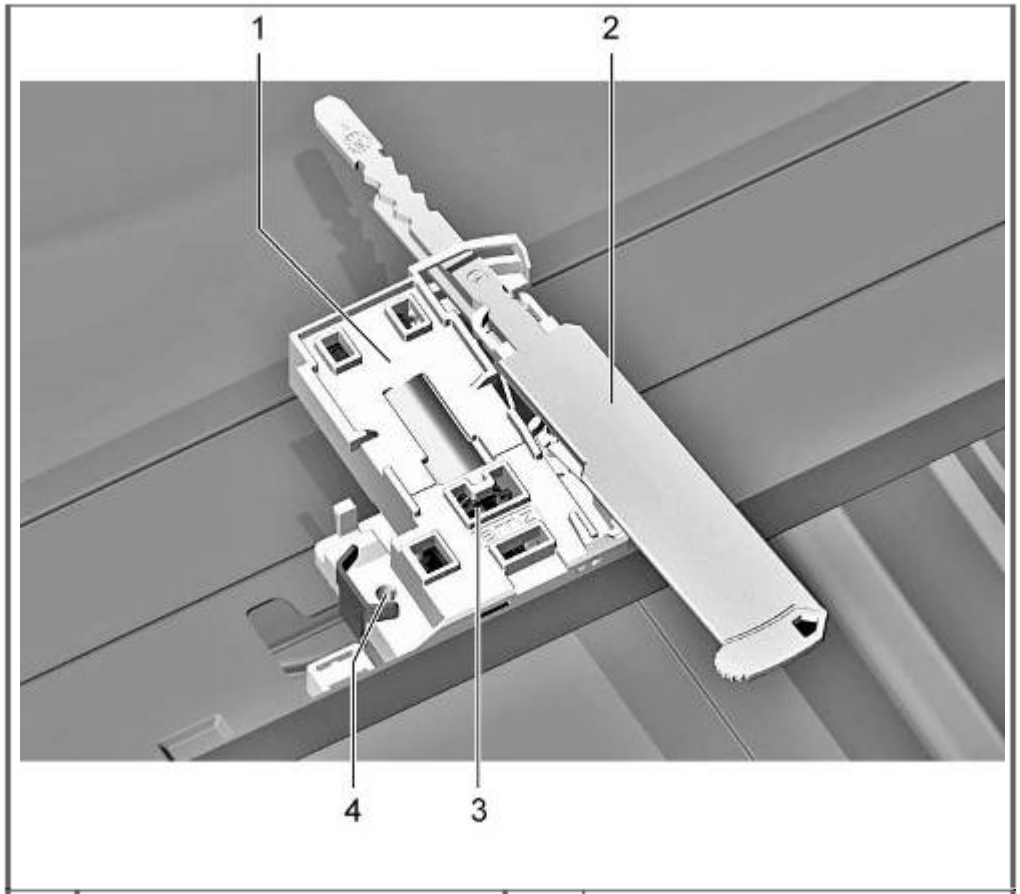
The Hall sensor modifies its power input. The electronics detect whether the door is open or closed.

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.

3.3.3 Electronic door lock (optional)

The appliance can be secured to prevent programmes from being ended unintentionally (e.g. faulty operation by children).

Activating button lock:

Start the required programme.
Hold down button **B** for approx. 4 sec. until **CL** is indicated on the digital display.
If any button is pressed while the programme is running, **CL** is displayed. The programme cannot be ended (reset).

Deactivating button lock:

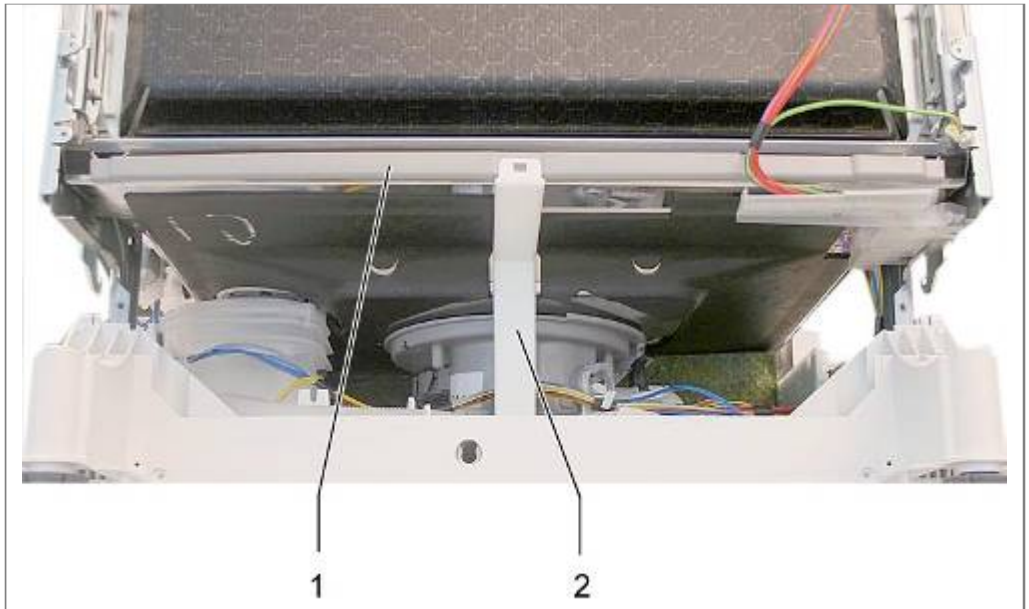
Hold down button **B** for approx. 4 sec. until **CL** goes out.
When the programme ends (on the digital display), the button lock is cancelled. If there is a power failure, the button lock is retained. Whenever a programme is started, the button lock must be re-activated

3.4 Safety system

3.4.1 Components in the safety system

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

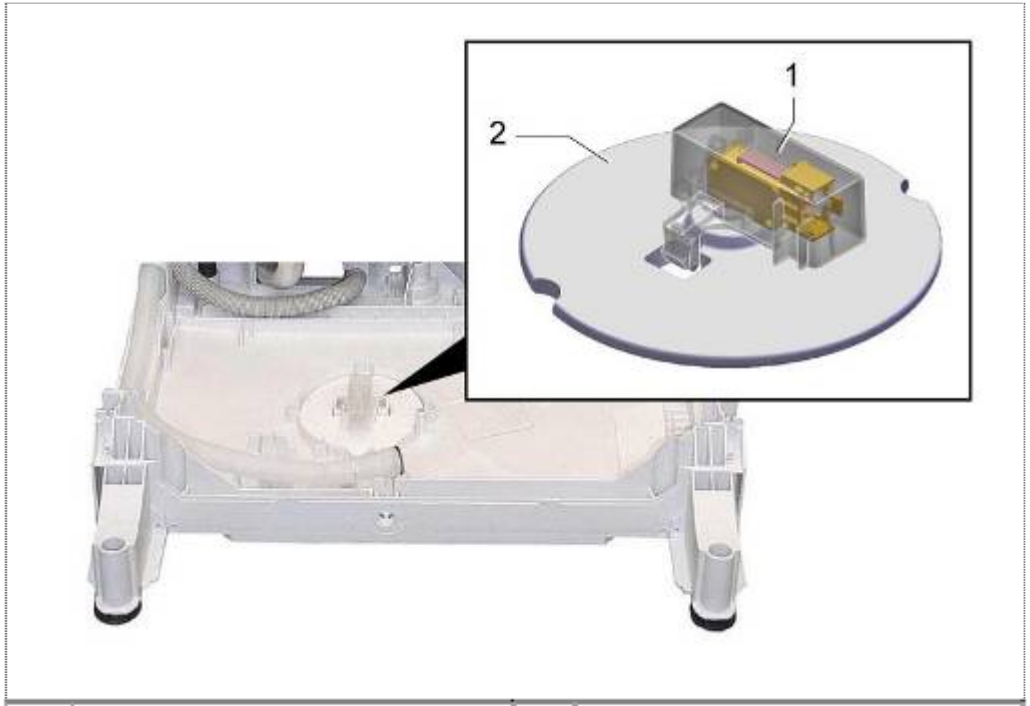
3.4.2 Overflow channel and drainage duct



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.

3.4.3 Safety switch – base pan



1	Safety switch	2	Polystyrene float

The safety switch is mechanically connected to the polystyrene float.

3.4.4 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.

3.5 Aquastop valve

3.5.1 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.

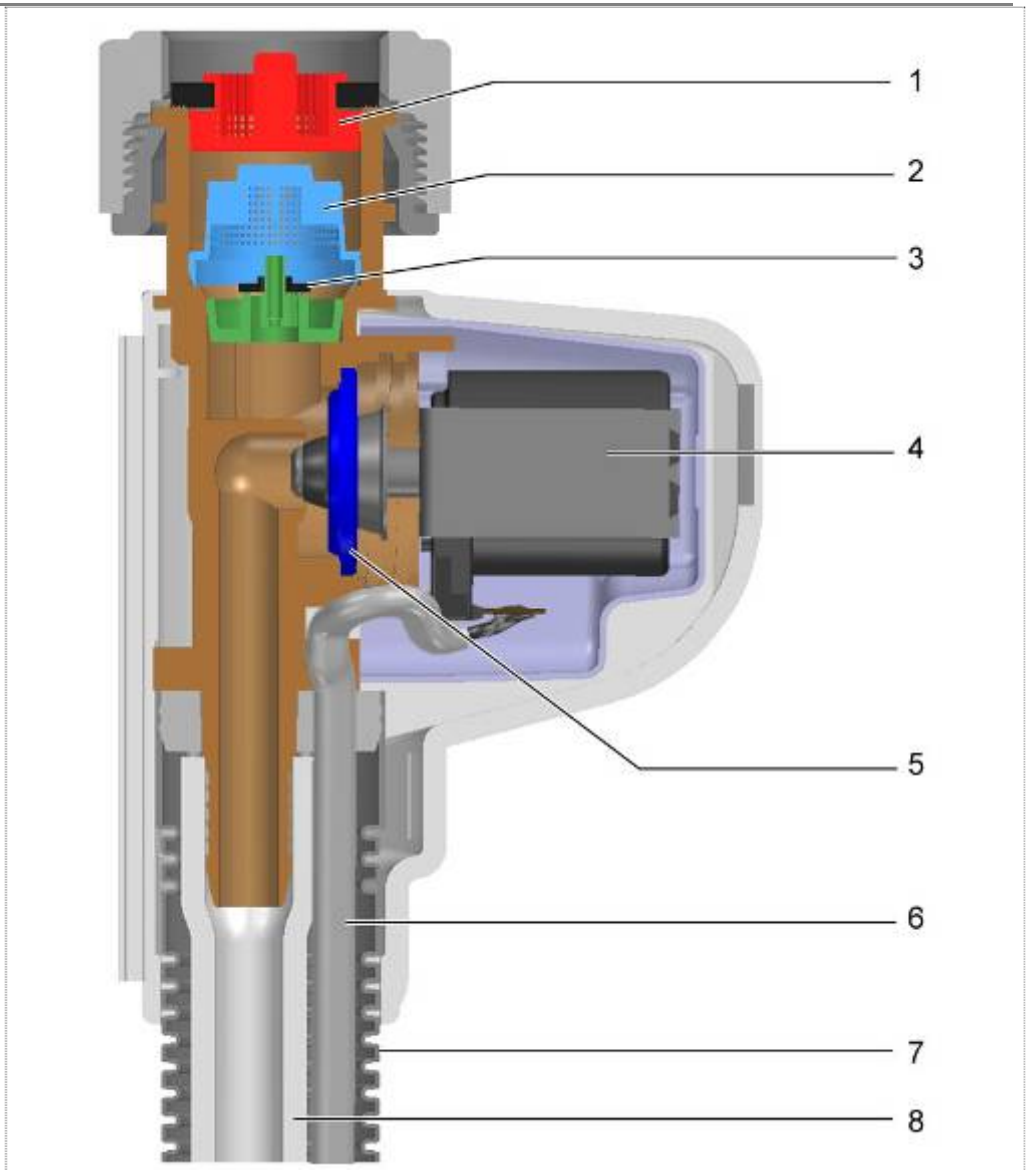
The leakage water hose contains the water supply hose and the electric control cable for the solenoid valve.

3.5.2 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

3.6 Water inlet

When a rinse programme starts, the water inlet valve is actuated for 5 seconds. Water is expected to run in. Simultaneously pulses are expected from the impeller wheel counter on the electronics. If these remain off, an error code is displayed and the programme is not started.

If pulses are received, the programme is started.

When the programme starts, the electronic control opens the Aqua-stop/water inlet valve (filling valve).

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

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

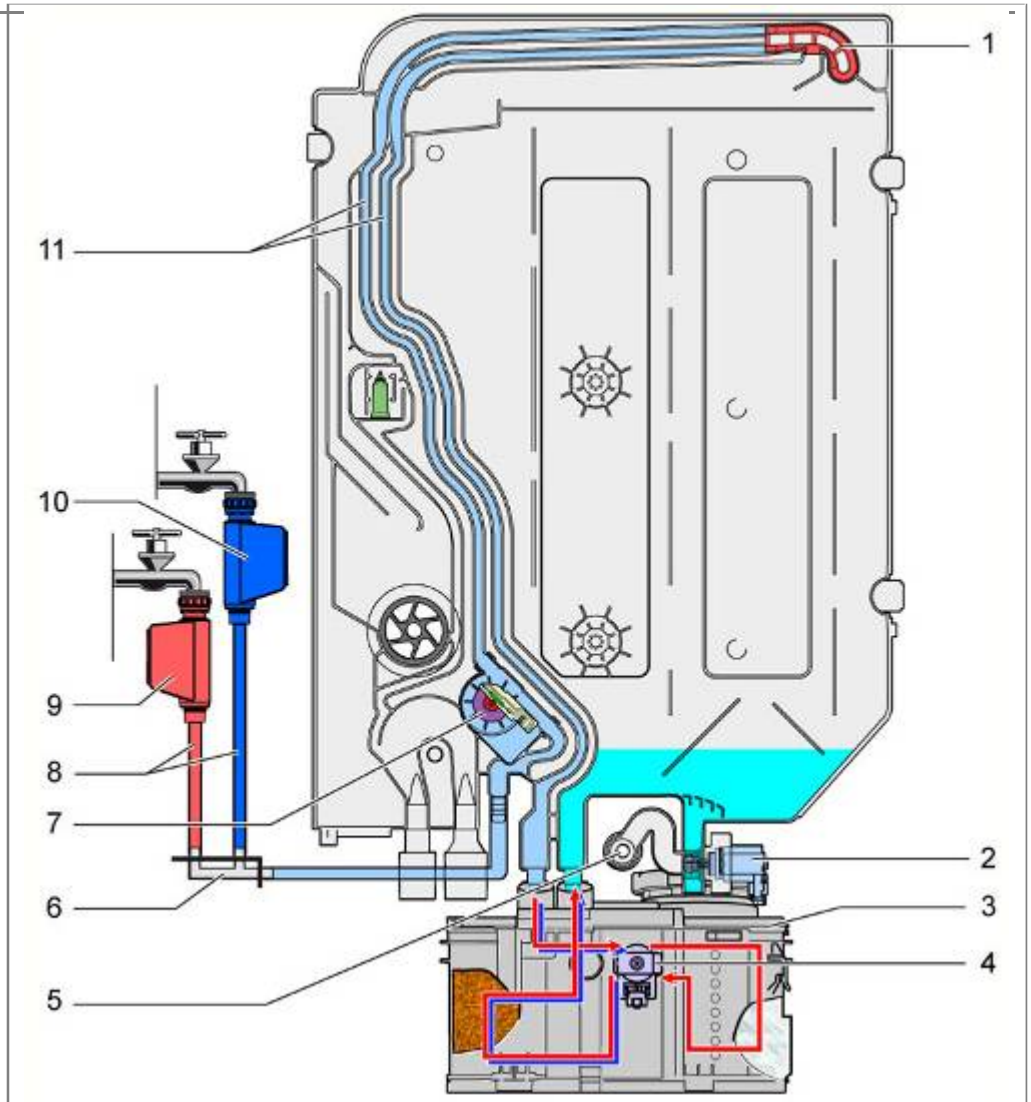
The outlet opening of the water softening system conveys the water back to the water inlet.

The water flows directly into the rinsing tank via the outlet opening.

3.6.1 Bithermal connection (optional)

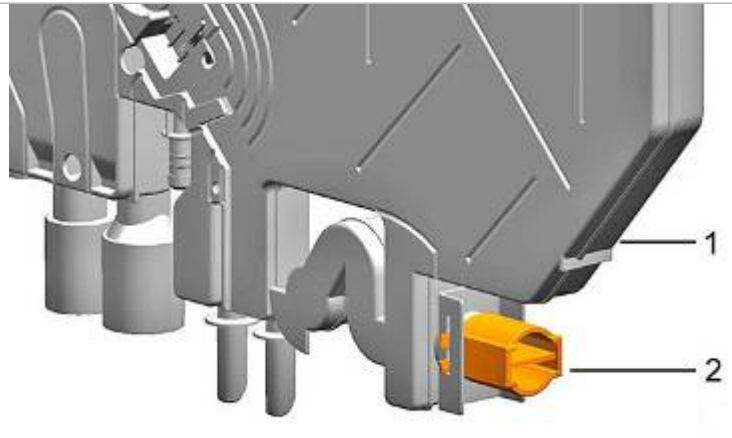
Appliances with bithermal water connection have 2 supply hoses with AquaStop valve.

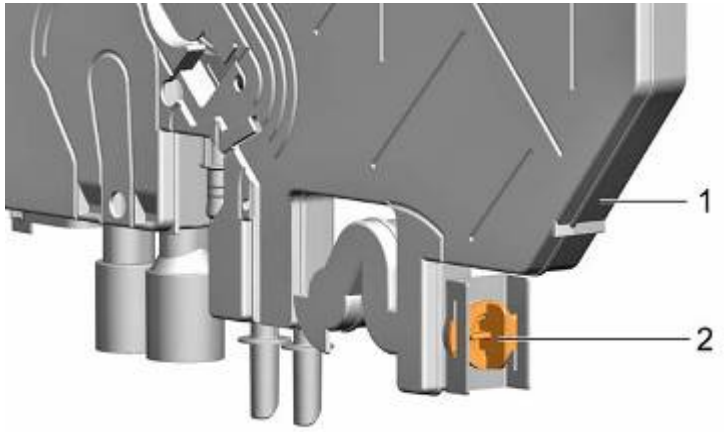
The colour of the AquaStop valve identifies the difference between cold and hot water connections. The electronics control both valves separately. The appliance is supplied with either cold water or hot water.



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		

Devices with "heat exchanger Light" have no drainage valve. A sealing plug allows the water to flow directly into the water softener.





1	Heat exchangerr	2	Closing plug

3.7 Water inlet

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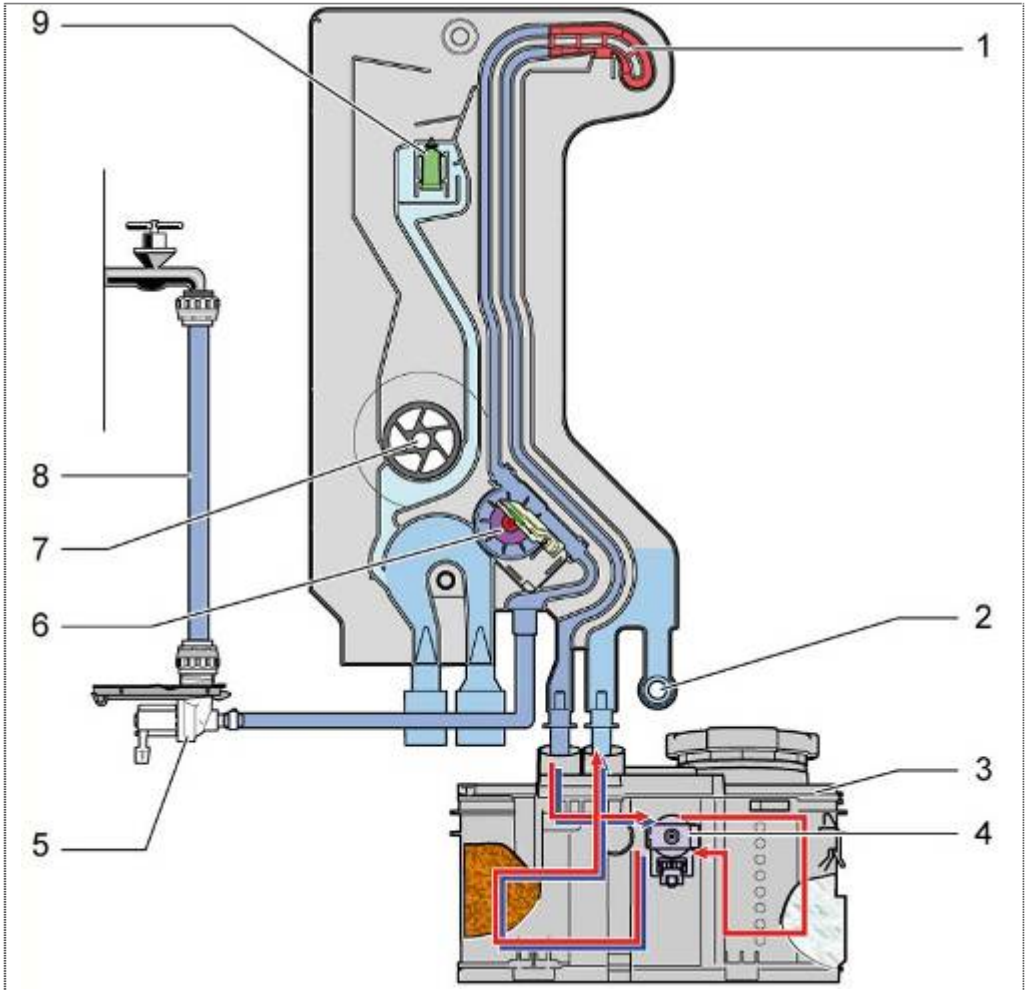


1	Free flow line	6	Impeller wheel with flow sensor
2	Outlet opening	7	Expansion opening
3	Water softening system	8	Supply hose
4	Regeneration valve	9	Drainage hose ventilation valve
5	Water inlet valve		

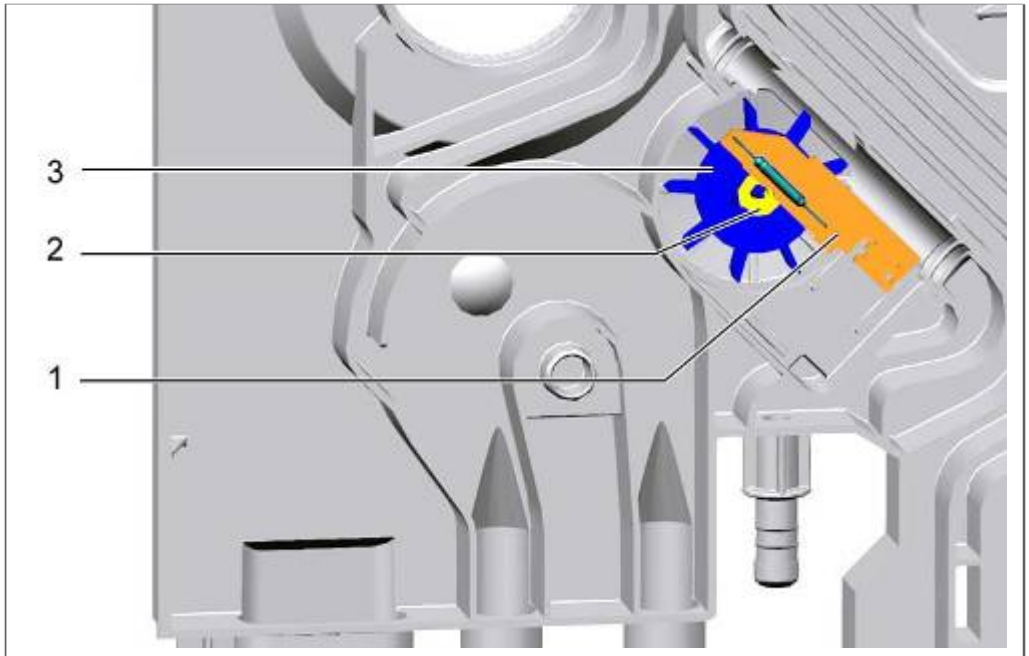
3.8 Flow sensor

3.8.1 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.

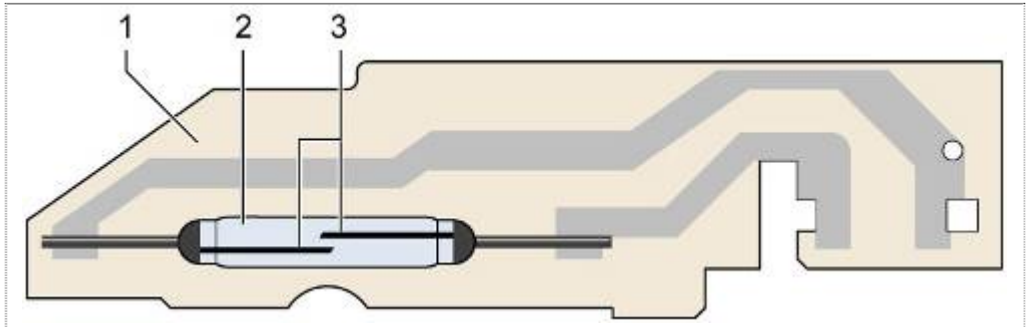
A small permanent magnet attached to the impeller wheel switches both contacts of a magnetic switch (Reed switch). As a result, electrical pulses are generated.

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		

3.8.2 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.

3.9 Expansion opening

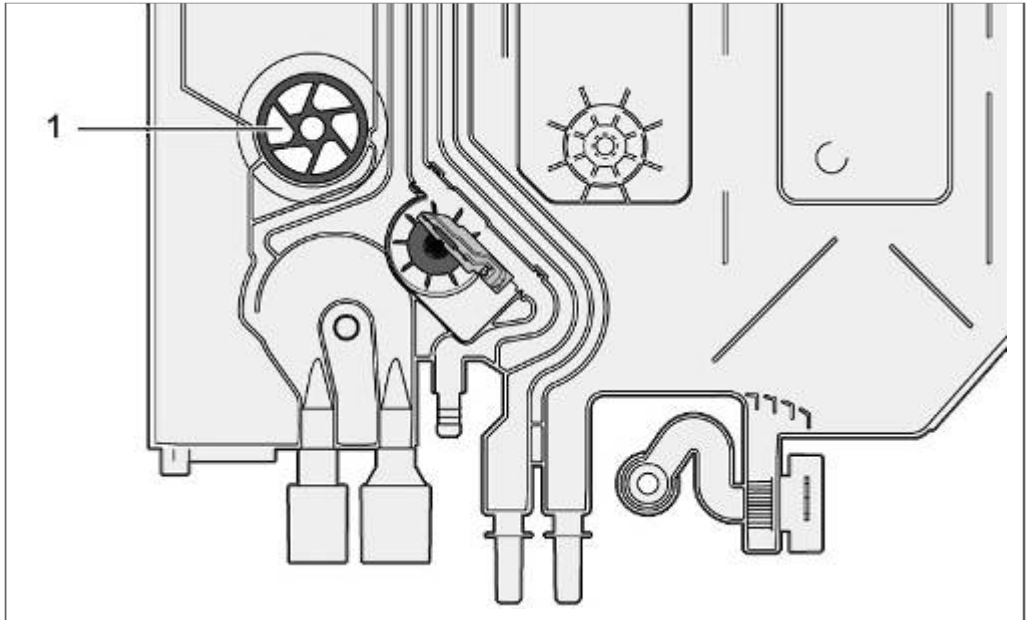
The heat exchanger is connected to the rinsing tank by the expansion opening.

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.

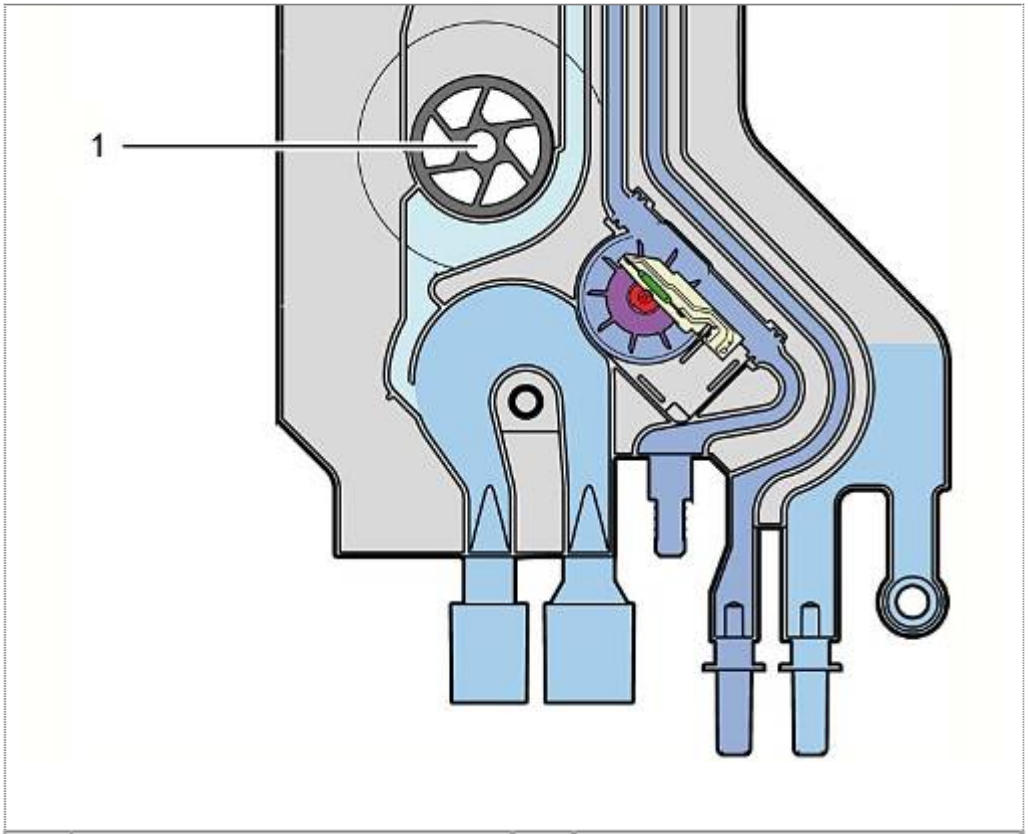
If the door is opened while the washed utensils are warm, cold air flows into the appliance.

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.

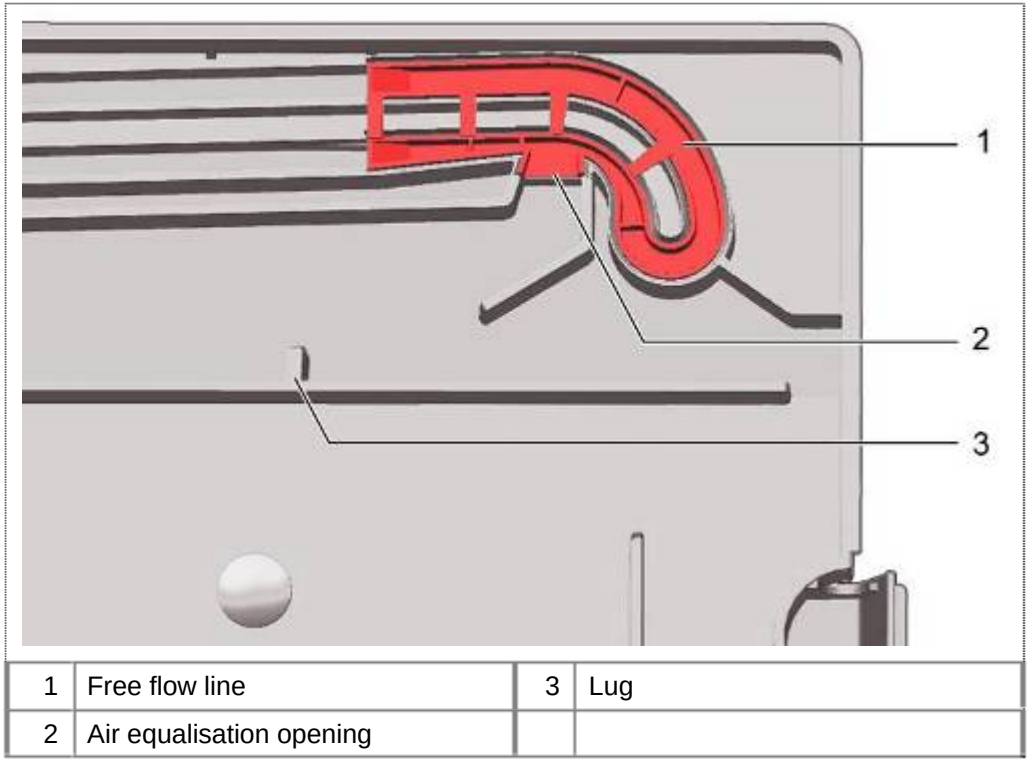


1	Expansion opening in heat exchanger system		



1	Expansionsöffnung in water inlet system		

3.10 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.

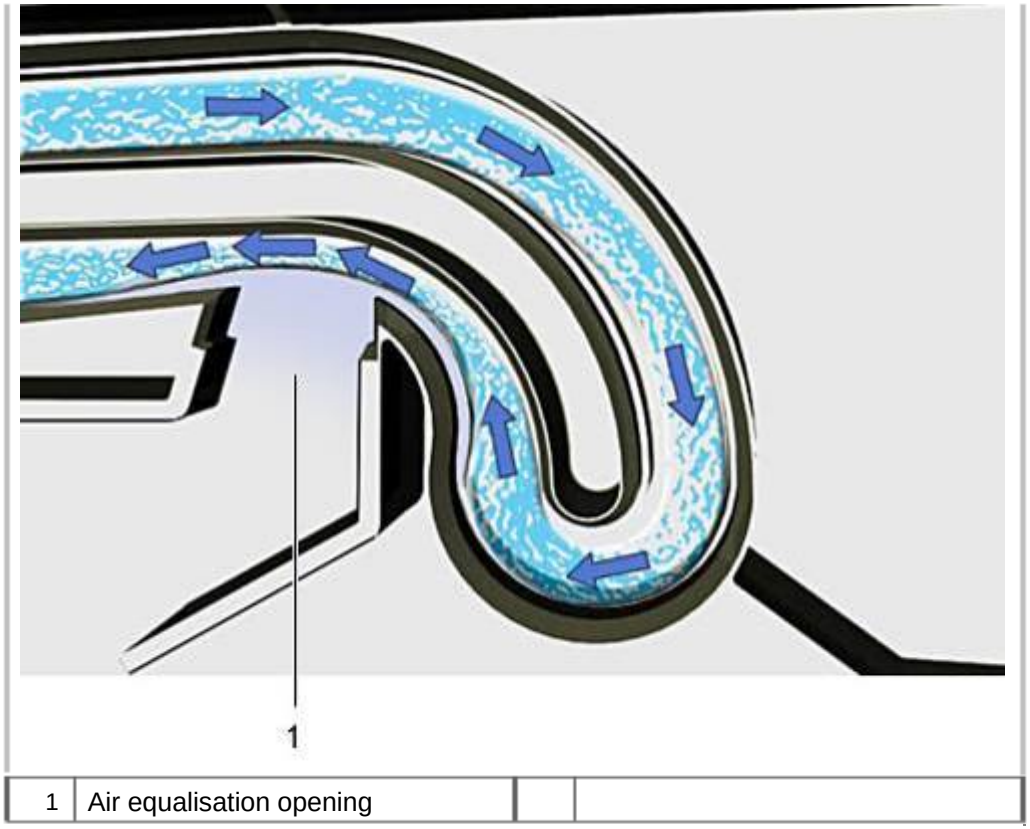
As a result, almost no water can escape through the opening even at a low water pressure. If water nevertheless escapes, it flows into the appliance. In the case of appliances up to FD8903 the water runs into the tank via the expansion opening. With FD8904 a lug was inserted into the heat exchanger.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

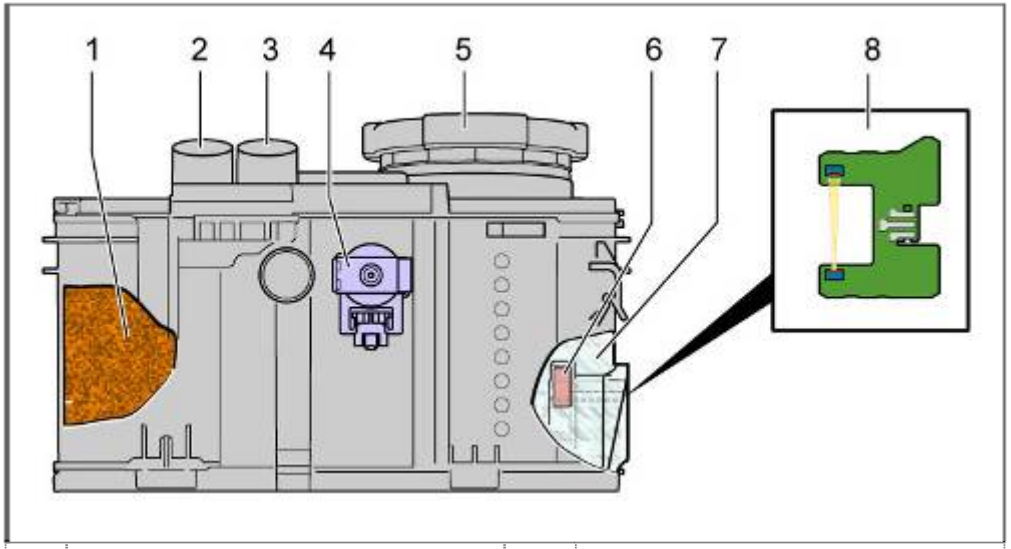
3.10.1 Flow characteristics in the free flow line



1	Air equalisation opening		

3.11 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.

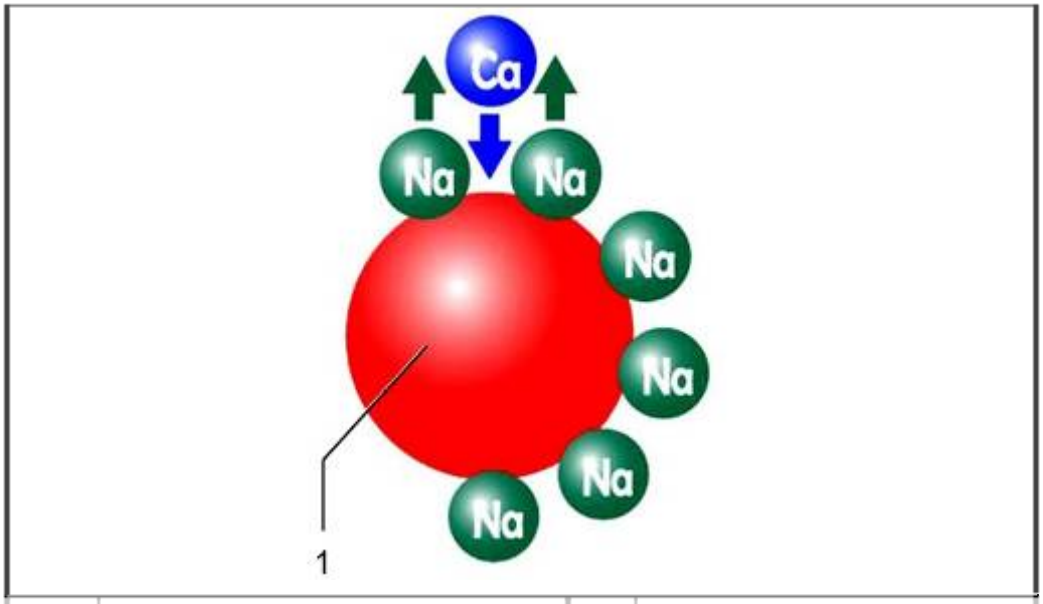


1	Ion exchanger	5	Salt dispenser cover
2	Water inlet	6	Float element (optionally)
3	Water outlet	7	Salt dispenser
4	Regeneration valve	8	Low salt sensor

Technical specifications:

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

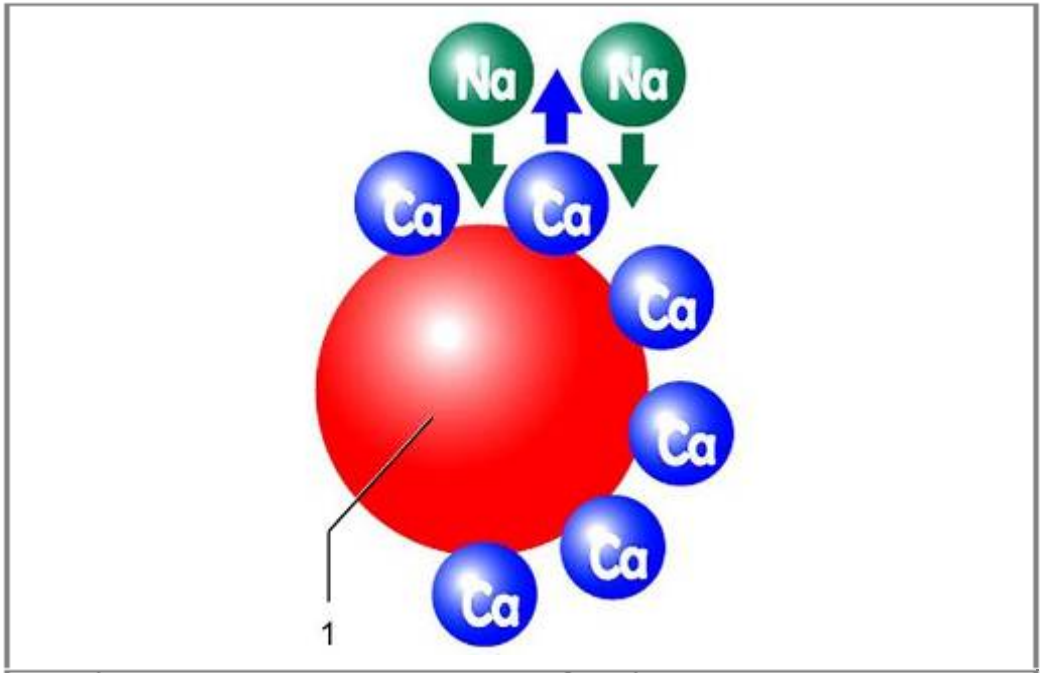
3.11.1 Water softening



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.

3.11.2 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.

3.11.3 Regeneration cycle

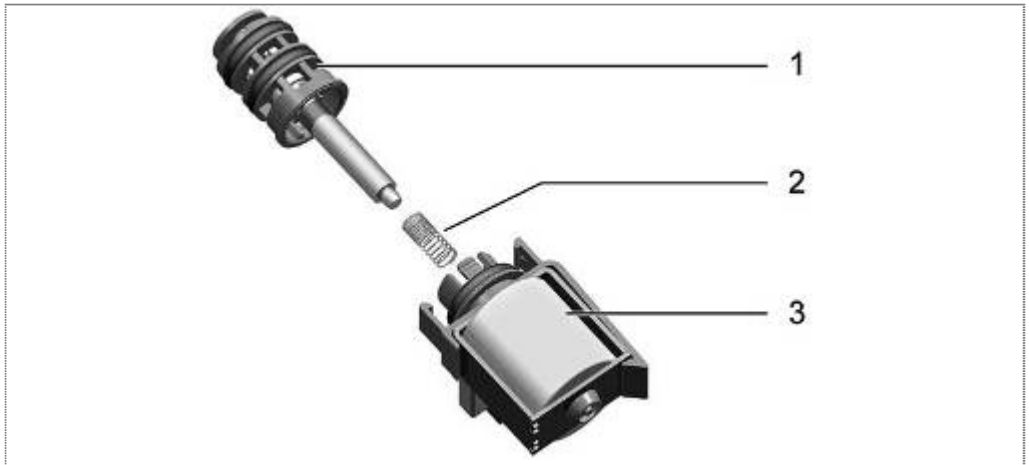
In dependence of the adjusted water hardness and the recognized quantity of water the regeneration cycle is steered by electronics.

3.12 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

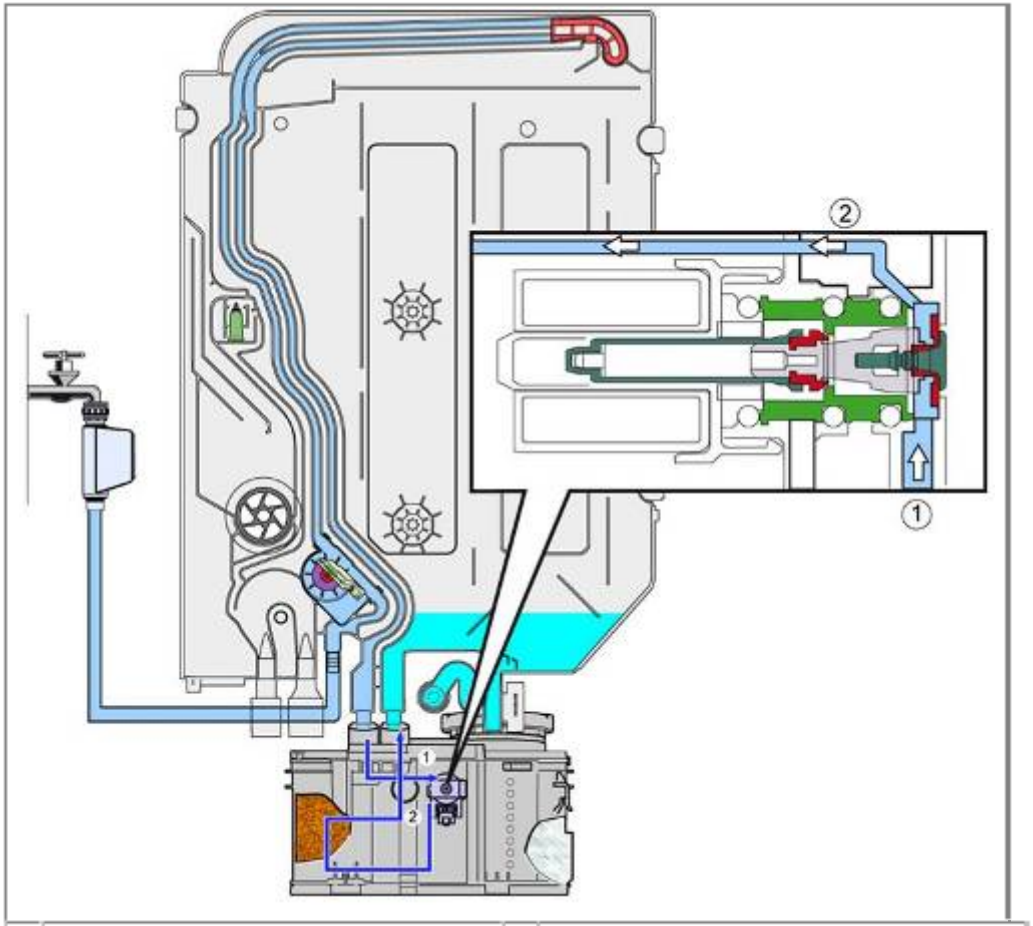
3.12.1 Design



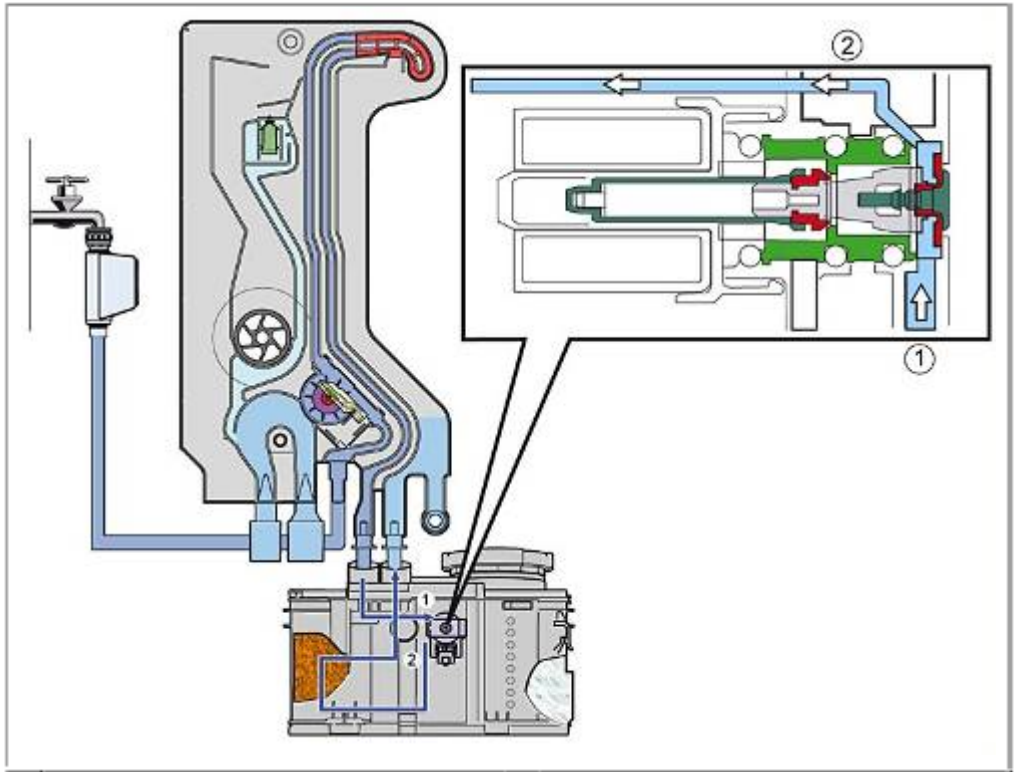
1	Valve with armature	3	Coil
2	Spring		

3.12.2 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.



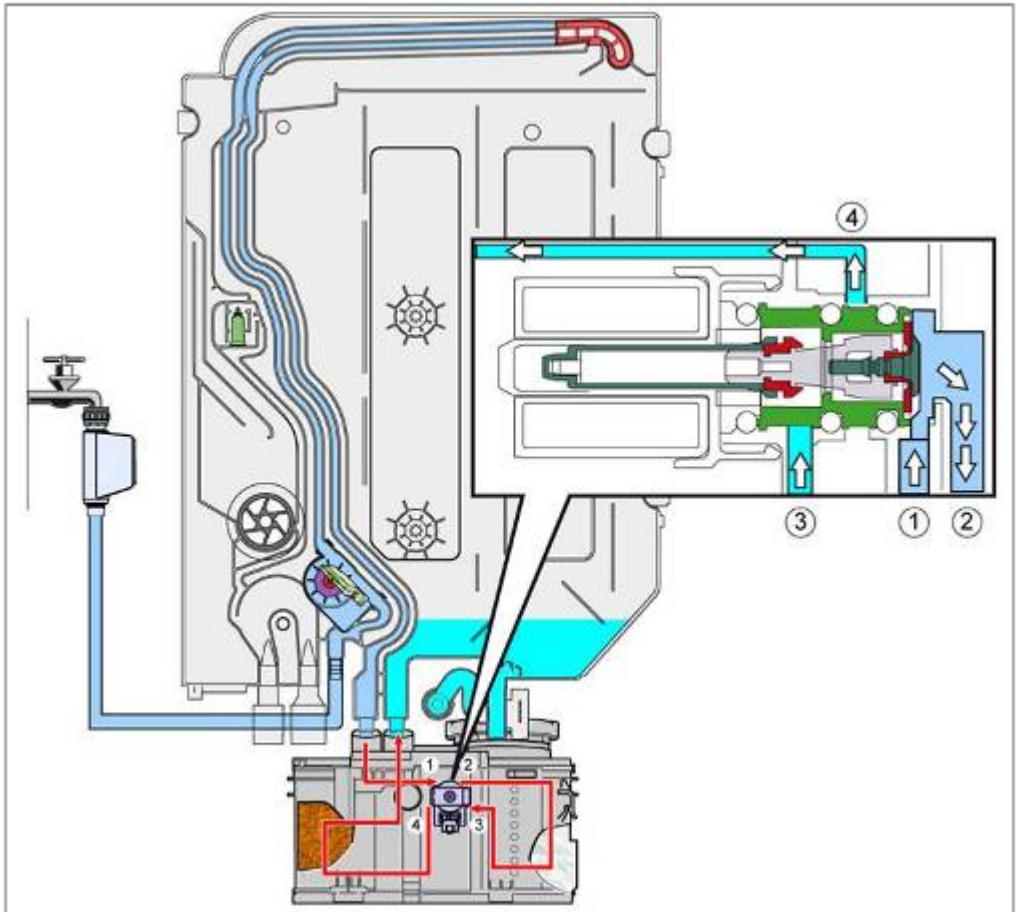
1	Untreated water inlet regeneration valve	2	Untreated water outlet regeneration valve



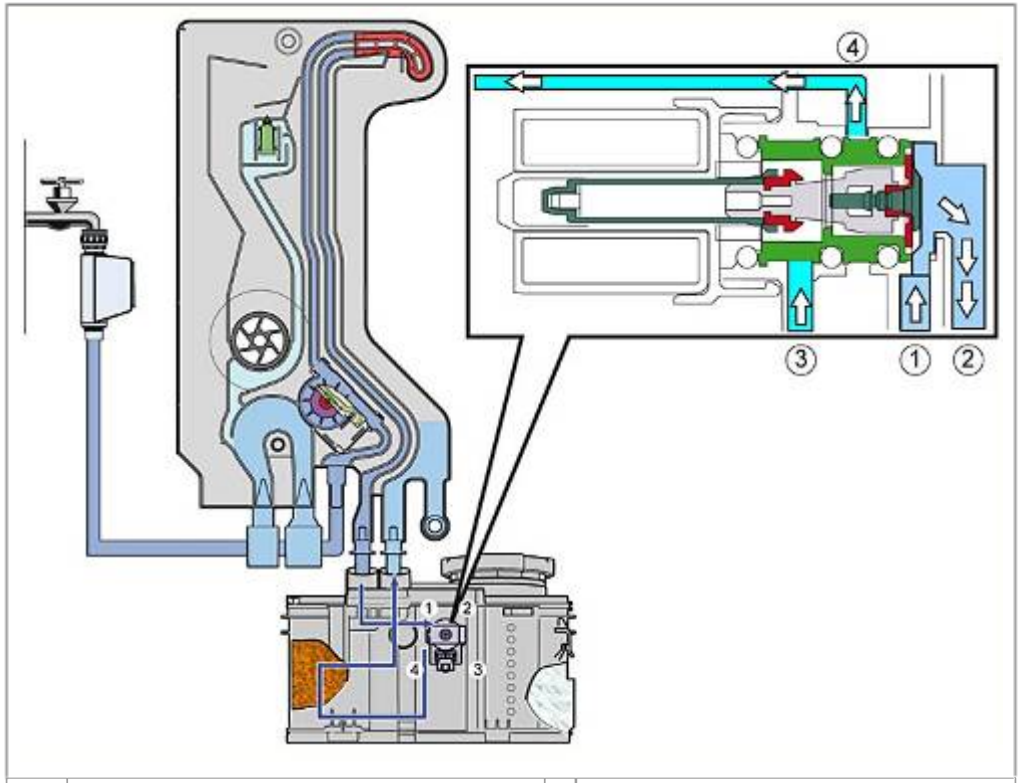
1	Untreated water inlet regeneration valve with water inlet	2	Untreated water outlet regeneration valve with water inlet

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.

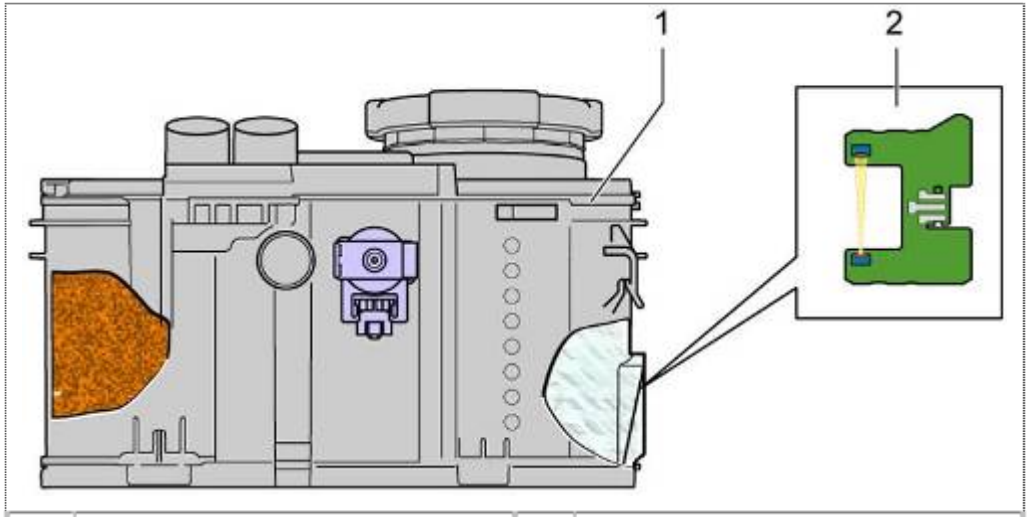


1	Untreated water inlet regeneration valve	3	Salt water inlet regeneration valve
2	Untreated water outlet regeneration valve	4	Salt water outlet regeneration valve



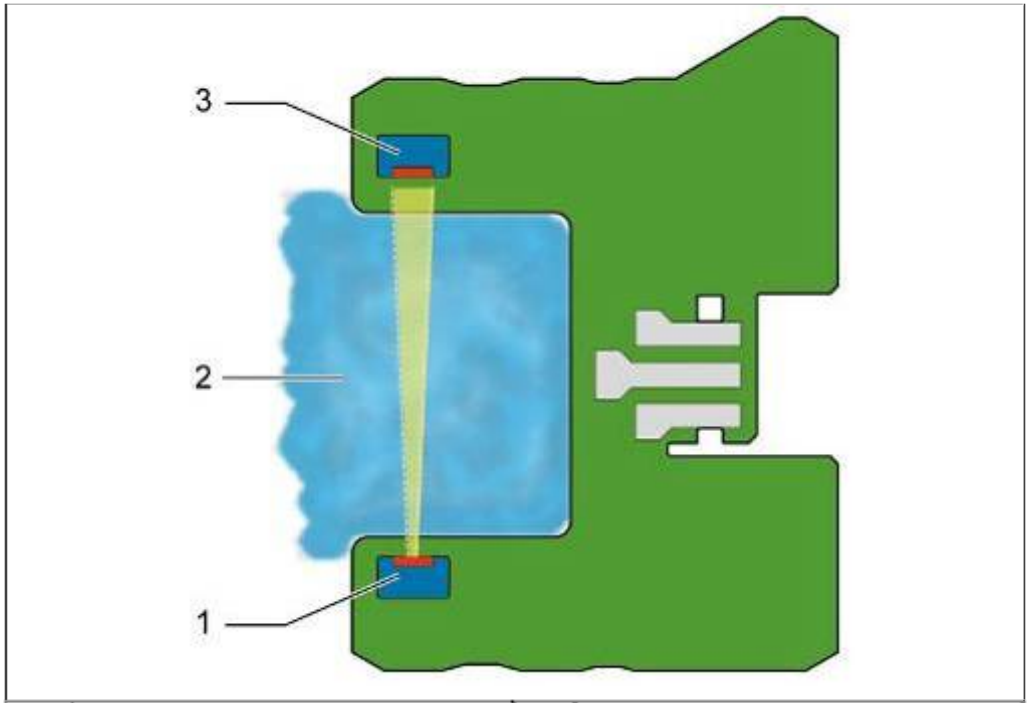
1	Untreated water inlet regeneration valve with water inlet	3	Salt water inlet regeneration valve with water inlet
2	Untreated water outlet regeneration valve with water inlet	4	Salt water outlet regeneration valve with water inlet

3.13 Low salt detection



1	Water softening system	2	PCB with light barrier

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		

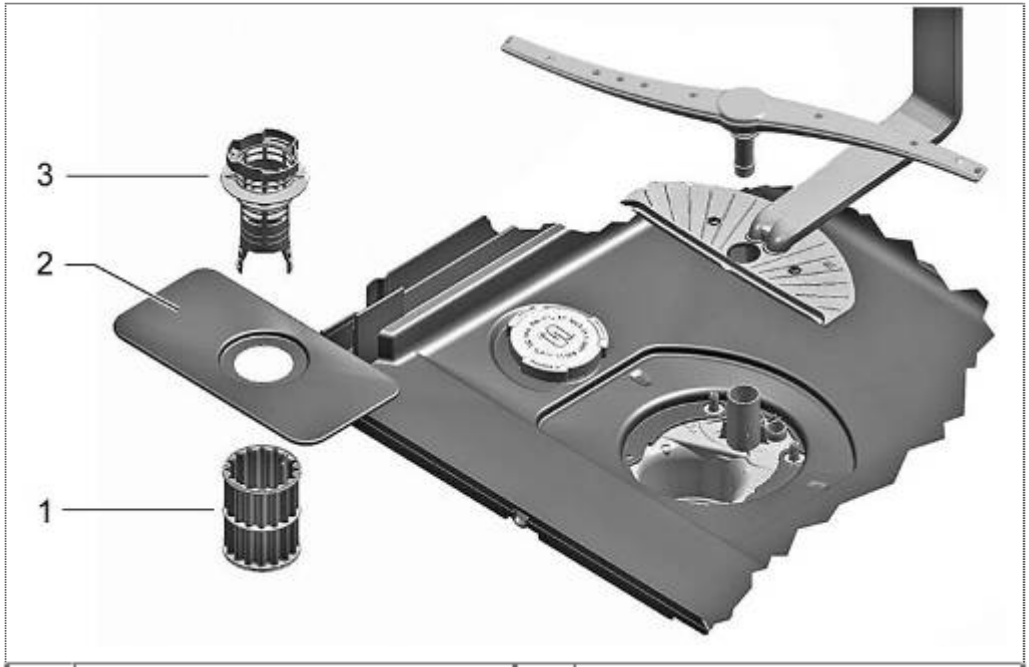
The salt level is detected via a light barrier. If the regeneration salt runs low, the line in the light barrier is freed and the electronics detect “Add salt”.

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.

Filling with salt tablets is system-dependently not recognized.

3.14 Filter system

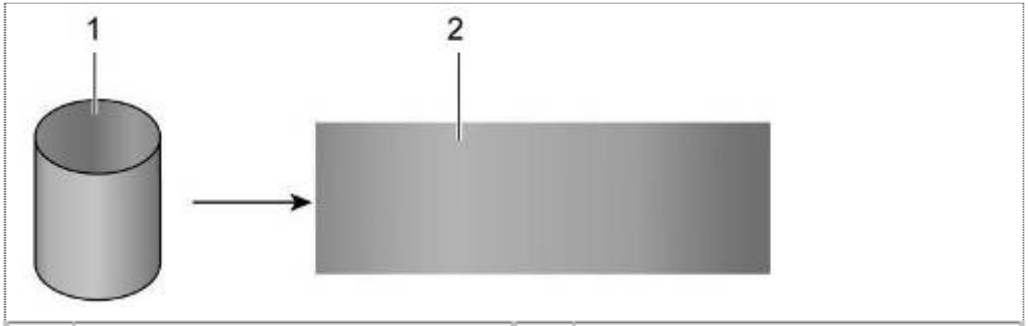


1	Fine filter cylinder	3	Coarse filter
2	Surface filter, alternatively stainless steel or plasic		

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

3.14.1 Fine filter cylinder

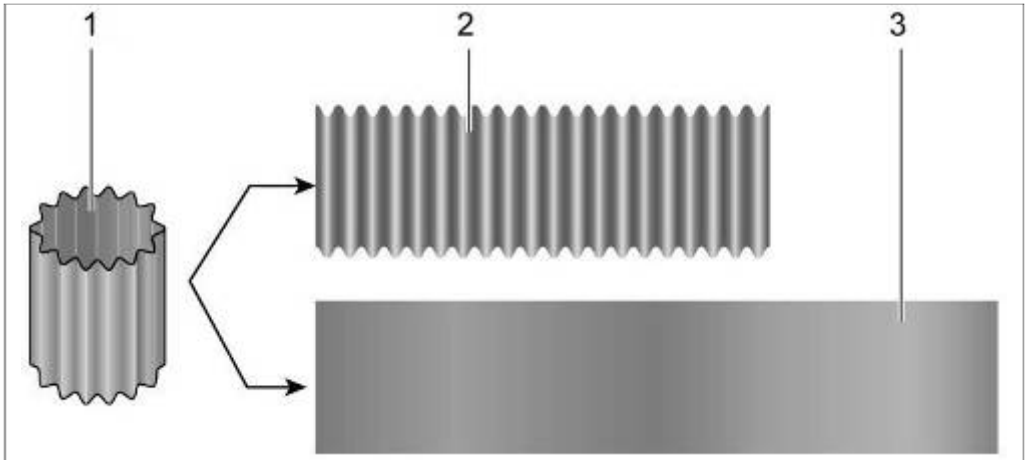
Conventional fine filter systems are based on a round cylinder shape. If the cylinder is rolled out, the filter surface can be seen.



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.

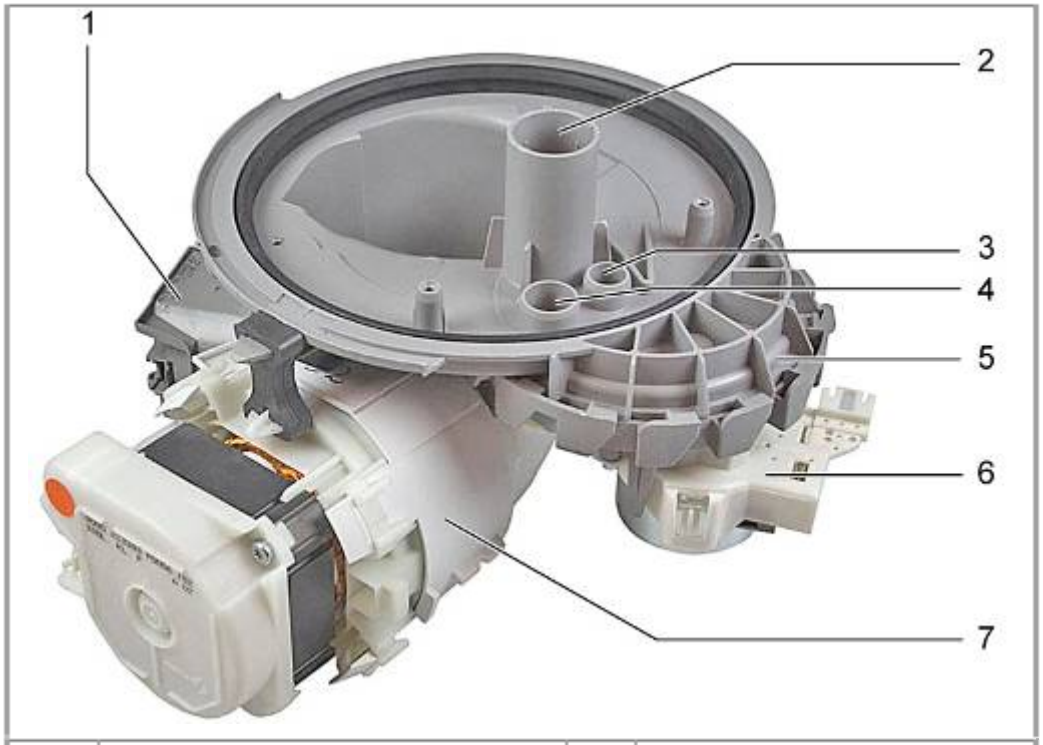
If it is rolled out and smoothed, a 1.5x filter surface can be seen.



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

3.15 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		

3.15.1 Covers in the pump sump

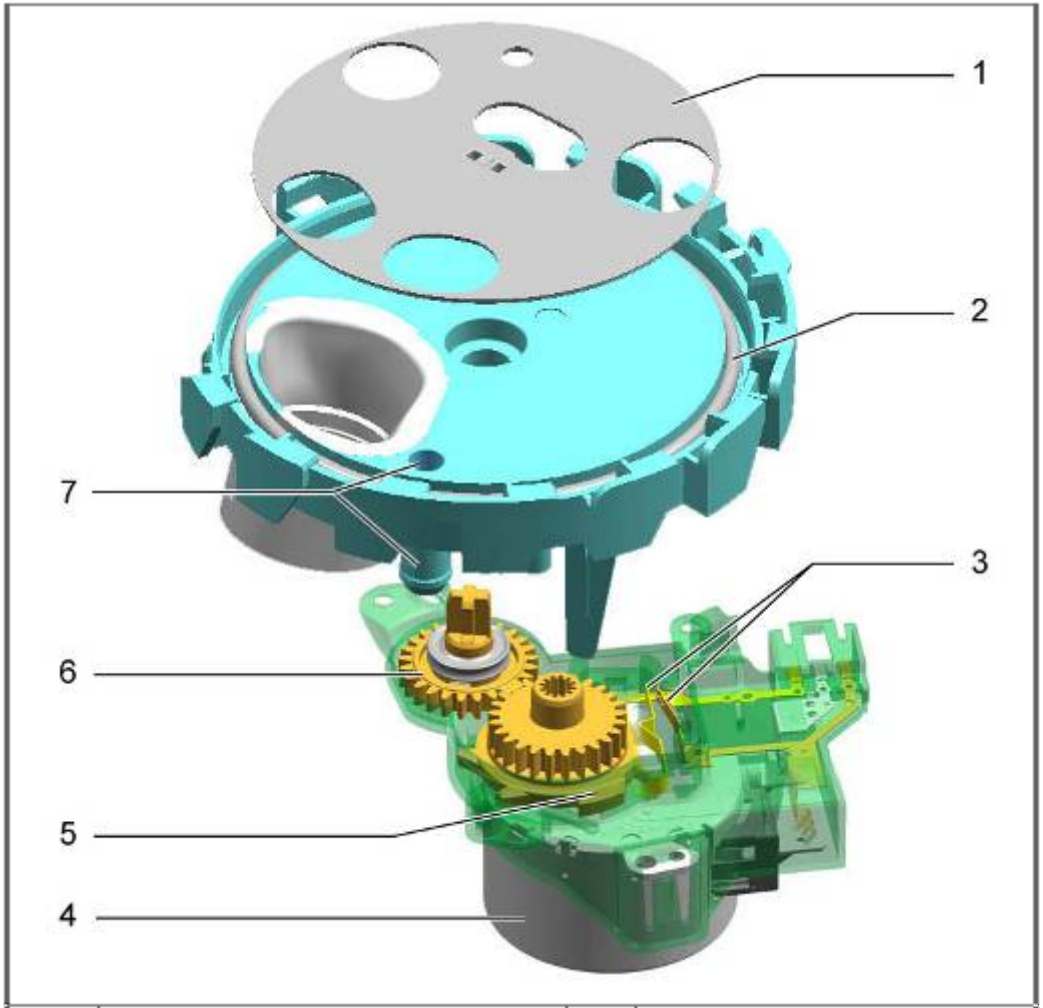
The suction cap ensures that the pump has an optimized suction performance and flow performance. No air or dirt is drawn in. This cap should not be removed by the customer.

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.

3.16 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.

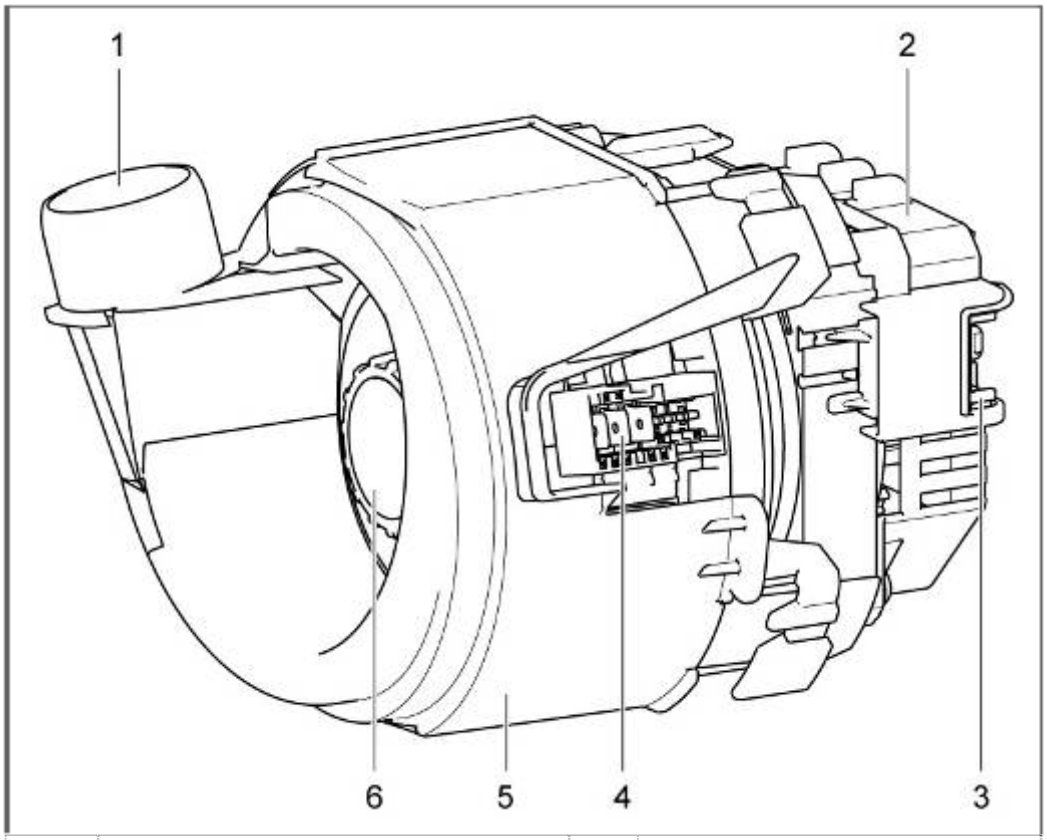
It consists of a drive motor with cam plate, pulse generator and the locking disc. When the appliance is switched on, the motor is actuated via a triac. The cam plate is attached to the motor axle. The cam plate actuates a switch (pulse generator) which transmits pulses of different length and intervals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

3.17 Heating pump

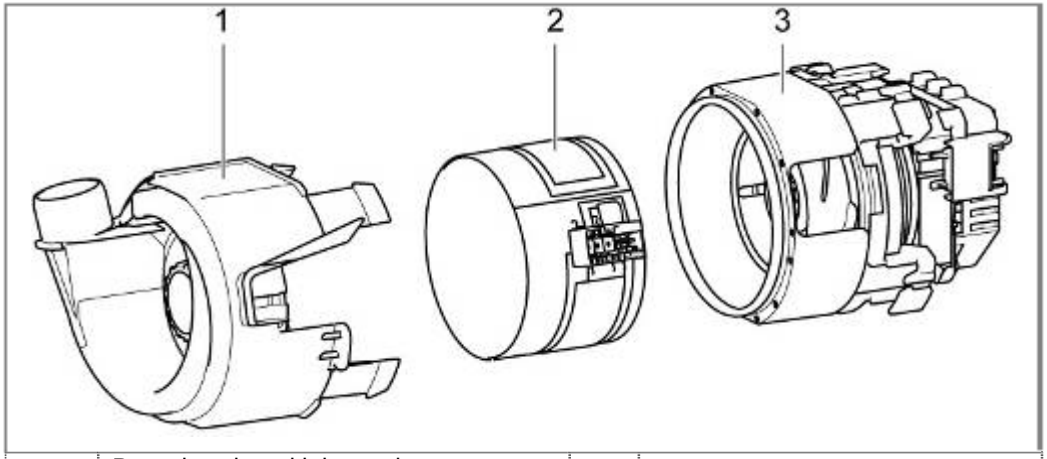
3.17.1 Overall view of the heating pump

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

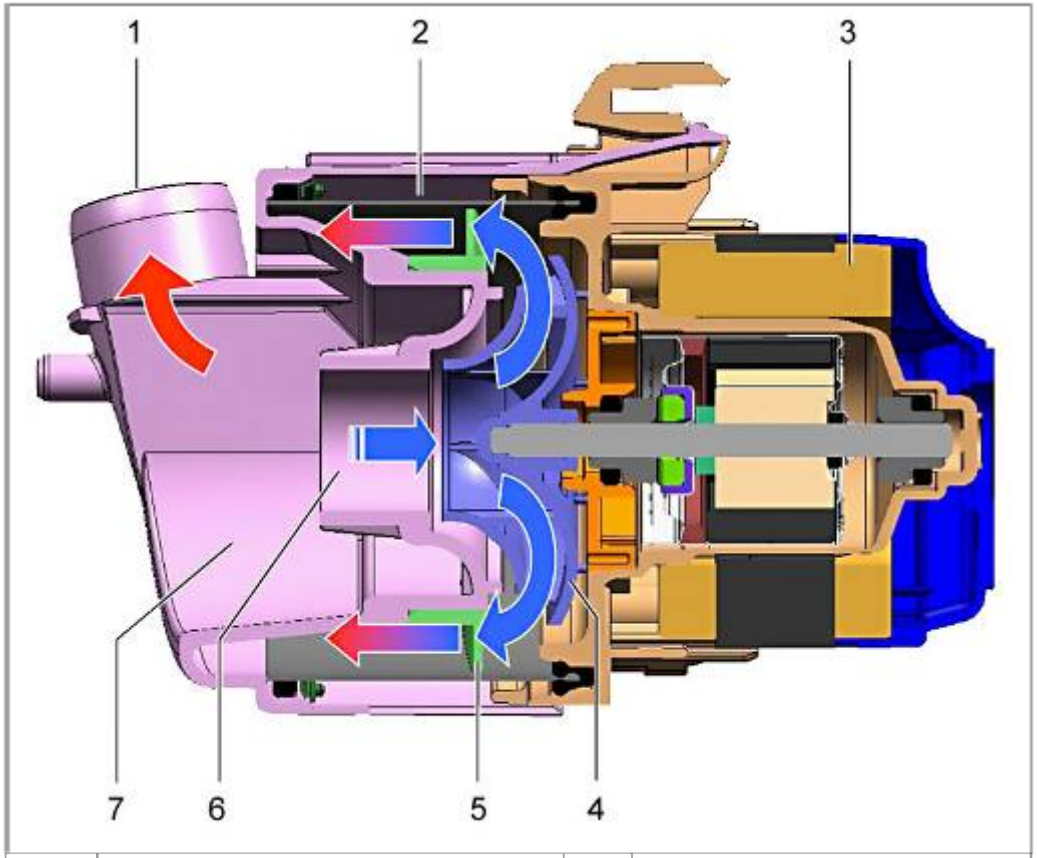


1	Pressure connection	4	Heater connection
2	Circulation pump motor	5	Housing cover
3	Circulation pump motor connection	6	Intake connection

3.17.2 Design of the heating pump:



1	Pump housing with internal temperature shield made of metal	3	BLDC motor
2	Heating tube with NTCs		



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		

3.17.3 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.

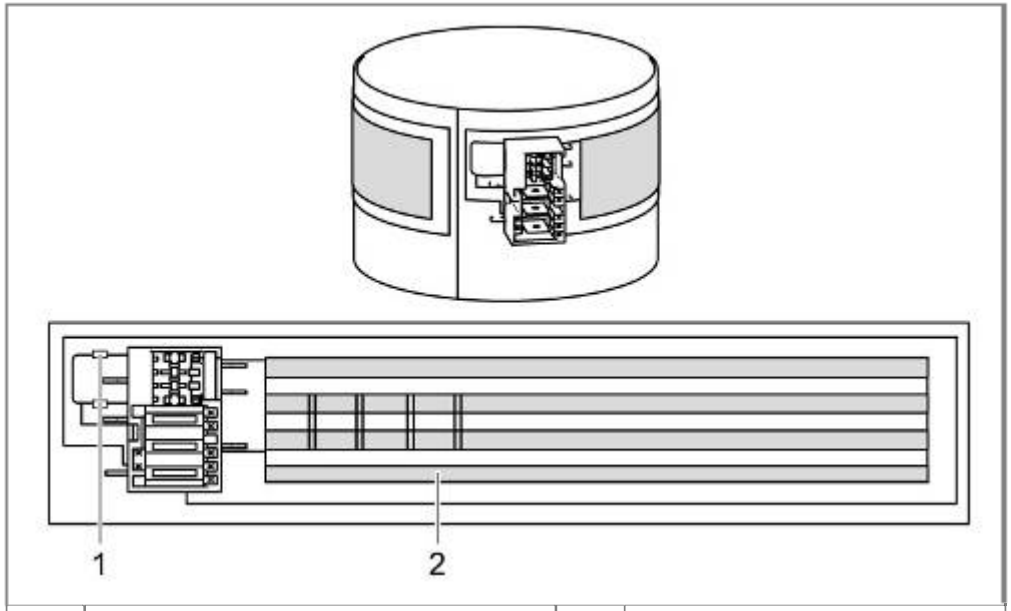
While water is being circulated, the BLDC motor (Brushless DC Motor) signals different states to the power electronics via the current consumption of the individual windings:

- No water,
- too little water, snorkels
- adequate water level, (true running)
- 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 several approach attempts, the pump try to loosen the blockage.
If this is not successful, the running programme ends. A corresponding error code is saved in the error memory.

3.17.4 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.

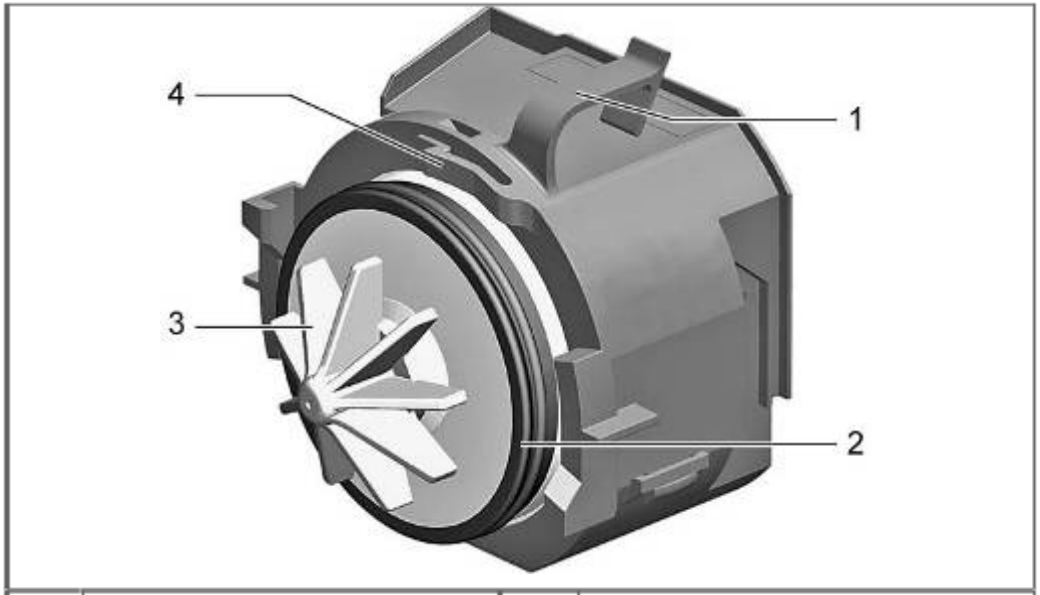
3.17.5 Function of the heater / NTCs

The water temperature is determined via the NTCs.

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

If the appliance is connected to a hot water connection or solar equipment, the heater is switched off at a supply water temperature of > 70 °C.

3.18 Drain pump



1	Catch mechanism	3	Impeller wheel
2	Seal	4	Cable holder

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.

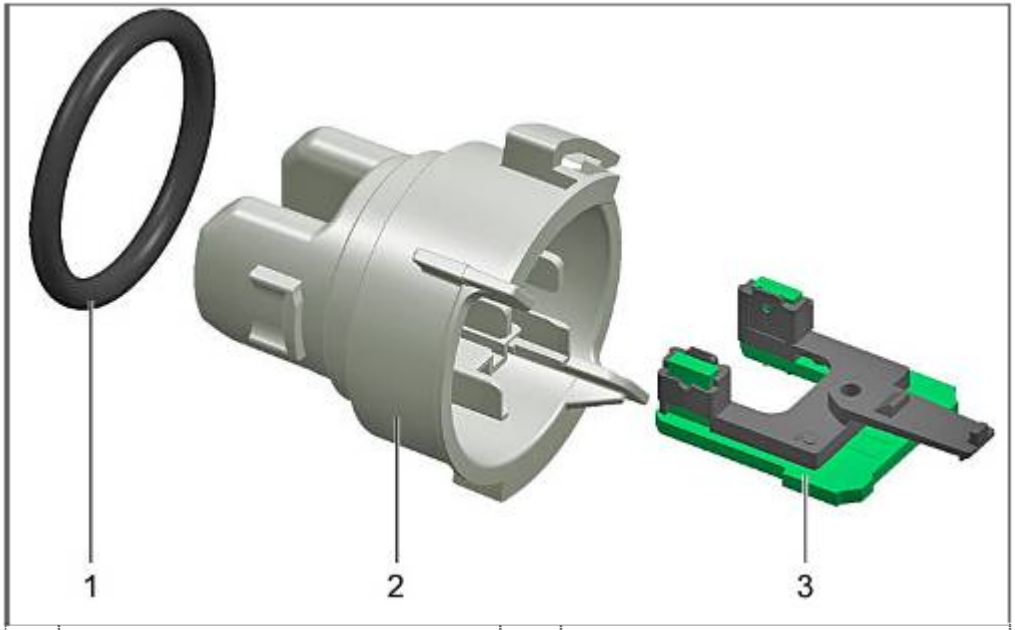
If there is no cap in the pump sump, water pressure cannot build up. An error code is saved in the electronics.

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.

3.19 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.

3.20 Spray system

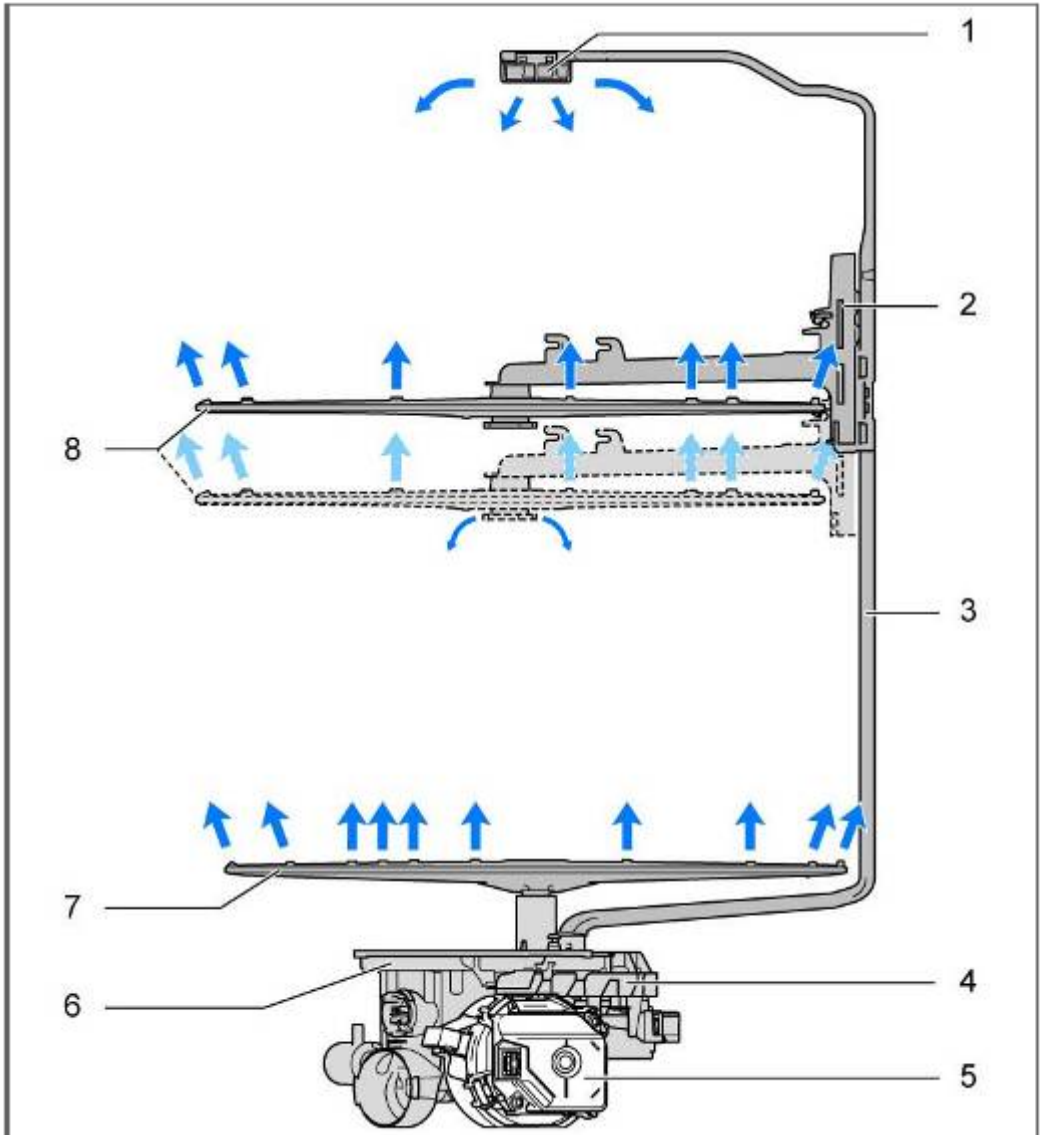
The spray system consists of 3 spraying levels: the lower and upper spray arms and an optional roof shower head. Water is supplied to the upper spray arm and the roof shower head via the supply pipe attached to the inside of the tank rear panel. This pipe is connected to the pump sump by a direct plug-and-socket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



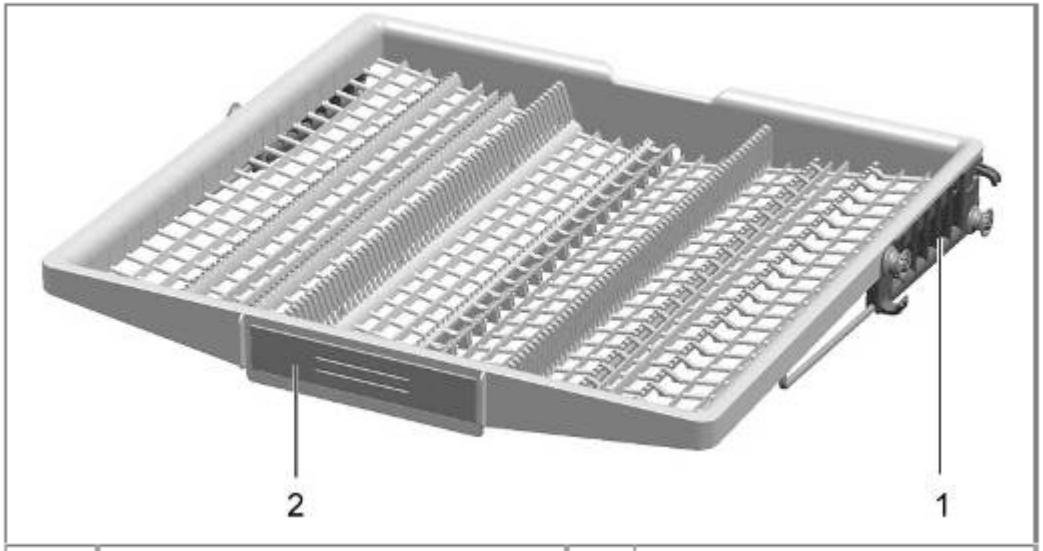
1	Roof shower/roof spinner (optional)	5	Heating pump
2	Coupling for upper spray arm	6	Pump sump
3	Supply pipe	7	Lower spray arm
4	Water switch (optional)	8	Upper spray arm

3.21 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	–	■	■

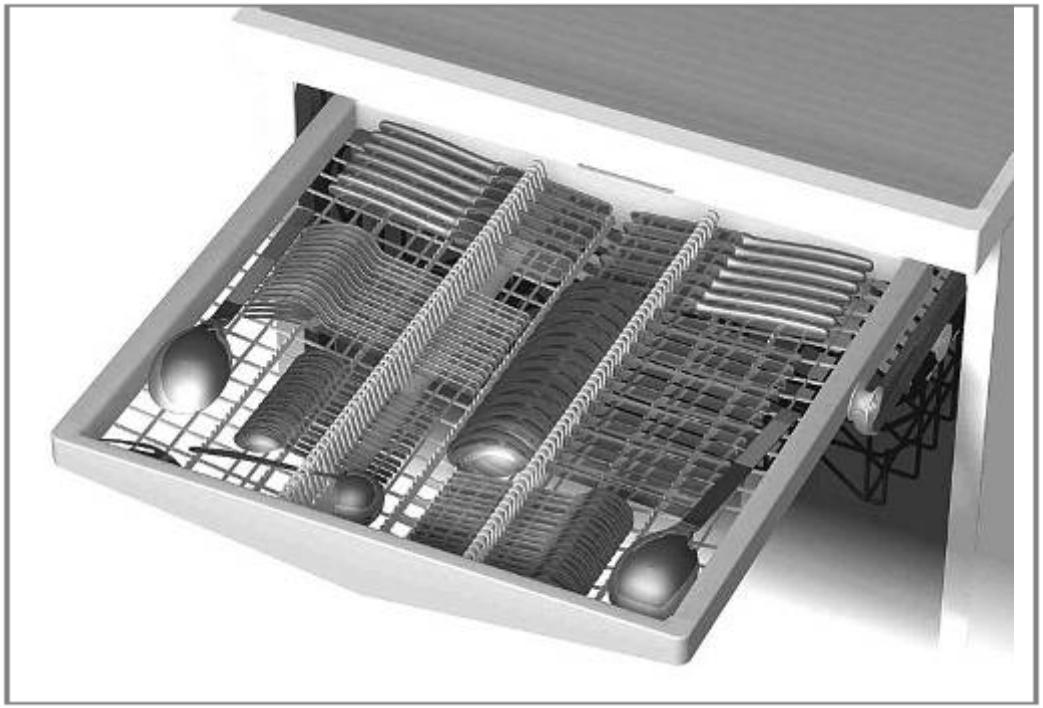
3.21.1 Cutlery drawer - option



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:

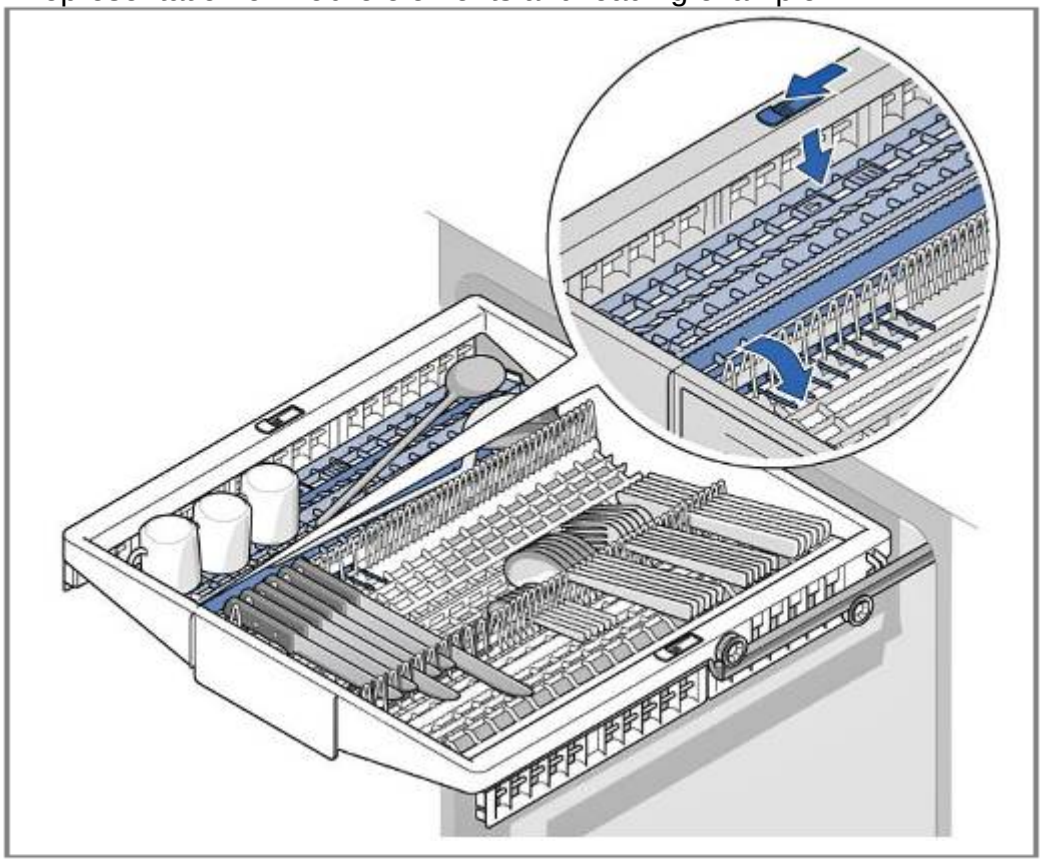


3.21.2 VarioDrawer Plus – optionally from 10/2011

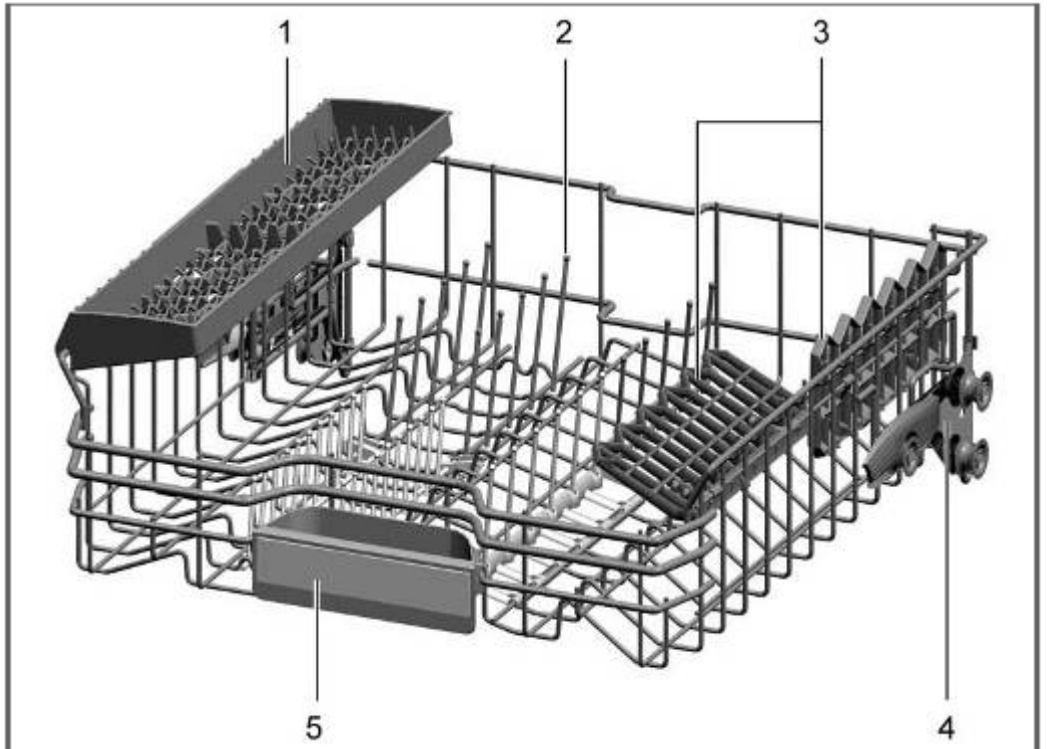
1	Lowerable elements	3	Folding spikes
2	Lowering mechanism	4	Opening

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:



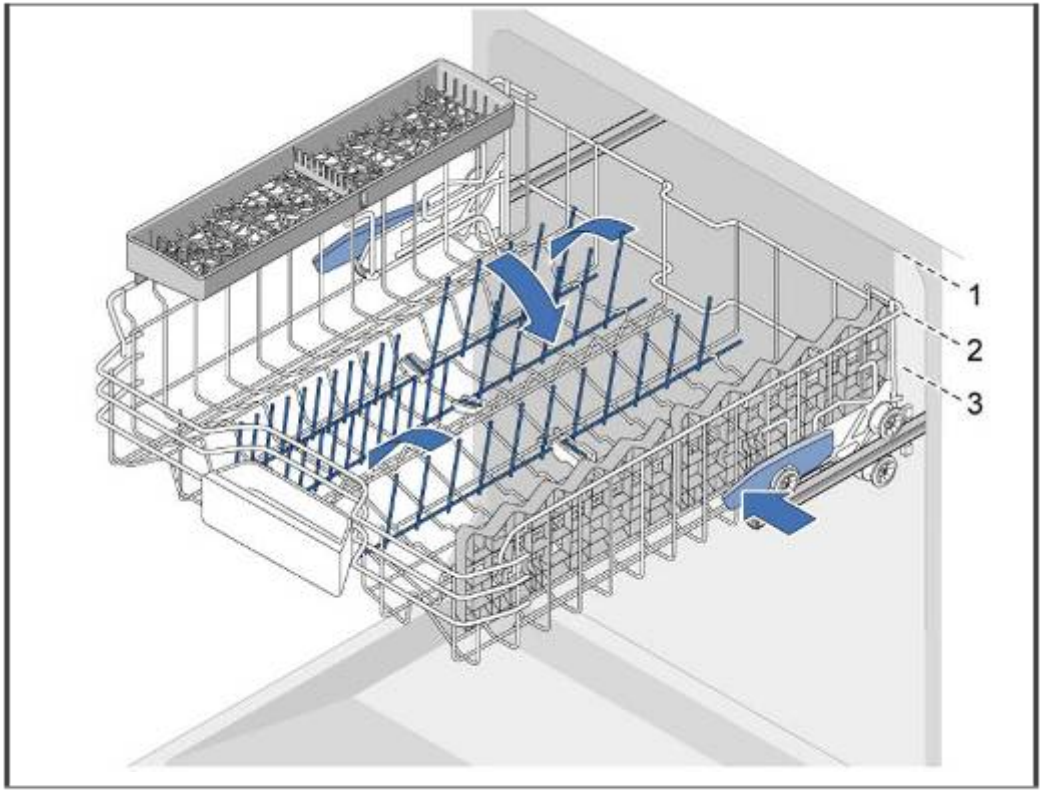
3.21.3 Top basket



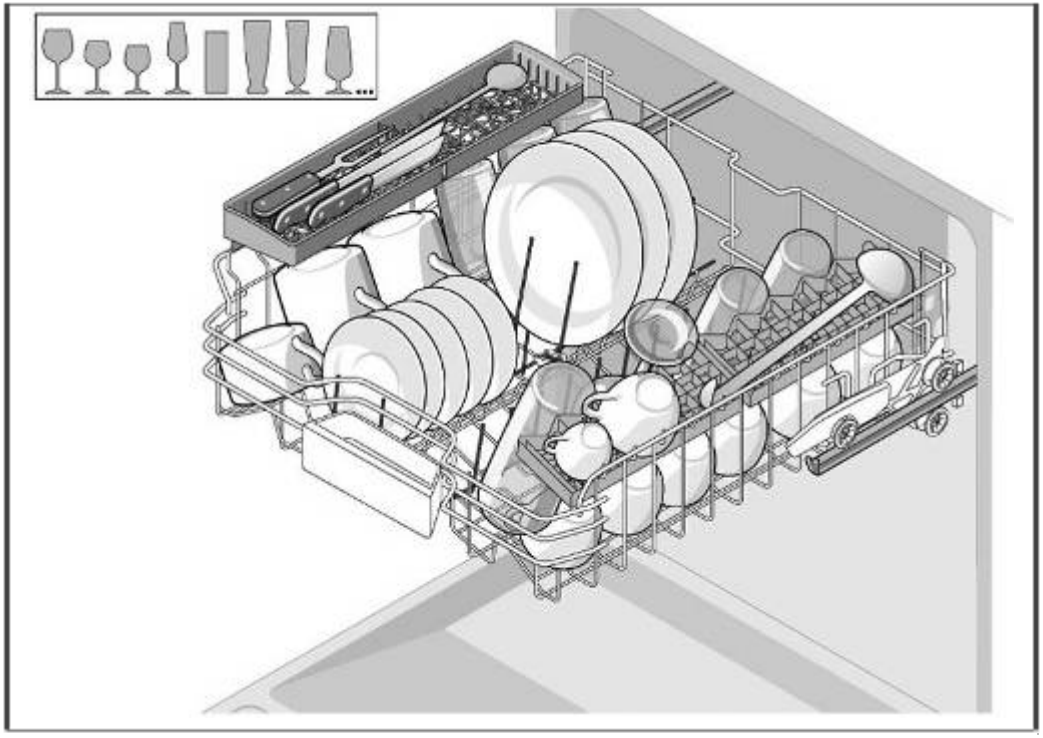
1	Knife shelf	4	Rackmatik plate
2	Folding spikes	5	Basket handle
3	Split, hinged additional cup racks		

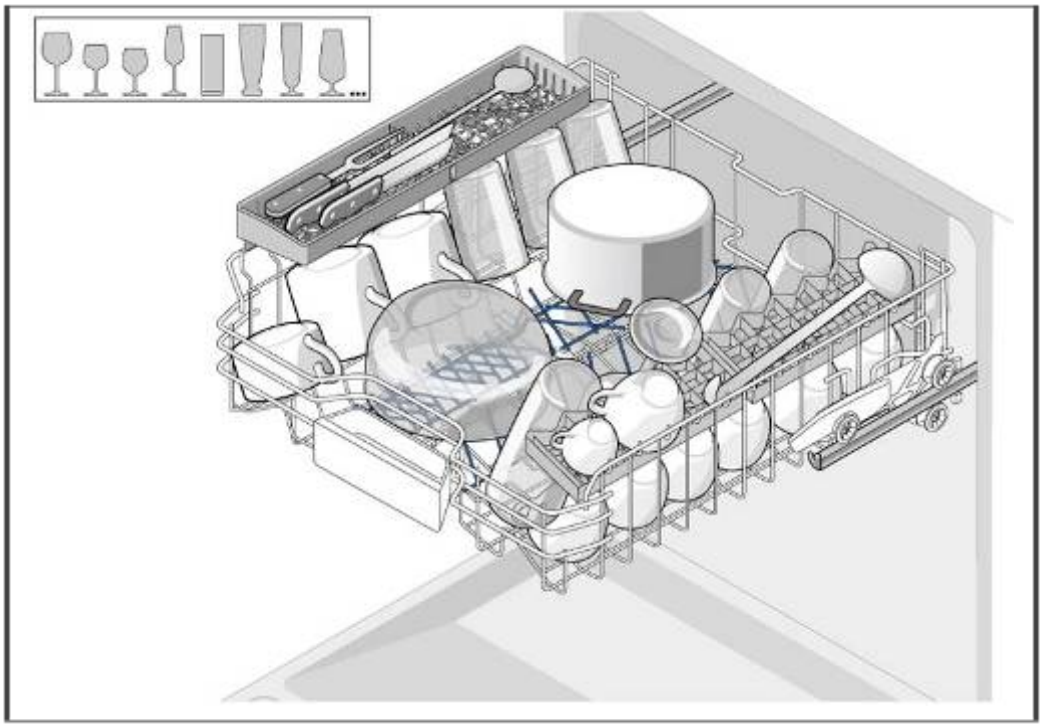
The extendable top basket is loaded with smaller plates, glasses and cups. The utensils are cleaned by a spray arm under the top basket. When the top basket is pushed in, it docks with the supply pipe at the rear to make the water connection (see Spray system).

Representation of mobile elements:

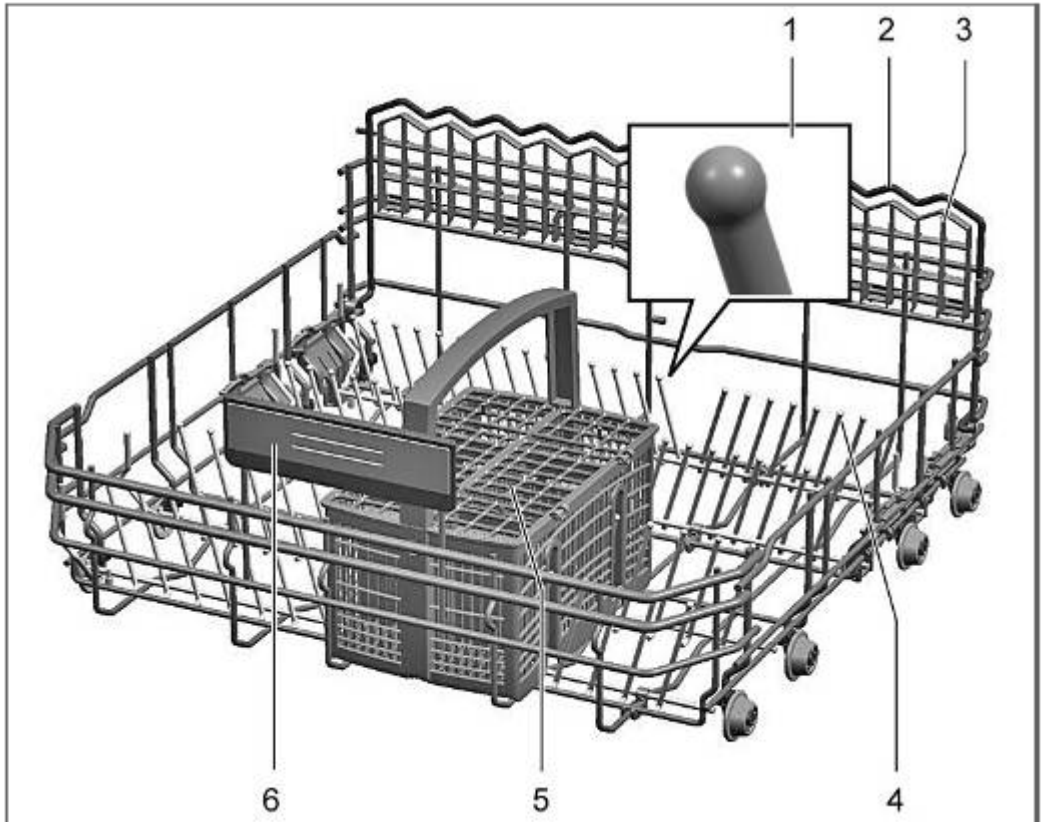


Loading example:





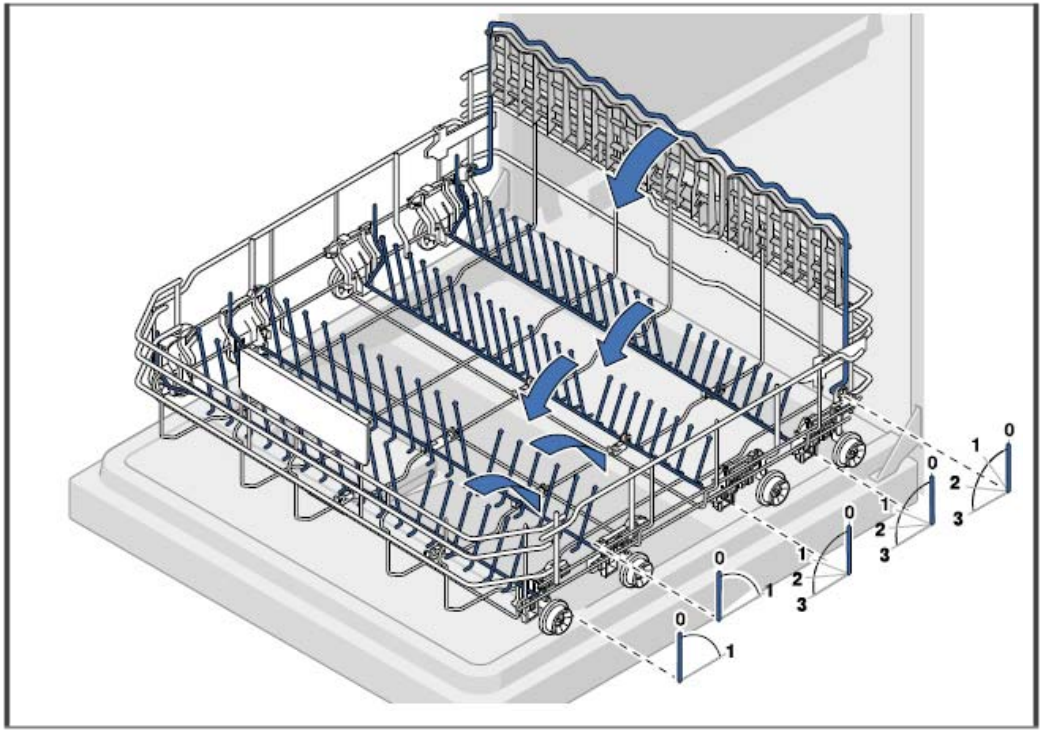
3.21.4 Bottom basket



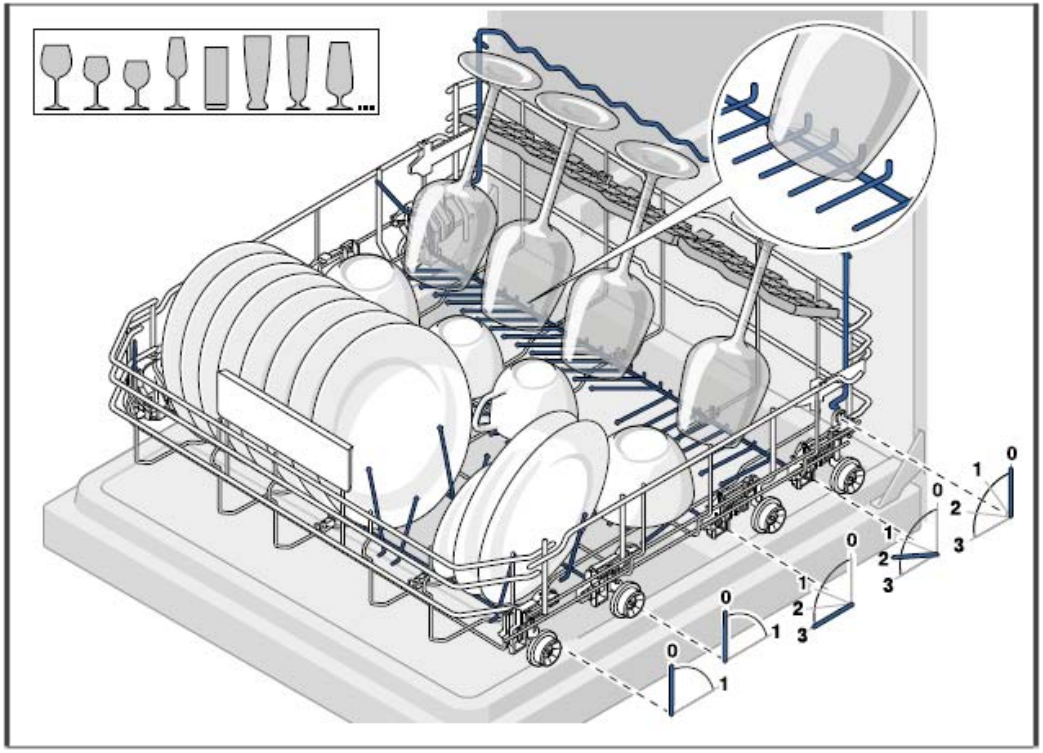
1	Ball ends	4	Folding spikes
2	Holder for long-stemmed glasses	5	Cutlery basket (optionally)
3	Split, hinged additional cup racks	6	Basket handle

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).

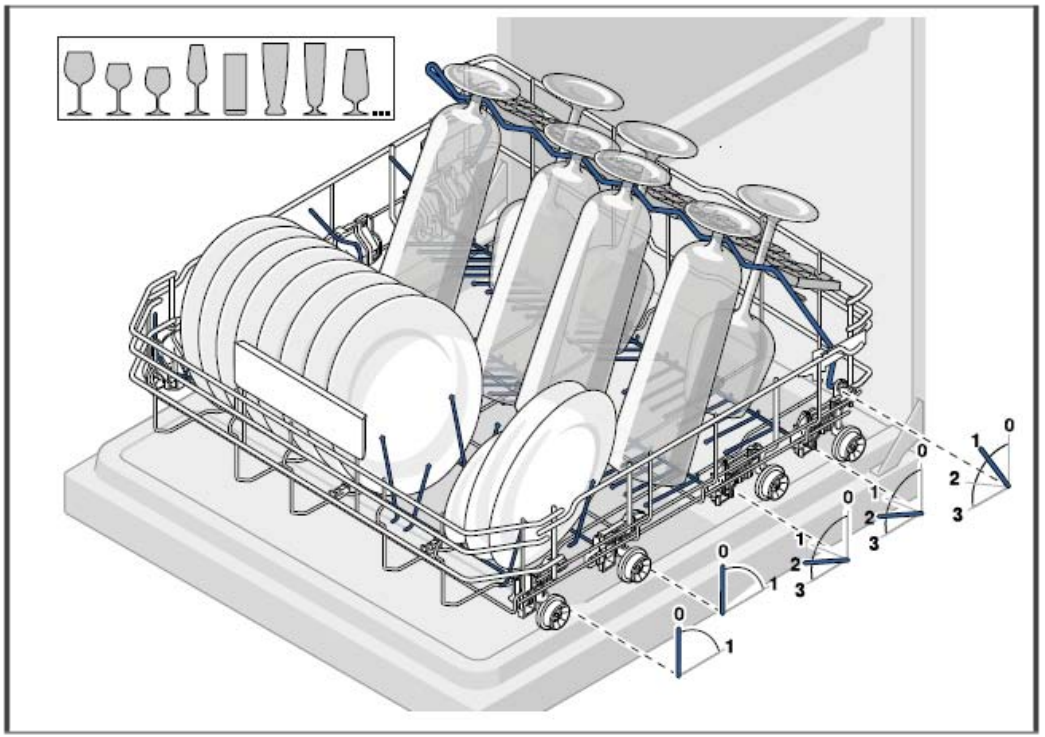
Representation of mobile elements:

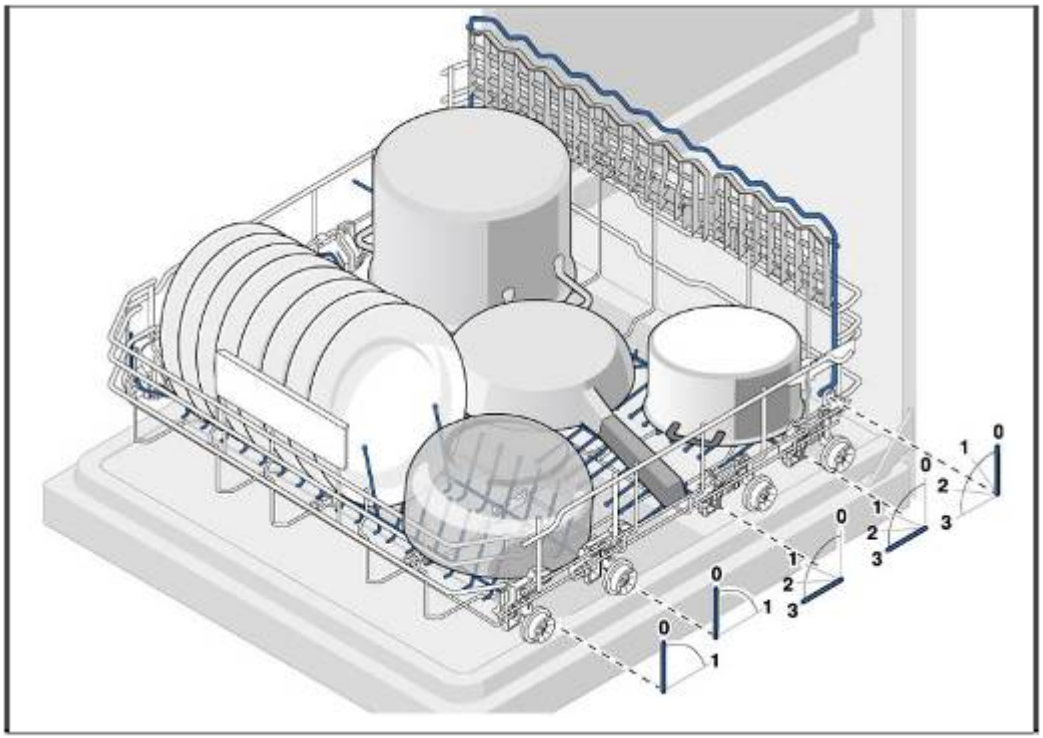


Loading example:



Loading example:





3.21.5 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.

3.21.6 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.

3.21.7 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.

3.21.8 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.

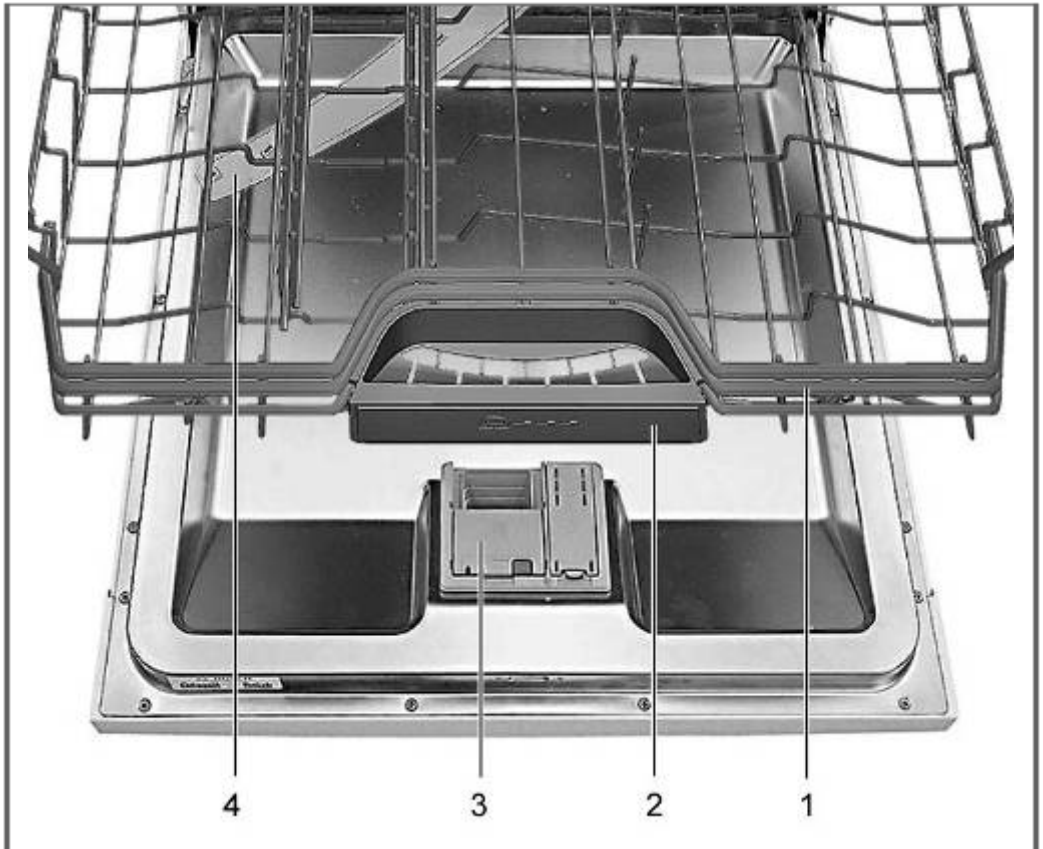
The top basket can also be tilted to the right or left.

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.

3.21.9 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.

3.22 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.

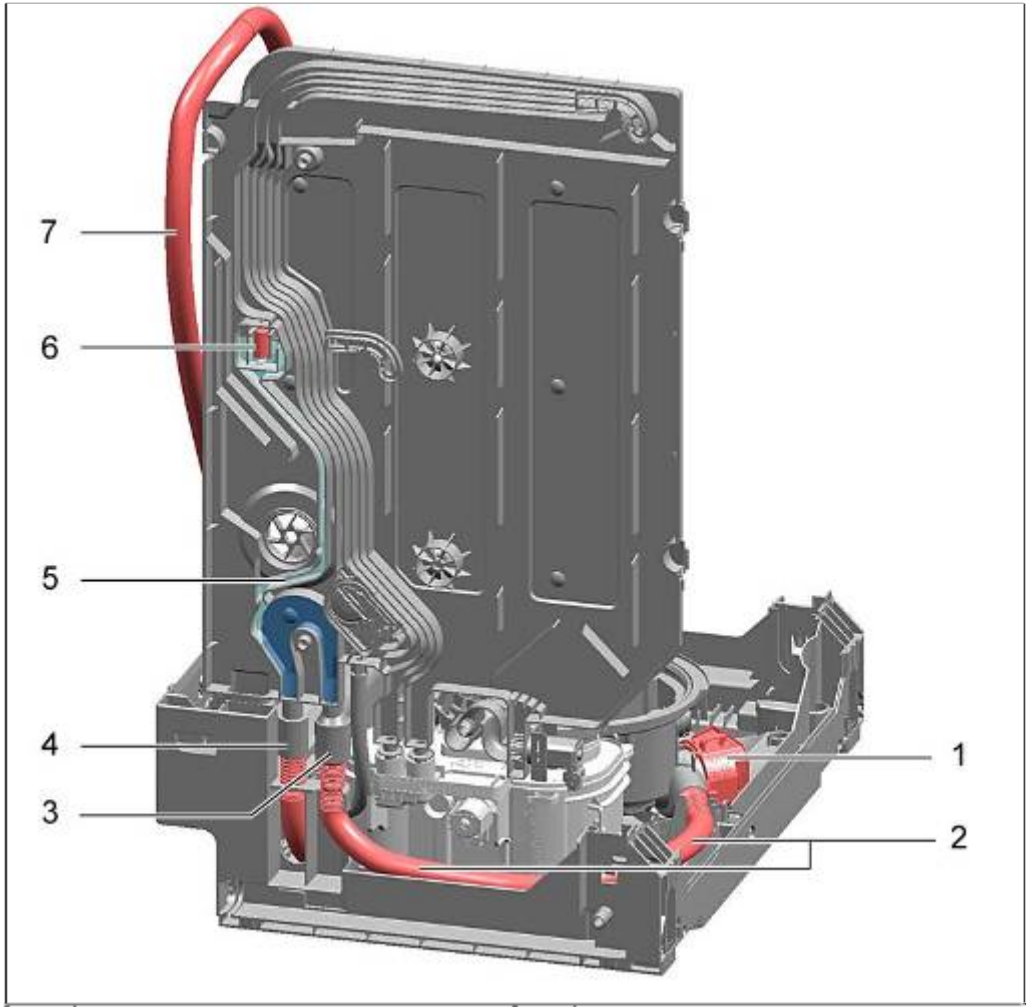
The dispenser is situated in the middle of the door on the upper side of the door.

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.

3.23 Water outlet

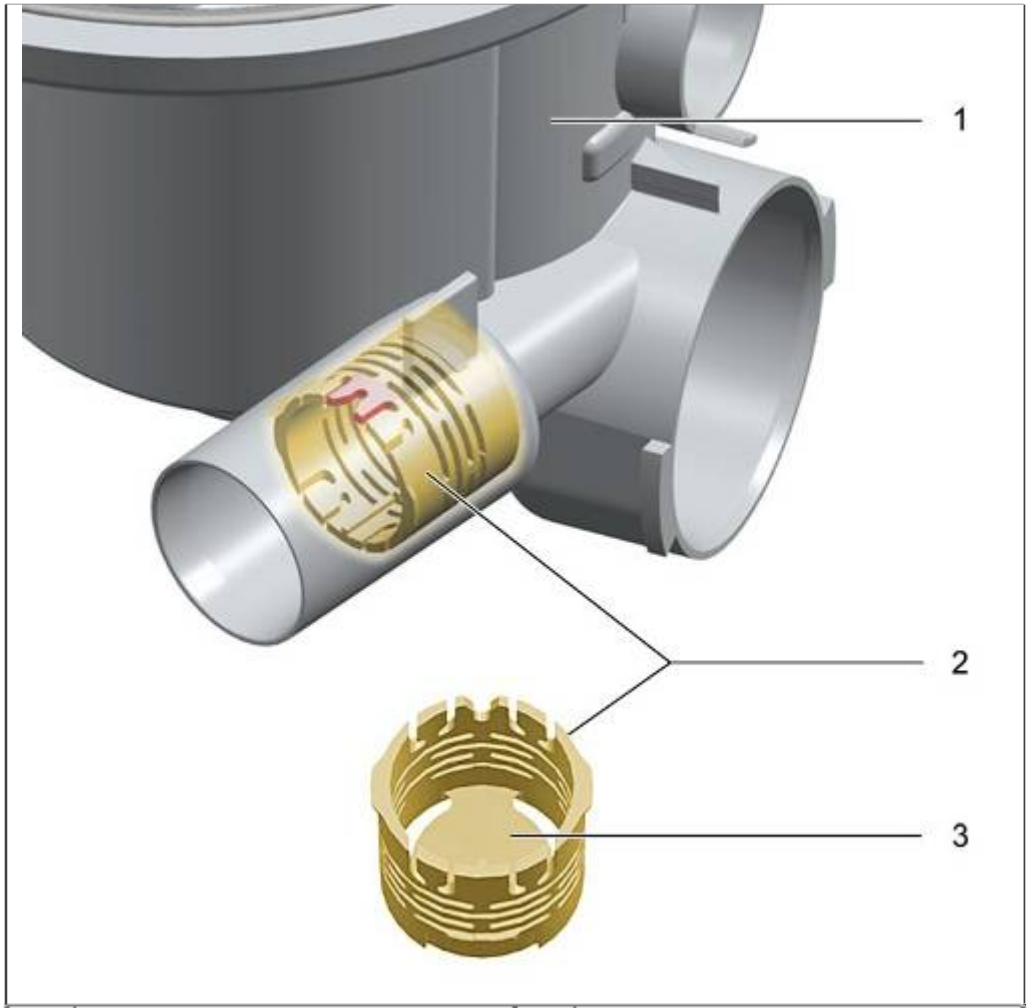


1	Drain pump	5	Air duct
2	Inner drainage hose	6	Float chamber with float
3	Input water outlet	7	Drainage hose
4	Output water outlet		

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.

3.24 Non-return valve

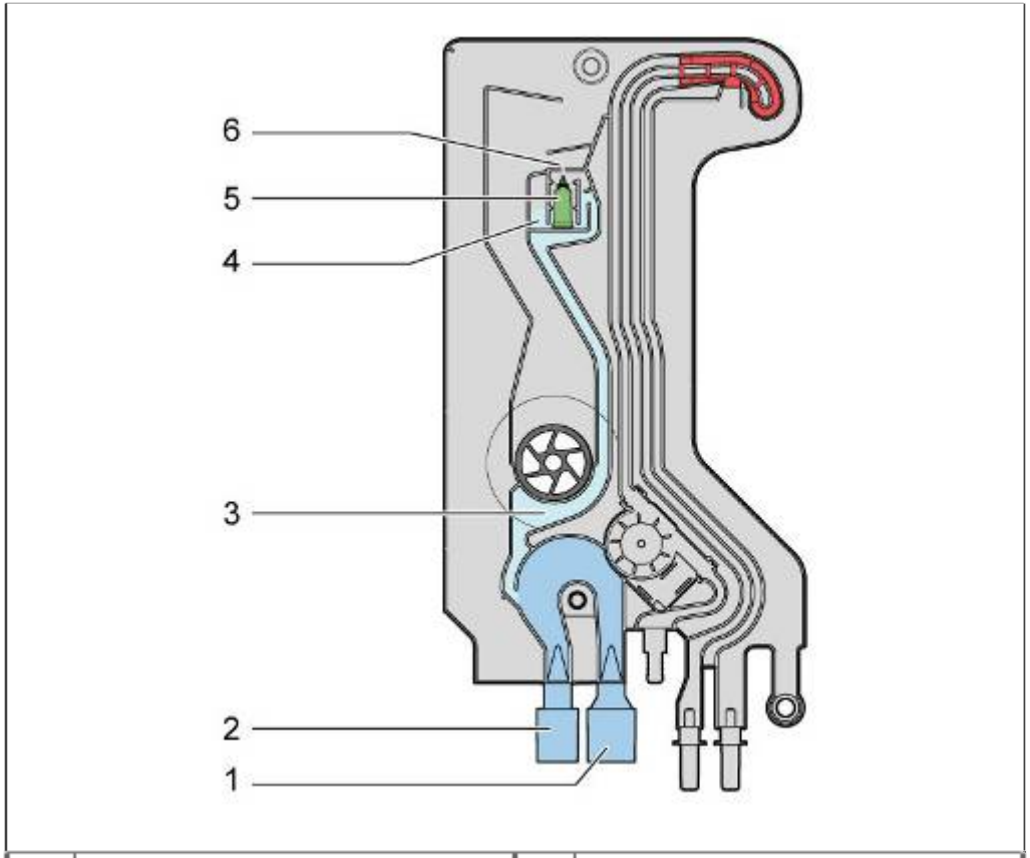


1	Pump sump	3	Sealing lip
2	Non-return valve		

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.

3.25 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.

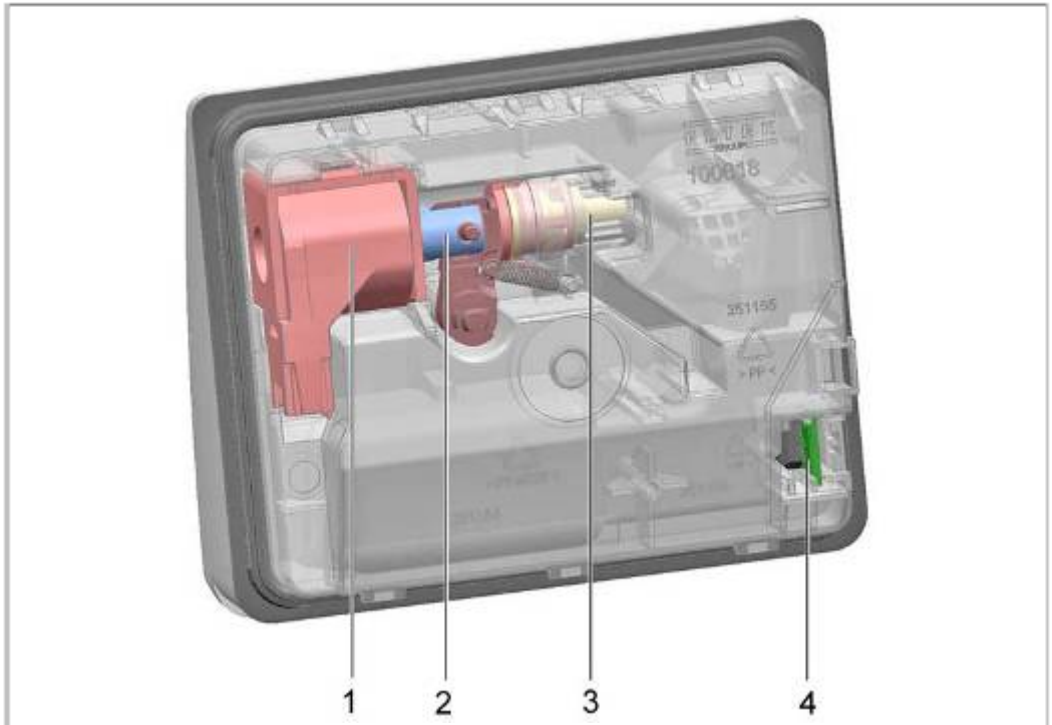
The ventilation opening is released by the float as soon as the water flow in the water outlet decreases. The appliance cannot be drained while the liquor pump is deactivated as air can flow in via the ventilation opening.

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

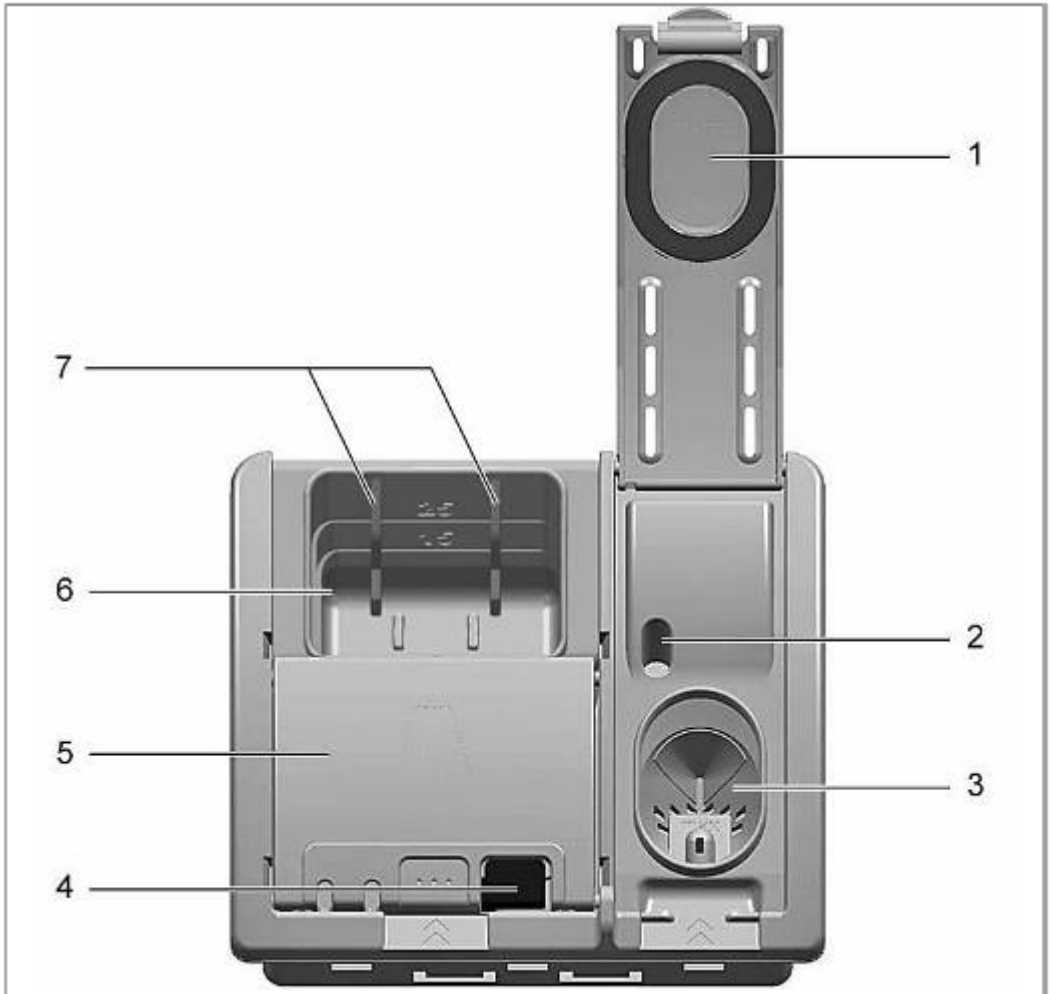
Electronics detects the blockage over by drain pump
An error code is saved in the failure memory.

3.26 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		

3.26.1 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.

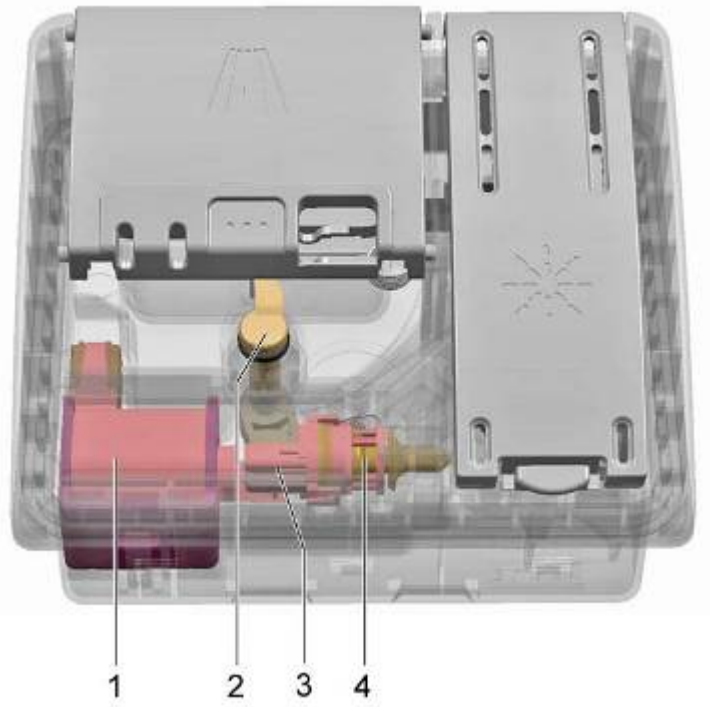
There is a switching mechanism between the coil anchor and the rinse-aid valve. The switching mechanism prevents rinse aid from being metered when the coil is initially actuated.

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.

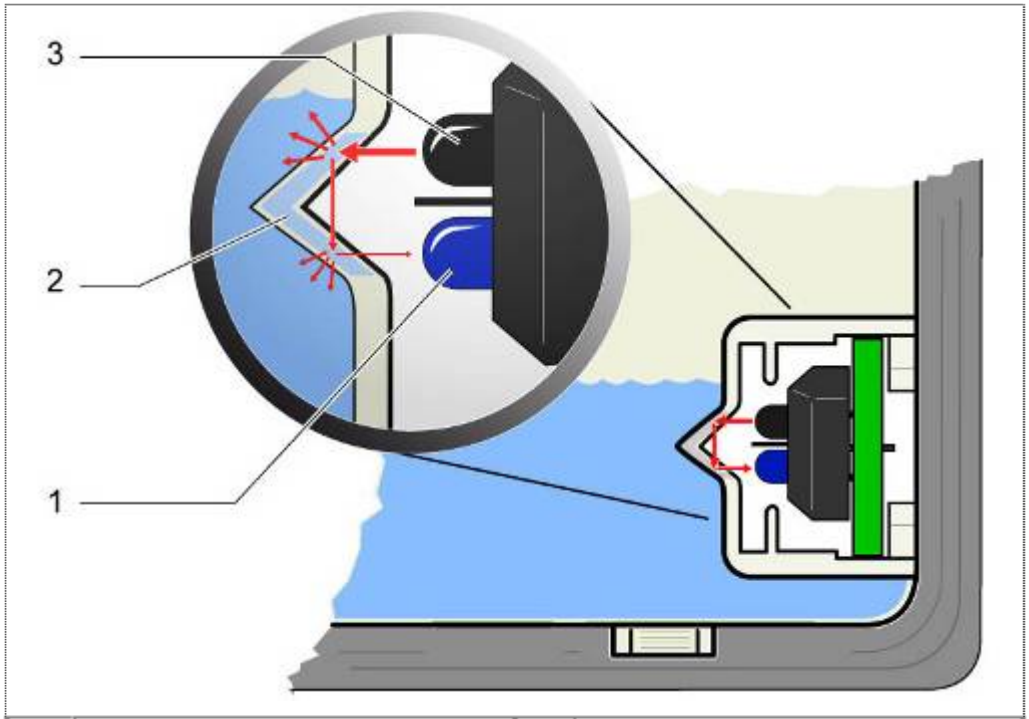


1	Coil	3	Anchor with switching mechanism
2	Release lever	4	Dosing pump

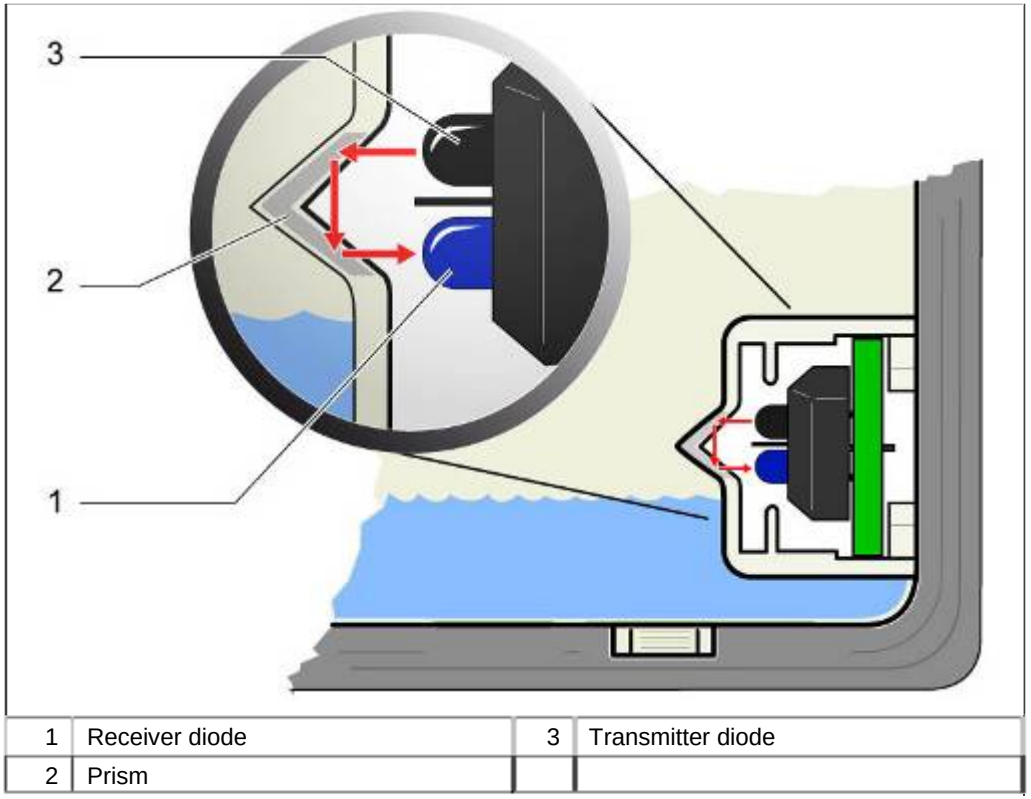
3.27 Low rinse-aid sensor

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.

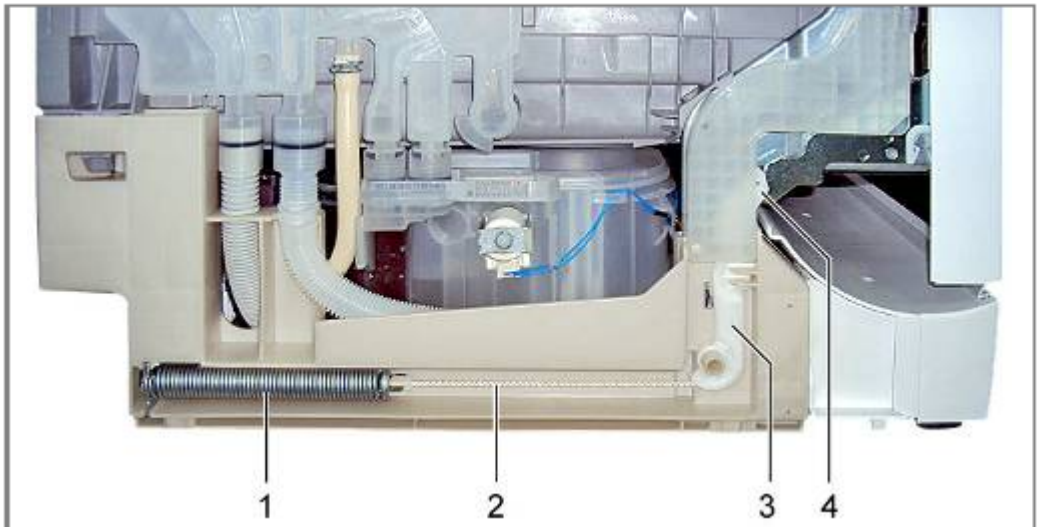
3.28 Door springs

The door springs are situated 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.

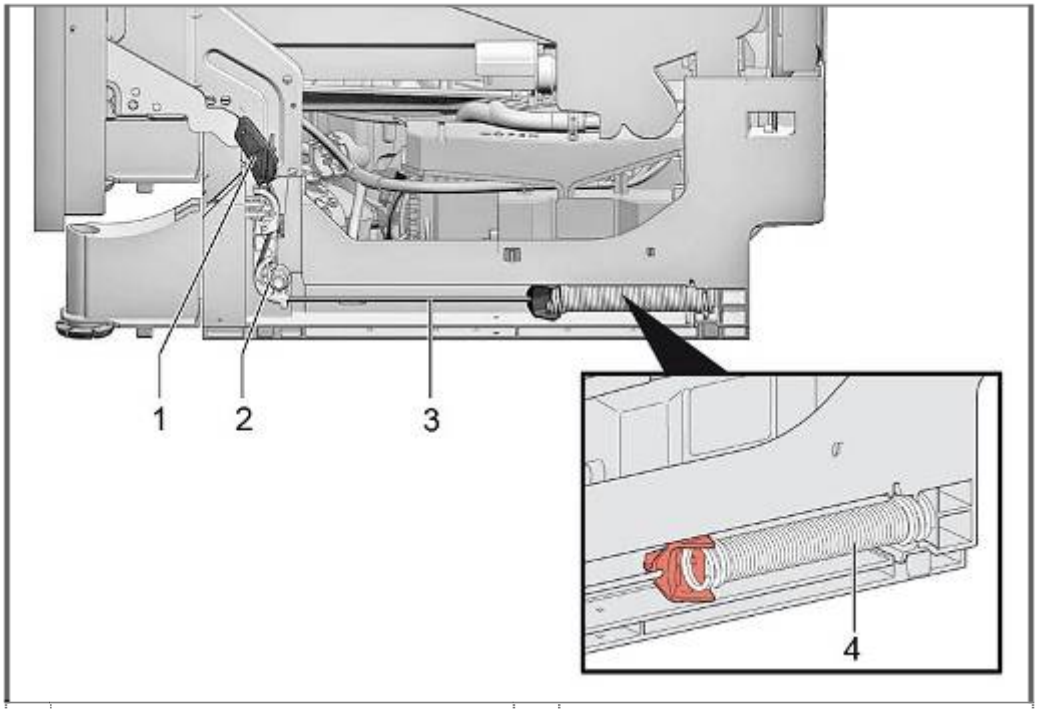
The installed spring and the cable system automatically adjust themselves to the door weight.

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

Construction-partly the following spring system can be also used:



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

3.29 Variable hinge

3.29.1 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.

3.30 Foot adjustment

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

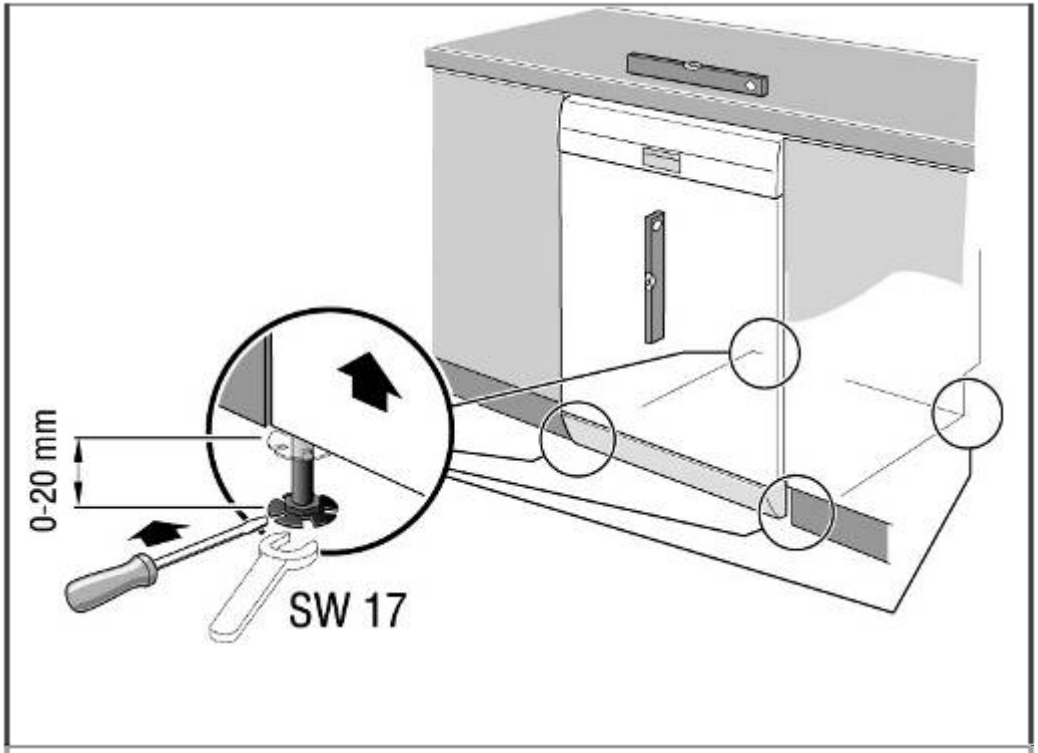


Illustration 1: Free-standing appliance

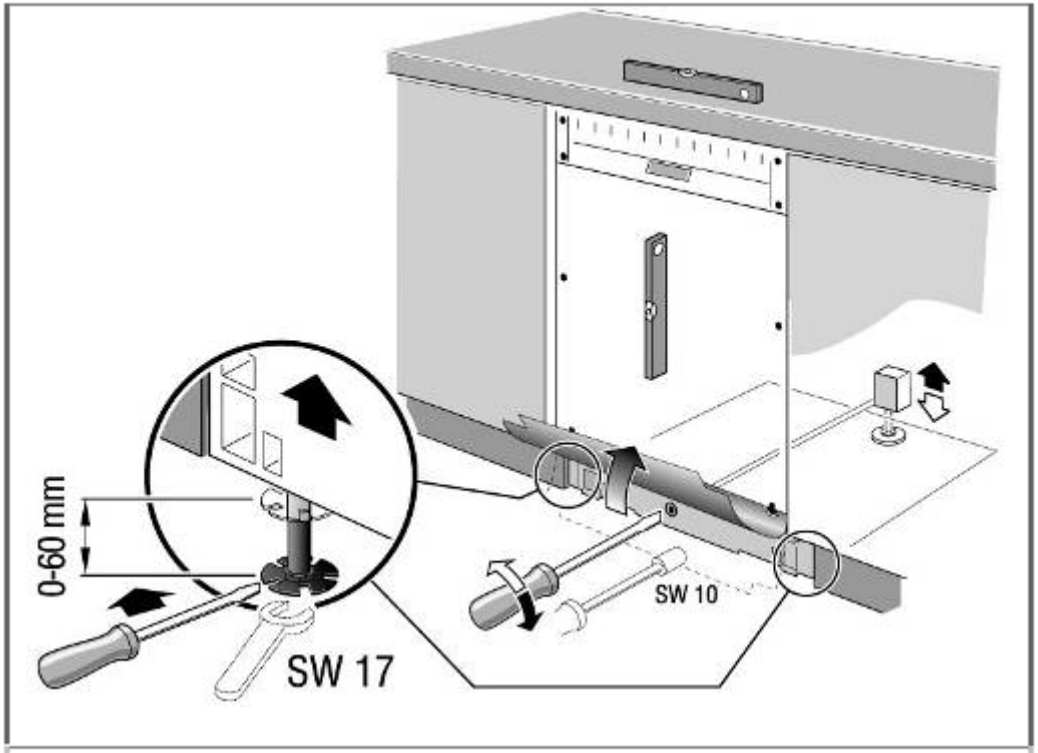


Illustration 2: Built-in & built-under appliance

3.31 Customer settings

Requirement:

Appliance is switched on

3.31.1 Button layout

3.31.2 Selection of the customer settings

Simultaneously press button A and the “Start” button

3.31.3 Selection ranges

To select the range, press button A.

To change the value, press button C.

3.31.4 Possible settings

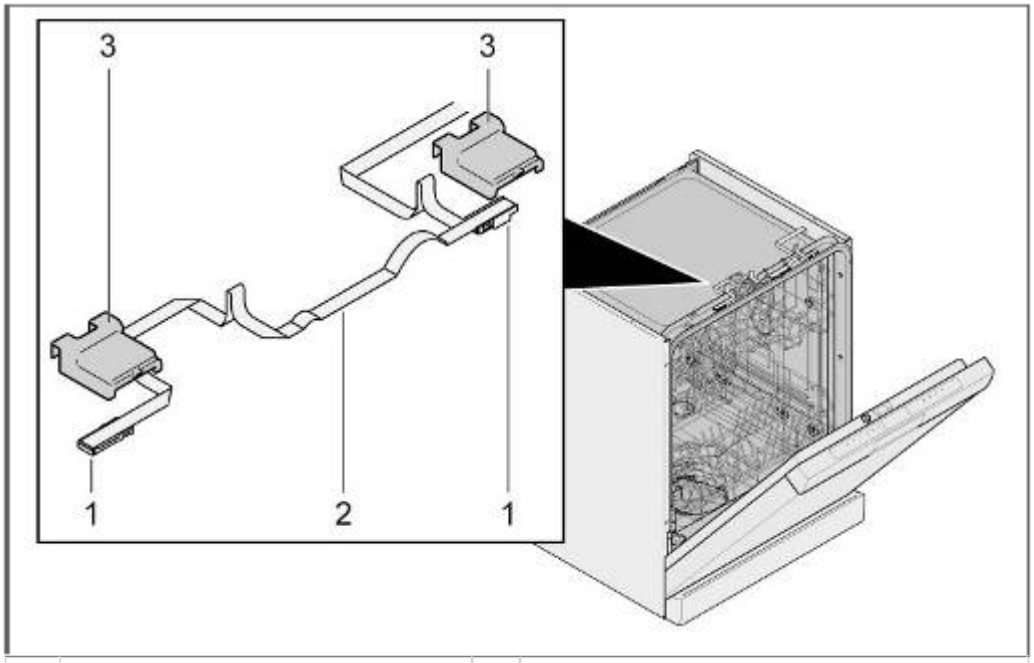
Range	Display	Selection
Warm water connection	A:00 – A:01	Switch on and off, factory setting: A:00 - Off
Hardness range	H:00 – H:07	8 ranges, On - Off factory setting: H:04
Intensive drying	d:00 – d:01	Switch on and off, factory setting: d:00 - Off
Rinse aid	r:00 – r:06	6 ranges, On - Off factory setting: r:05
Buzzer	B:00 – b:03	3 ranges, off factory setting: b:02
Language selection	L:01 – L:19	19 languages factory setting: L:01, German
Auto Power OFF	P:00 – P-02	P:00 – Off, Emotion light on P:01 – Off after 1 minute, Emotion light off P:02 – Off after 120 minutes, Emotion light off Factory setting: P:01
EmotionLight	E:00 – E:01	On – Off factory setting: E:01 On
On-board computer	C:00 – C:01	On – Off factory setting: C:01 On
Info Light	I:00 – I:01	On – Off factory setting: I:01 On
		Partly optional functions

3.31.5 Saving the setting

Press “Start” button

3.32 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.

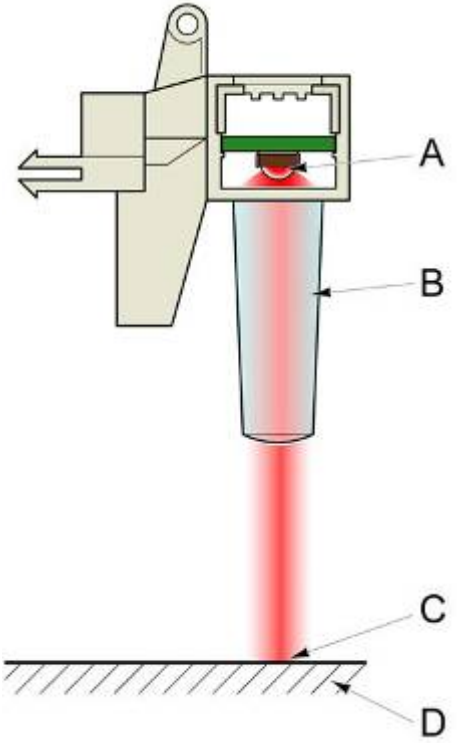
The interior light (Emotion Light) comes on when the door is opened irrespective of whether the ON/OFF switch is switched on or off. When the door is closed the light is off. If the door is open for longer than 60 min., the light switches off automatically. The interior light is lit only when the set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

3.33 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.



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

3.34 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.

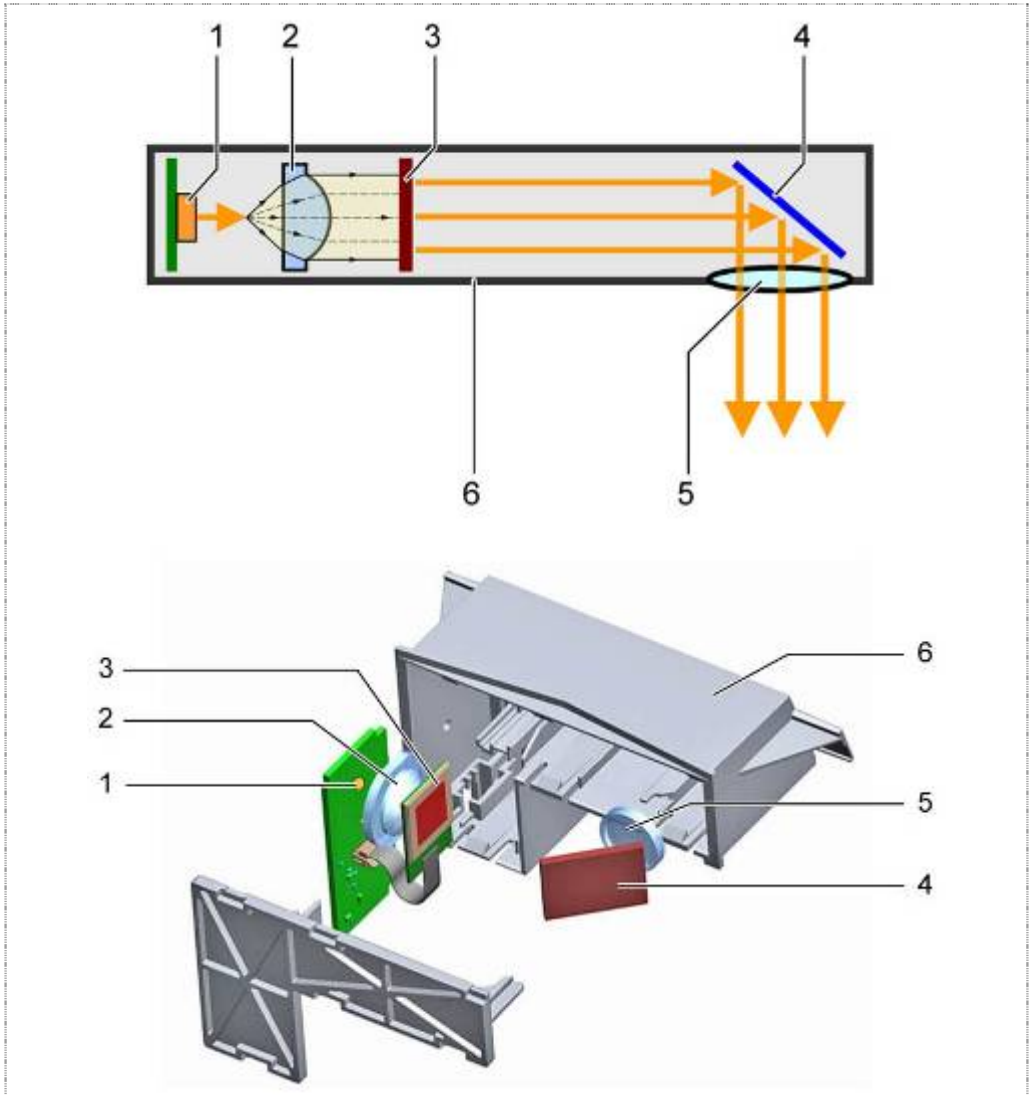
Function:

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.

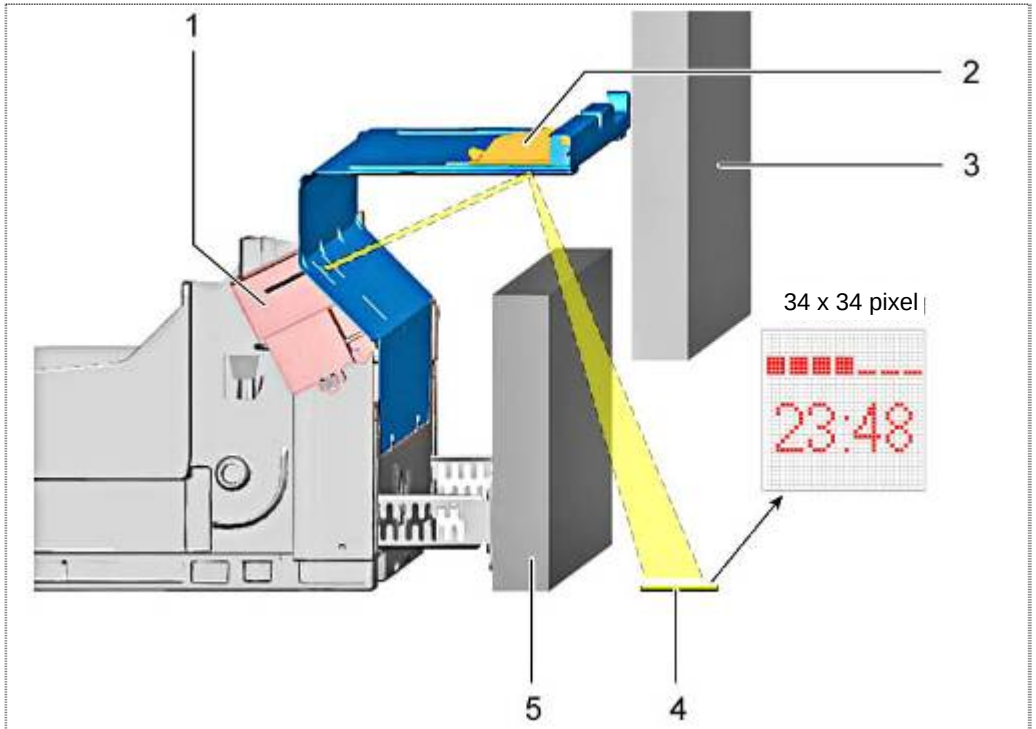
The graphic information is deflected via mirrors.

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

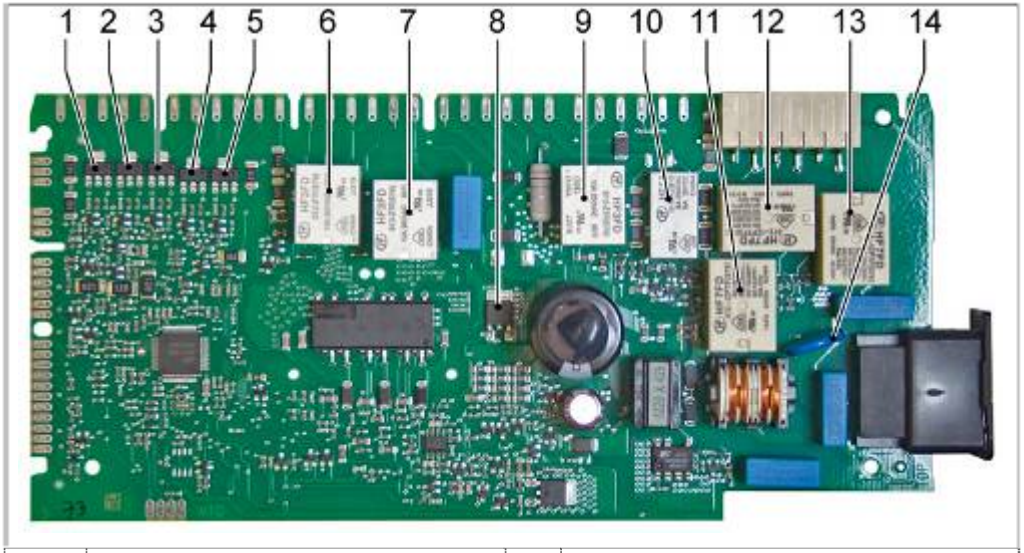
Projection process:



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

3.35 Power module

3.35.1 Position of the components



1	TH401 = water points	9	K304 = inrush current limiter
2	TH403 = reserve Optionally: Valve water storage tank / Aqua stop valve warm water connection	10	K100 = bistable relay, security system
3	TH404 = heat exchanger- drainage valve (optionally)	11	K303 = heater
4	TH405 = regeneration valve	12	K305 = heater zeolith
5	TH402 = filling valve	13	K301 = relay security
6	K201 = reversal relay circulation pump / drain pump	14	Varistor, overvoltage protection
7	K202 = reversal relay circulation pump / drain pump	15	
8	T412 = coil - dispenser	16	

NOTE

Electrostatic sensitive devices

Components will be destroyed if touched

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

3.36 Power cords – country versions

3.36.1 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

3.36.2 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.

3.36.3 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

3.37 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.

3.38 Weight

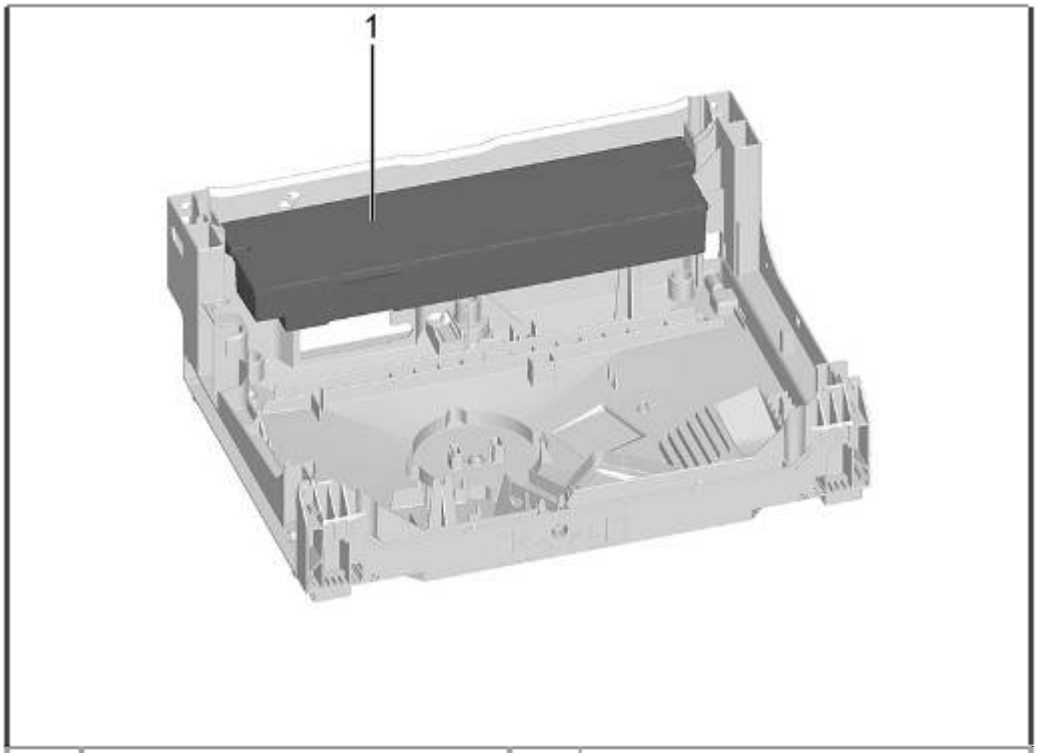
Free-standing appliances have a weight in the rear area of the base pan. This prevents the appliance from tipping over if the door is opened and the baskets pulled out.

There are 2 different concrete weights:

Appliances with cutlery drawer: 6.5 kg

Appliances without cutlery drawer: 5.5 kg

Appliances with Zeolith additional heating system: 2.4 Kg



1	Counterweight		

4 DIAGNOSTICS

4.1 Malfunctions

Fault	Cause	Fault correction
Tablet does not dissolve.	Spray arm stiff, sticking, touches container rear side.	Check function of the upper spray arm (Use of glass door, material number: 81cm: 341333; 86 cm: 341334).
Tablet does not fall into the basket handle on 86 cm appliances.	Tolerances	Insert tablet chute (material number 614935) into top basket.
Program Stops; Program cannot be started Program suspends	Door lock not correctly closed, there door lock engaged. Closing force too highly.	Close door firmly thereby the door lock works normally again. Closing force reduction by exchange of upper piping

4.2 Result faults

Fault	Cause	Fault correction
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	• 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.
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.

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

Fault description	Cause	Remedial action
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*
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

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 component.

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:

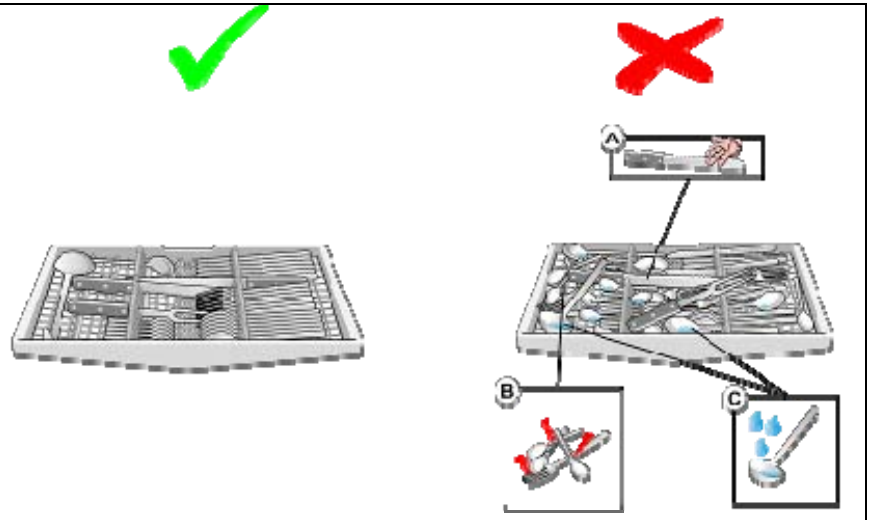
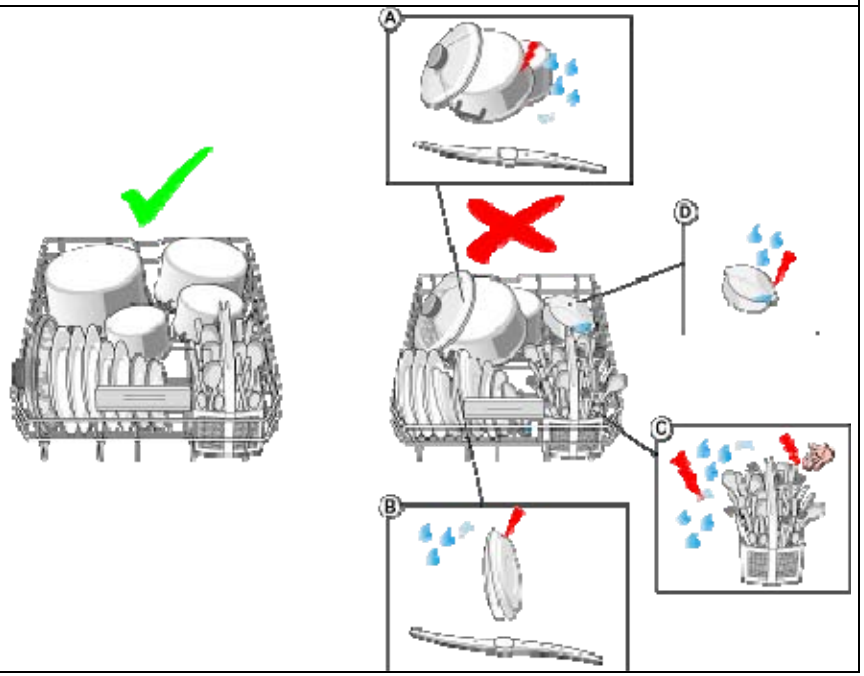
Fig 1 **A** – Arrange knives and other sharp-edged or pointed cutlery with the blades face down to prevent accidental injury. **B** – Do not place items of cutlery on top of each other. Correct arrangement certainly aids stain-free cutlery. **C** – Arrange spoons and ladles at an incline. This will prevent 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.

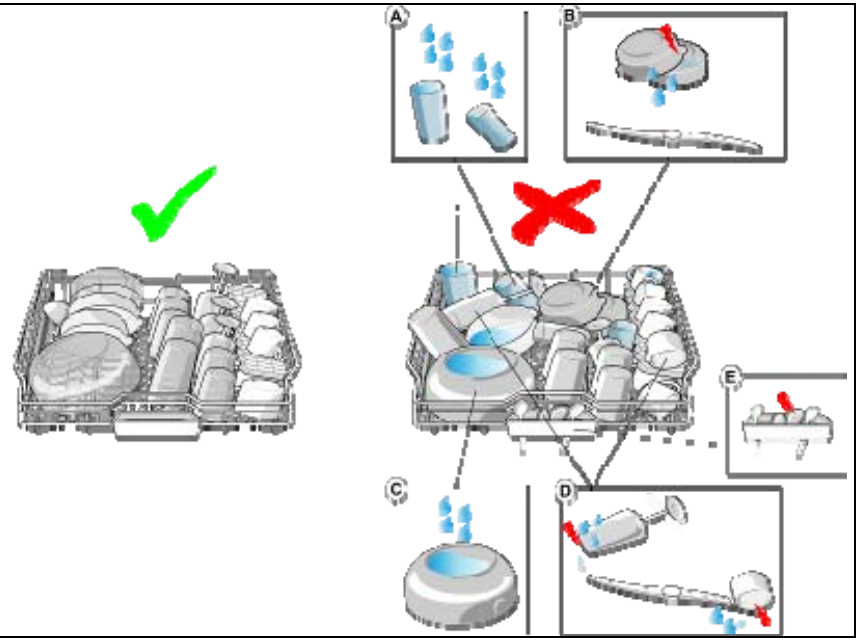


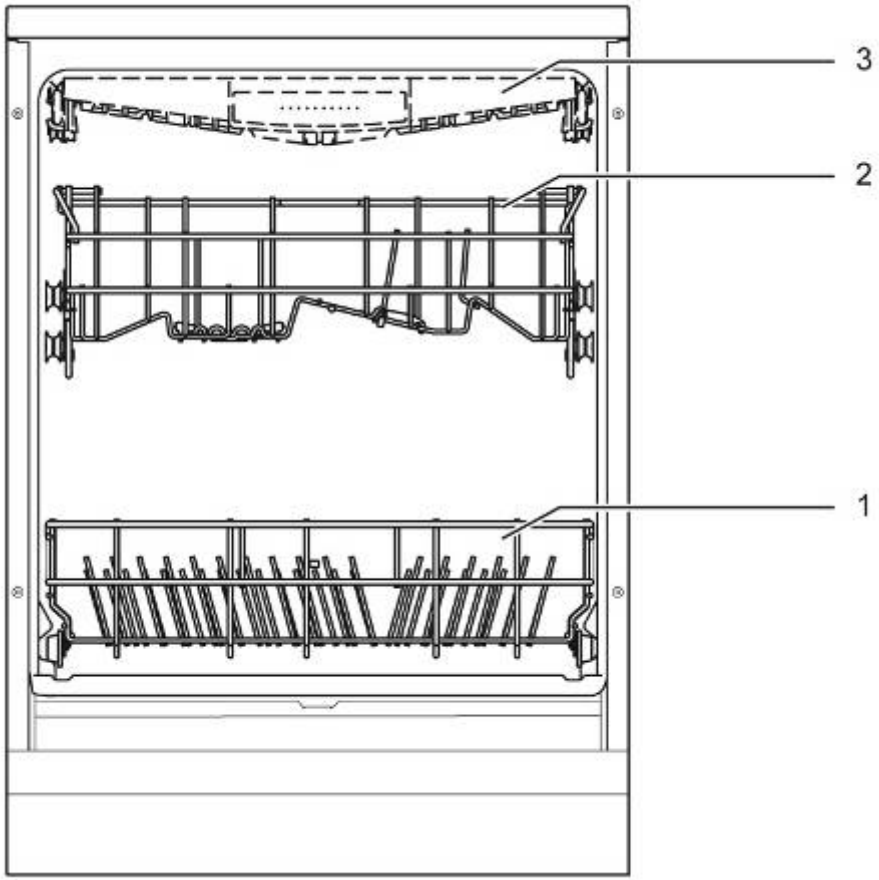
Fig 4

Eliminate the baskets in the following order:

1 – Lower basket.

2 – Upper basket

3 - cutlery drawer (optionally).



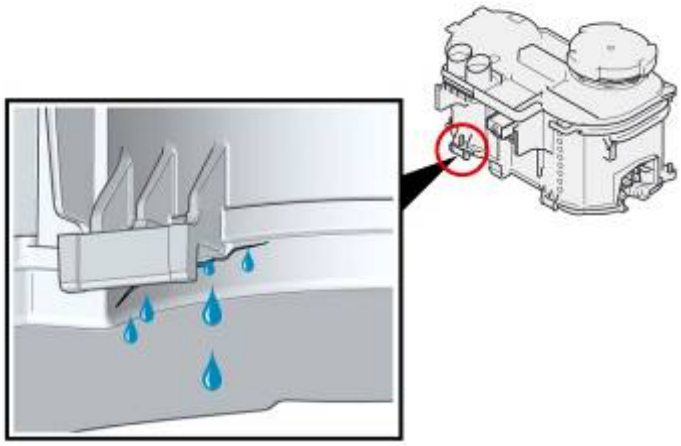
4.3 Electrical faults

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

4.4 Mechanical faults

Fehler	Ursache	Fehlerbehebung
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).

4.5 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”
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”

4.6 Dishwasher functions / Software

Fault	Cause	Fault correction
After switching on the dish washer, it begins with ECO 50 programme.	With KI 59 a new software is implemented. The default “start program” is always ECO, no matter which programme was chosen in the last washing cycle.	Advise customer: EU-directive (EU1275 / in 2008, conformance index 011) specify this programming.

5 TEST AND REPAIR

5.1 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)?

5.1.1 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.

5.1.2 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.

5.1.3 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.

5.1.4 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 re-quired, 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 clean-ing and/or drying result can be expected.

Reasons for too little water may be:

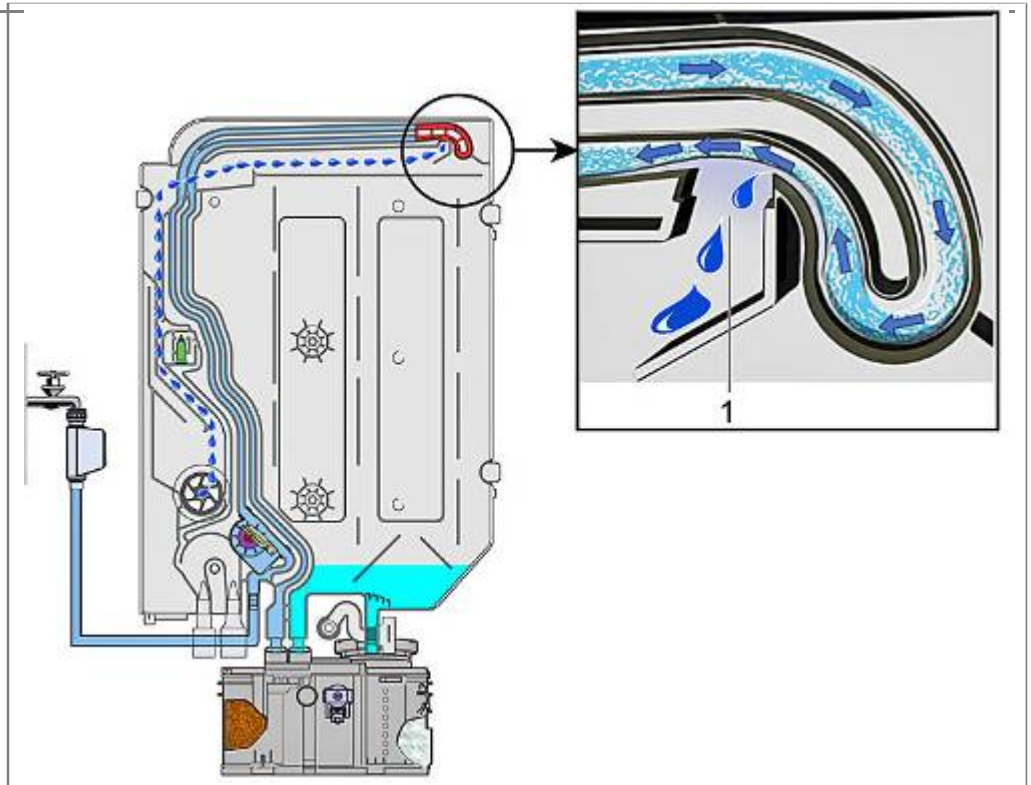
► – Water pressure / - flow too low (supply hose kinked, angle valve calcified, flow rate Aquastop)

► – Heat exchanger drainage valve leaking

5.1.5 Water pressure too low

There is a ventilation opening in the free flow section. Usually the water in the flow section flows past the opening.

If the water pressure is so low that the impeller flow meter is just res-ponding, the water no longer flows past the opening. Leakage water flows via the overflow channel to the expansion opening into the rinsing tank. The heat exchanger is not completely filled.

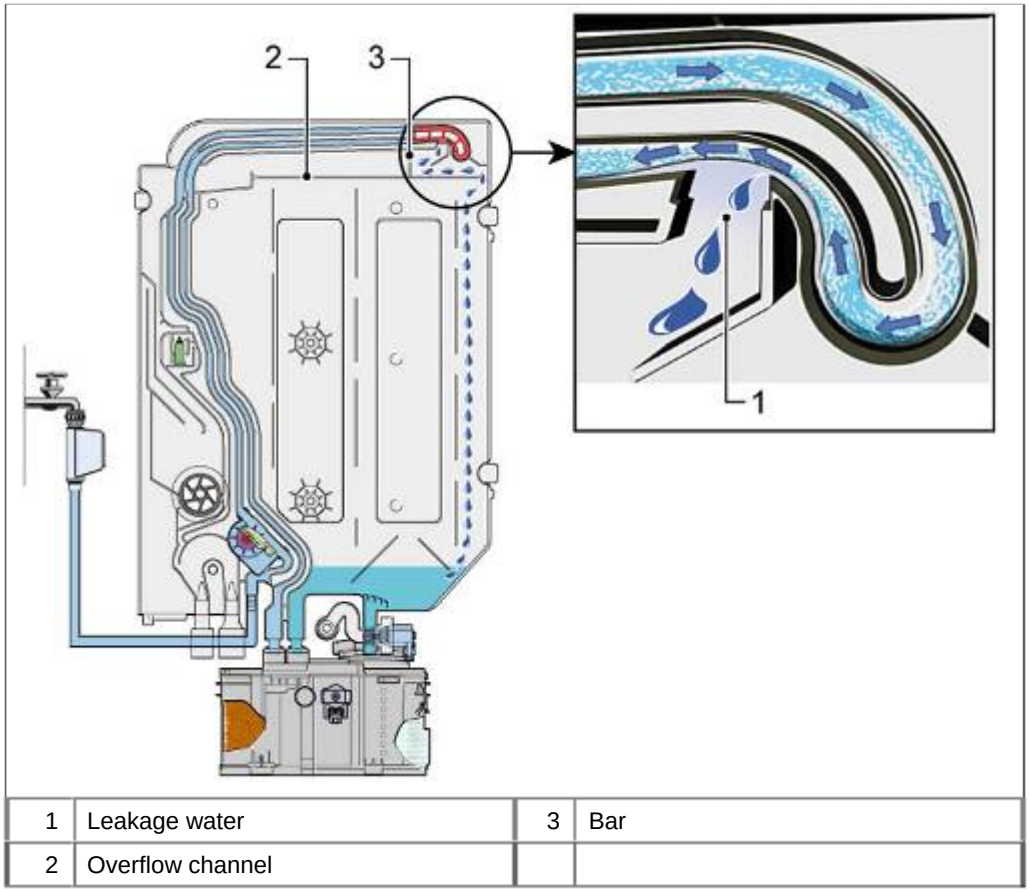


1	Leakage water	3	Overflow channe
2	Expansion opening		l

Since FD 8905 an additional barrier (bar) has been inserted into the over-flow channel of the heat exchanger. This barrier ensures that leakage water flows out of the free flow section into the heat exchanger.

Note: Water in the heat exchanger is therefore not softened. Lime-scale deposits on the utensils may be an indication of this.

New heat exchanger:



1	Leakage water	3	Bar
2	Overflow channel		

5.1.6 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.

5.1.7 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.

5.1.8 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.

5.1.9 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

5.1.10 Removing water

- ► To drain the heat exchanger and water storage tank, start any 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.

5.2 Testing/replacing the door sensor

Requirement:

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

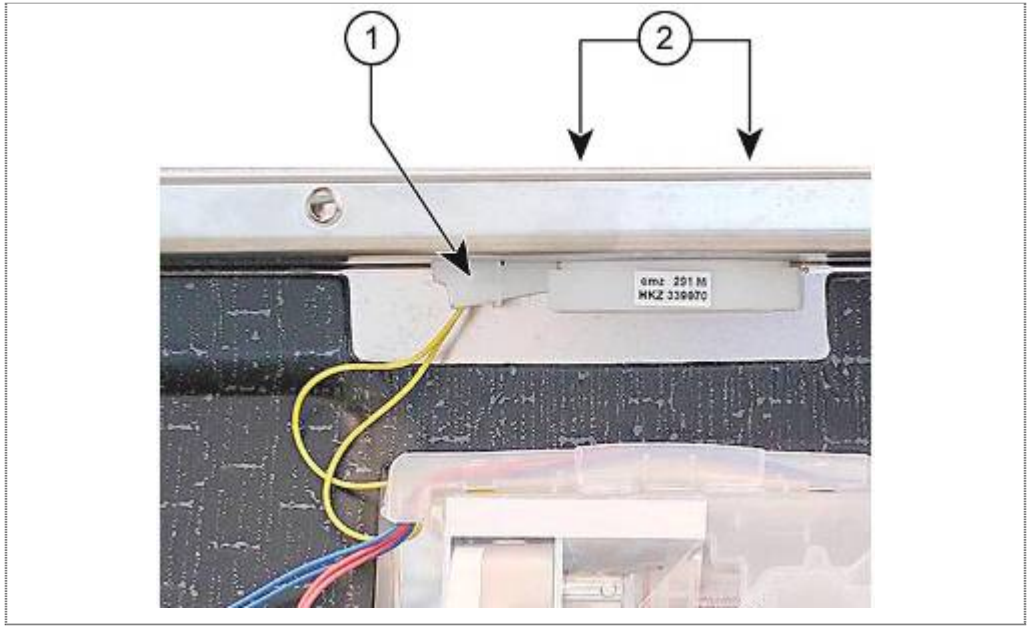
5.2.1 Measuring the voltage

- ► 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.

5.2.2 Removal



3. Door sensor.
4. Loosen the two Torx 10 screw on the side of the door closure recess.

Panel of door closure recess

- ► The panel of the door closure recess may become detached when the door sensor is removed. Hold firmly.

5.2.3 Installation

Installation is in reverse sequence.

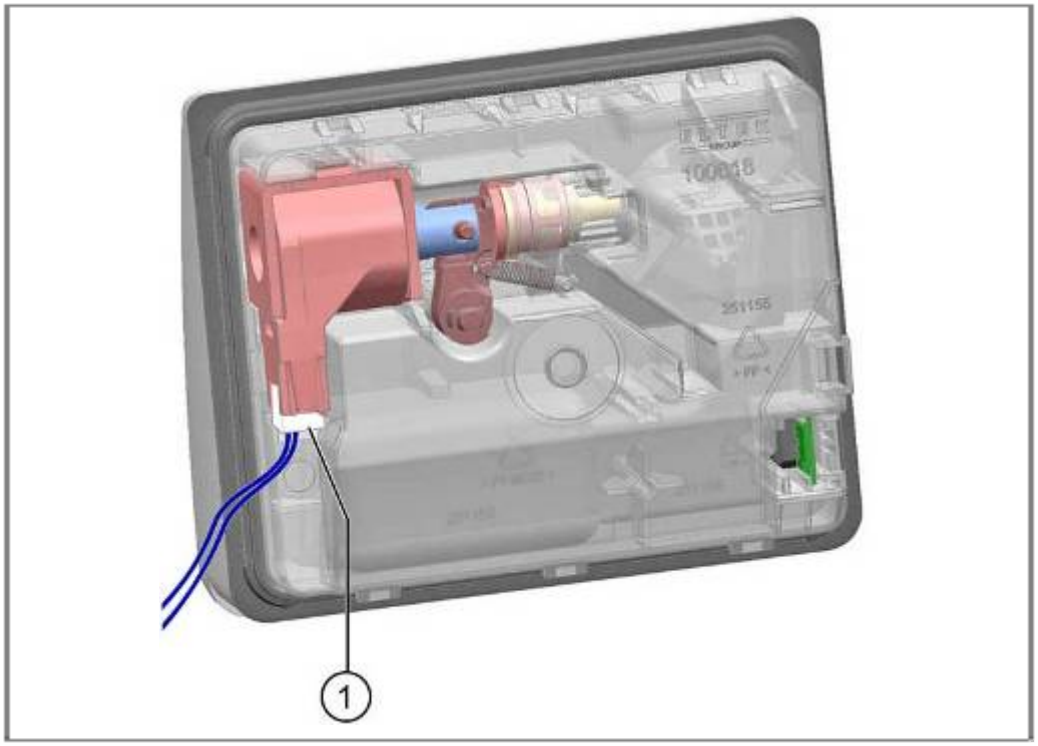
The plugs are coded.

5.3 Testing dispenser electrically

Requirement:

► Outer door removed.

5.3.1 Measuring the coil



5. Disconnect plug-and-socket connection.

Measure resistance on the coil.

Technical specifications EU:

Pulse voltage of coil:	320 V
Frequency:	DC
Resistance:	11 kΩ ± 1 kΩ
Rinse aid capacity:	80 ml
Rinse aid amount at setting 1–6	1 ml per setting

Technical specificationsUSA:

Pulse voltage of coil:	165 V DC
Resistance:	2,67 kΩ ± 210 Ω
Rinse aid capacity:	80 ml
Rinse aid amount at setting 1–6	1 ml per setting

Technical specifications EA (East Asia):

Pulse voltage of coil:	280 V DC
Resistance:	8,4 kΩ ± 800 Ω
Rinse aid capacity:	80 ml
Rinse aid amount at setting 1–6	1 ml per setting

Technical specifications TC:

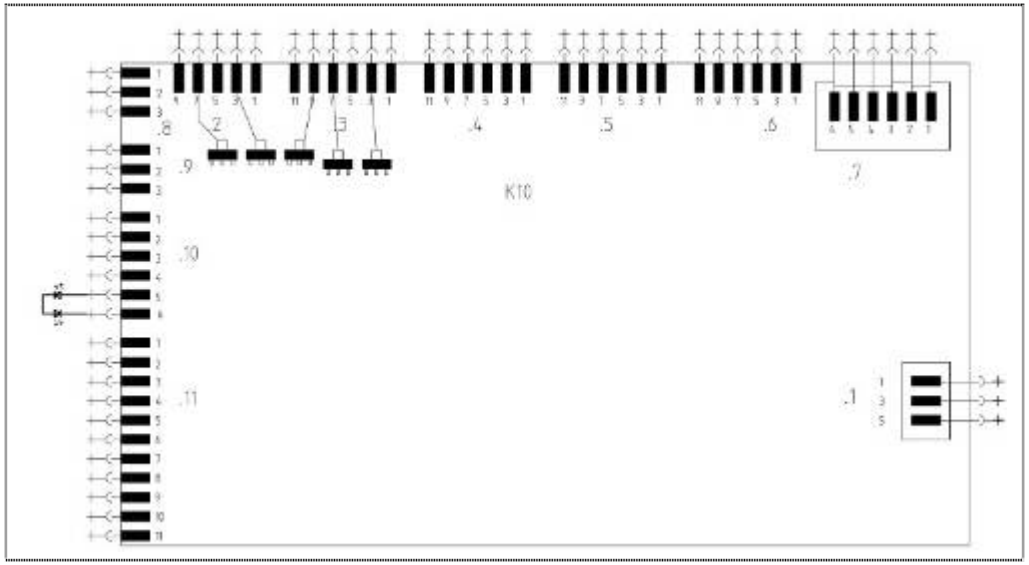
Pulse voltage of coil:	155 V DC
Resistance:	2,67 kΩ ± 210 Ω
Rinse aid capacity:	80 ml
Rinse aid amount at setting 1–6	1 ml per setting

5.4 Checking EmotionLight (optionally)

Requirement:

√ Side panel on right removed

√ Top cover of power module removed



1. Loosen plug-and-socket connection and measure voltage at power module contacts K10.10.5-6

Technical specifications:

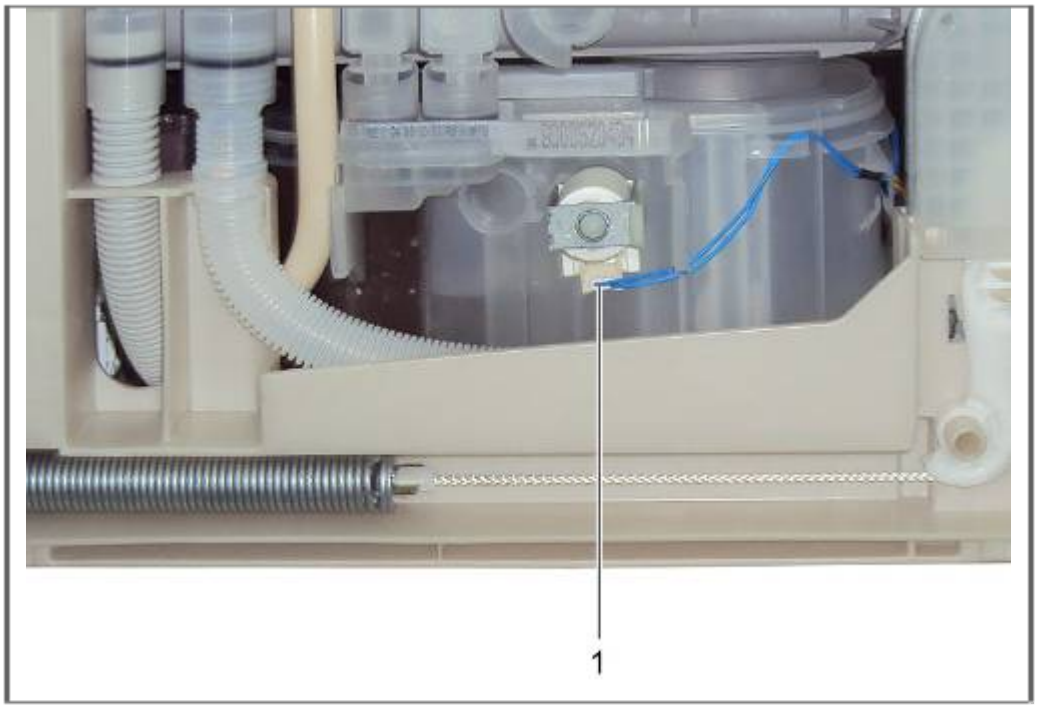
Supply voltage:	13,5 V DC

5.5 Testing the regeneration valve electrically

Requirement:

► Side panel on left removed.

5.5.1 Measuring the coil



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

Technical specifications EU:

Nominal voltage:	230-240 V
Frequency:	50/60 Hz
Resistance:	2 kΩ ± 500 Ω

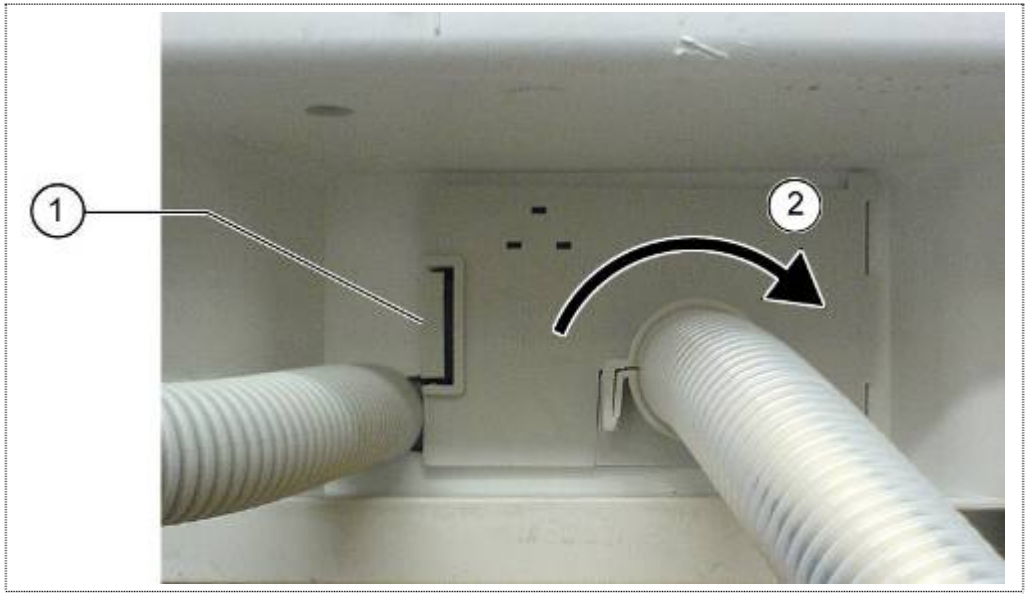
Technical specifications USA:

Nominal voltage:	120-127 V
Frequency:	60 Hz
Resistance:	660 Ω ± 10%

Technical specifications TC:

Nominal voltage:	110V
Frequency:	60 Hz
Resistance:	550 Ω ± 10%

5.6 Testing Aquastop valve electrically



1. Loosing locking lever
2. Fold the Cover with the inlet hose outward.

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

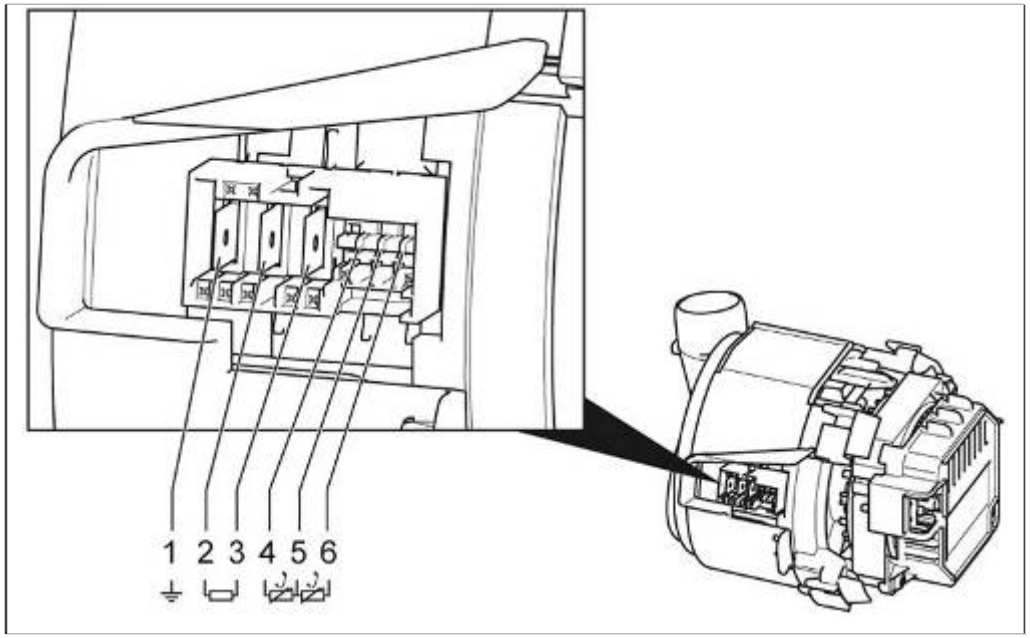
Technical specifications EU:

Nominal voltage:	220 ~ 240 V
Frequency:	50/60 Hz
Resistance:	4.2 kΩ ± 1 KΩ

Technical specifications TC / USA:

Nominal voltage:	110 ~ 127 V
Frequency:	60 Hz
Resistance:	990 Ω ± 50 Ω

5.7 Testing the heating pump



5.7.1 Measuring the heater resistance

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

Measured values when heater intact EU:

Contact 2 – 3:	approx. 19 Ω ± 2 Ω

Measured values when heater intact TC / USA:

Contact 2 – 3:	ca. 8,9 Ω ± 2 Ω

5.7.2 Measuring NTC resistance

The NTC resistance value is measured on the heating contacts of the heating pump.

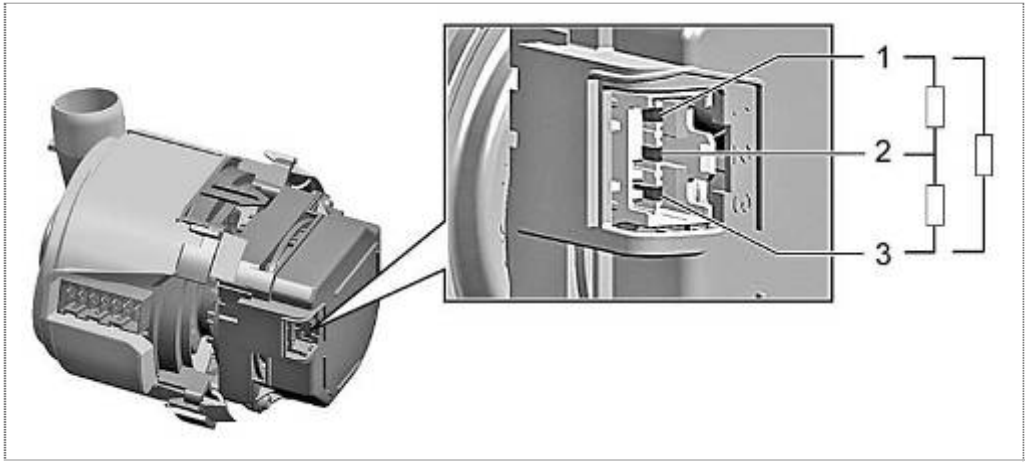
Measured values when NTCs intact and at 25 °C:

Contact 4 – 5:	approx. 10 KΩ ± 1 KΩ
Contact 5 – 6:	approx. 10 KΩ ± 1 KΩ
Contact 4 – 6:	approx. 20 KΩ
Measured at 25 °C	

Resistance measurement of the NTCs

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

5.7.3 Measuring winding resistance of the BLDC motor



Measure winding resistance at 25° on the winding contacts of the heating pump.

Technical specifications:

Resistance:	approx. 41.5 Ω ± 4 Ω or approx. 53.5 Ω ± 4.5 Ω according to manufacturer

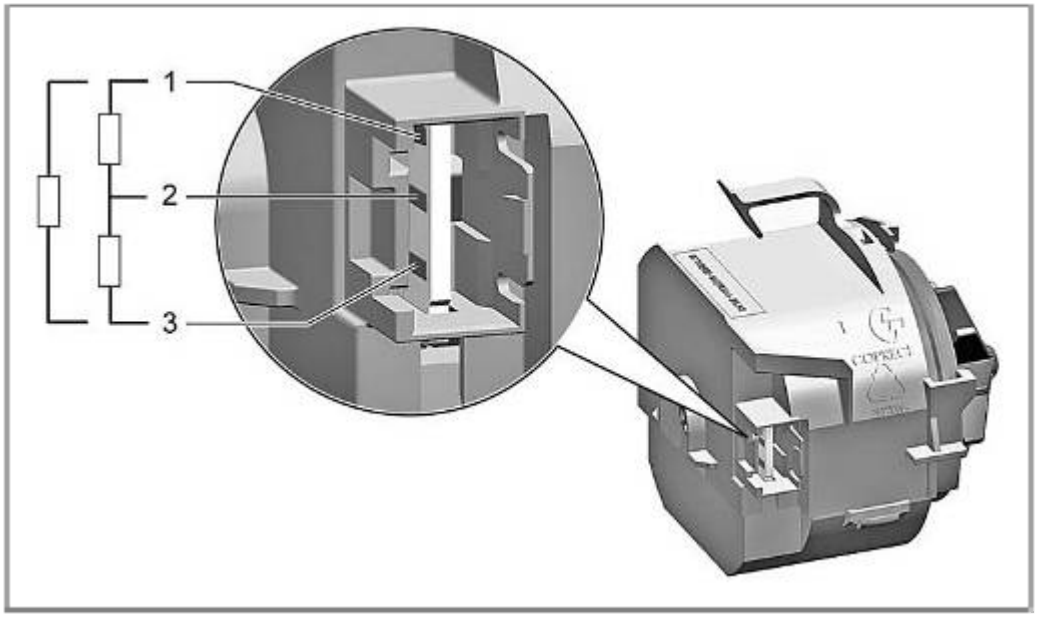
Technical specifications:

Resistance:	12 Ω bis 14 Ω

Resistance measurement

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

5.8 Testing the drain pump



5.8.1 Measuring winding resistance of the BLDC motor

Measure winding resistance on the winding contacts.

Technical specifications:

Resistance:	approx. 80,5 Ω ± 5 Ω

Resistance measurement

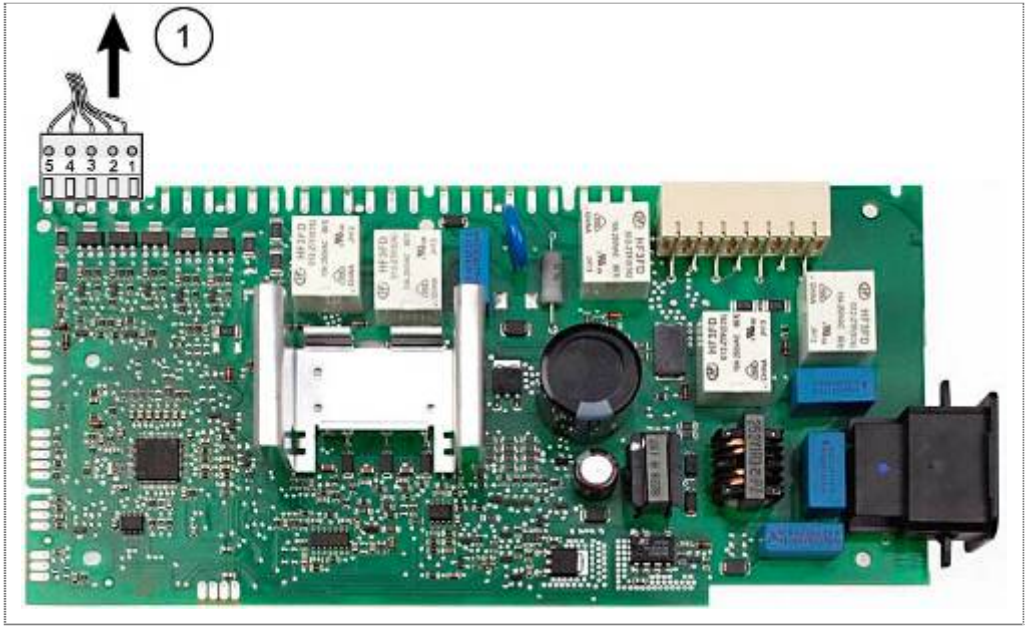
► The resistance values are approx. values.
There must be symmetry for all measurements
(same resistance values).

5.9 Testing the water points electrically

Requirement:

► Side panel on right removed.

5.9.1 Measure water points motor (simple measurement)



1. Disconnect plug X2 from power module and measure resistance on the wires for the water points motor, contact 3 and 4.

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

Technical specifications EU:

Nominal voltage:	230–240 V
Power input:	7 W / 4W
Frequency:	50/60 Hz
Resistance:	6,0 kΩ ± 800 Ω or 4,6 kΩ ± 800 Ω Depending on manufacturer
Speed:	4-5 min^{-1}

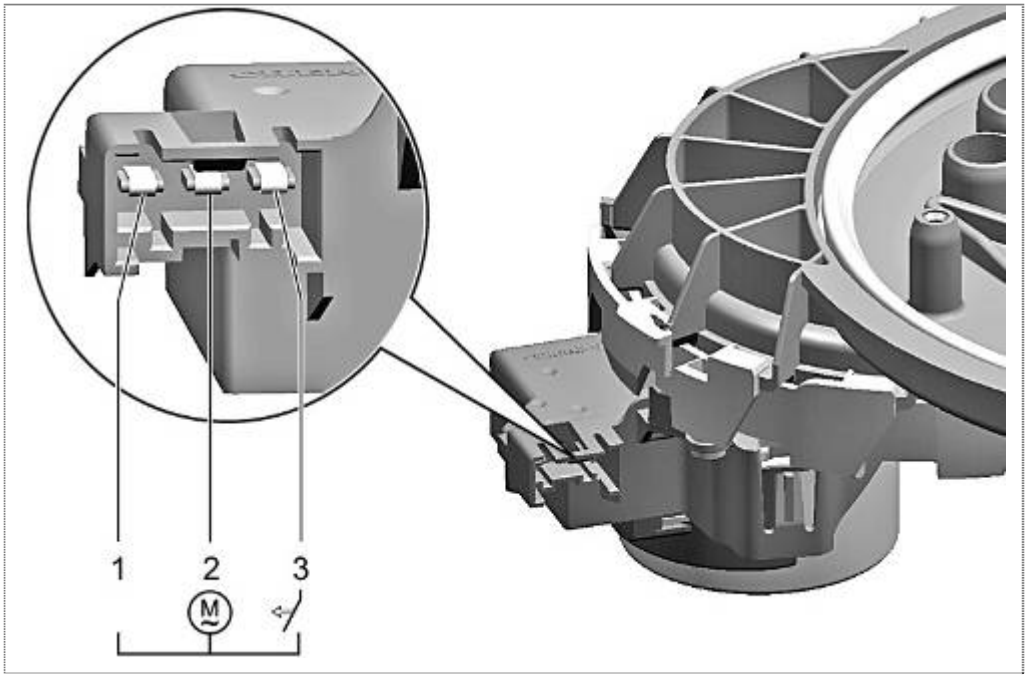
Technical specifications TC / USA:

Nominal voltage:	120 V
Power input:	5 W
Frequency:	50 / 60 Hz
Resistance:	5,9 kΩ ± 800 Ω Or 4,7 kΩ ± 800 Ω Depending on manufacturer
Speed:	5/6 min^{-1}

5.9.2 Measuring water points motor (on the component)

Requirement:

► Rinsing tank folded down.



Measured values, see table.

5.9.3 Water points pulse transmitter

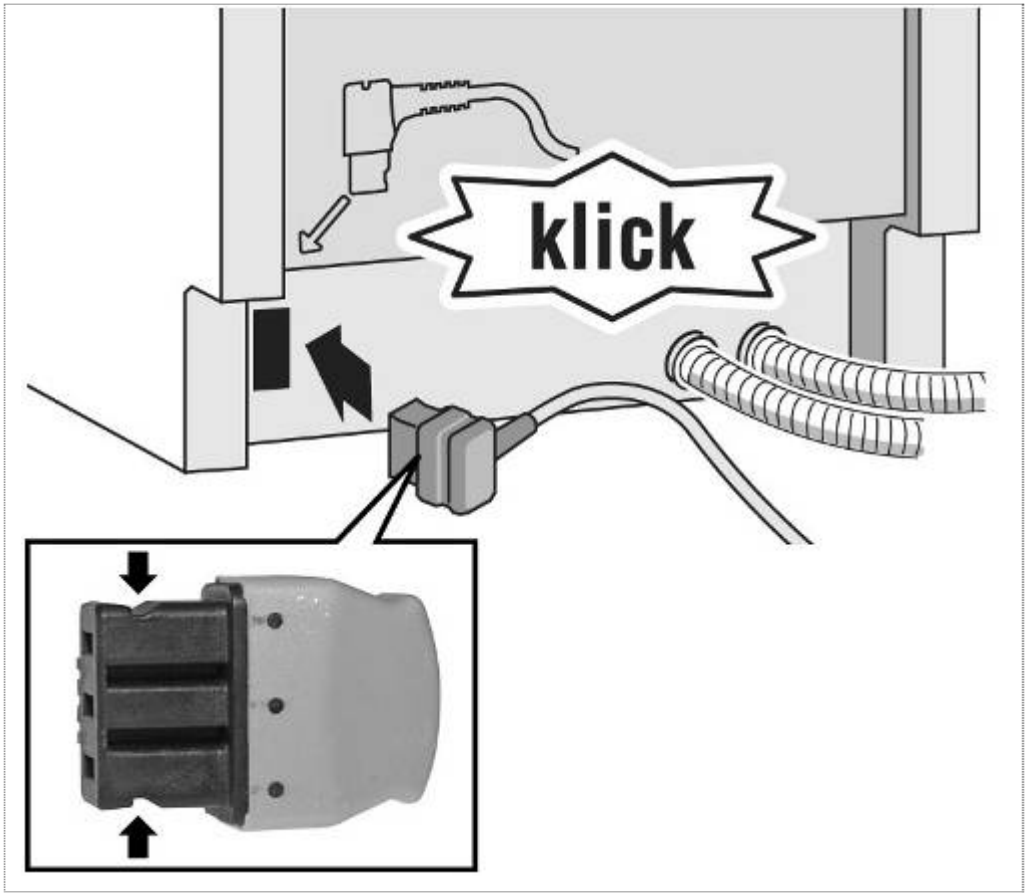
The water points pulse transmitter cannot be tested. Measure the resisitance of the feed cable.

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

5.10 Power cord

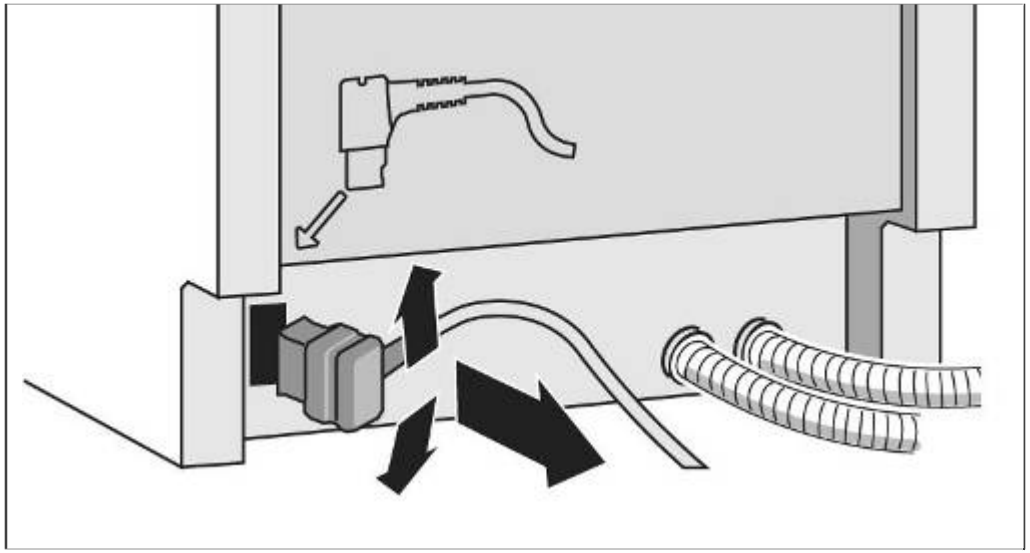
2 strong catch mechanisms on the sides prevent the plug from becoming loose or coming out of the appliance.

5.10.1 Installation

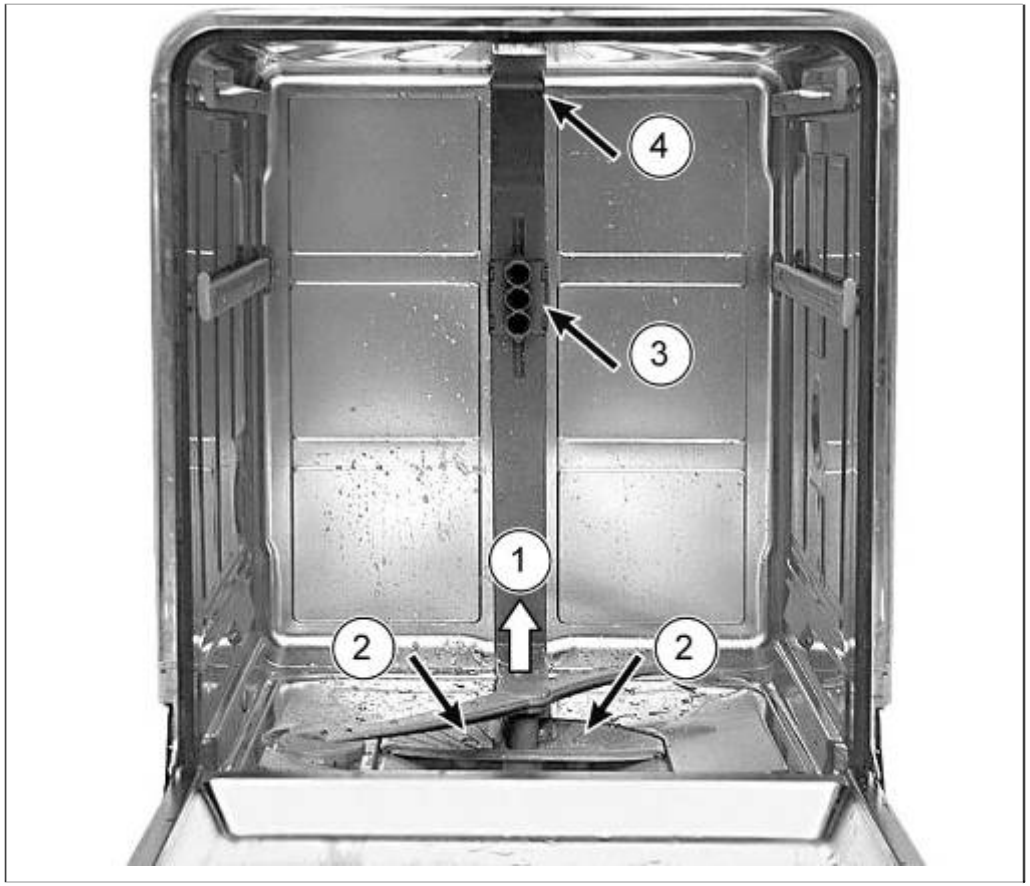


5.10.2 Removal

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



5.11 Replacing feed pipe



5.11.1 Removal

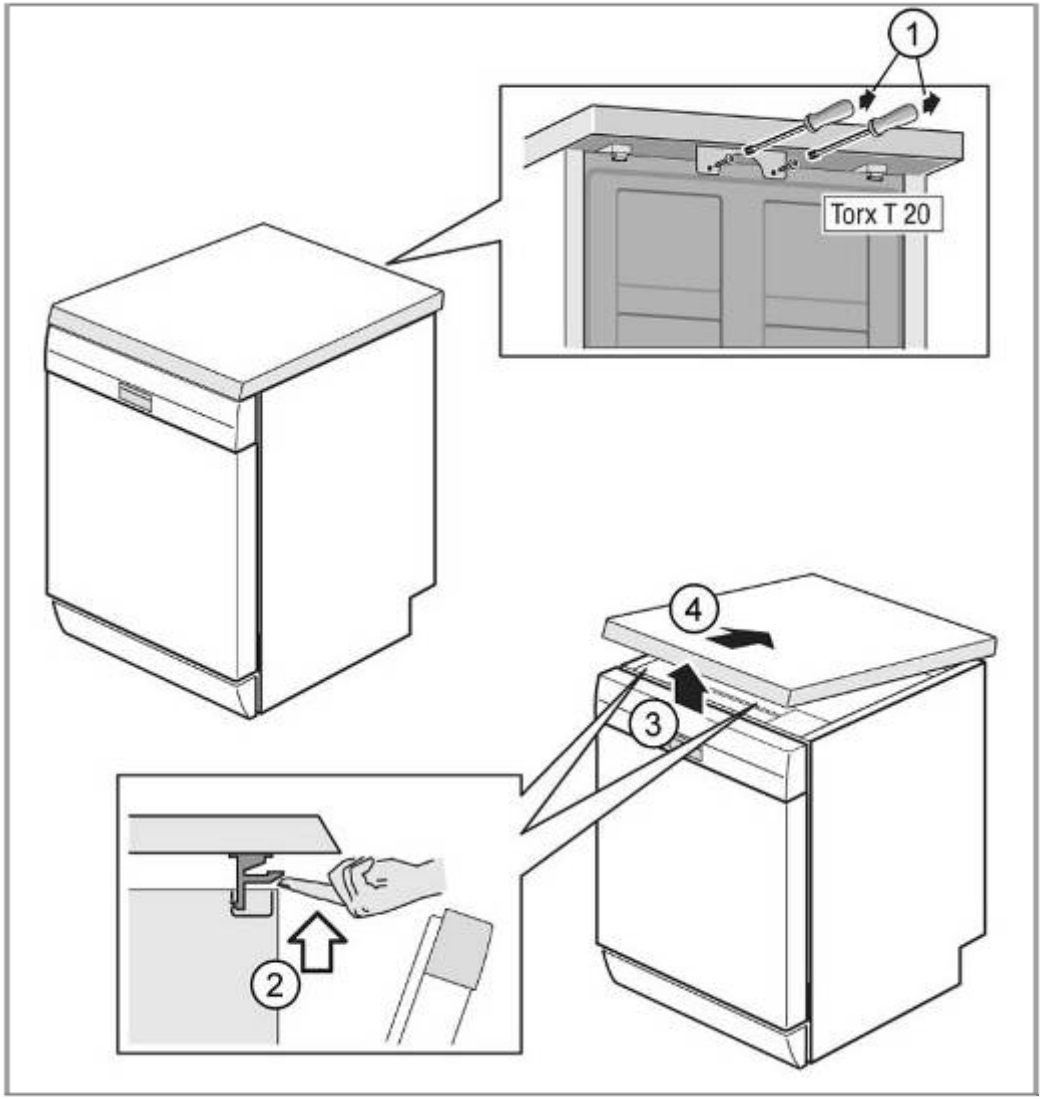
2. Tug the lower spray arm slightly and pull off the feed pipe.
3. Unscrew both Torx screws on the pump sump.
4. Loosen catch mechanisms in the area of the coupling point.
5. Carefully loosen top catch mechanisms on the roof sprinkler (optionally) using a small flat-blade screwdriver.

5.11.2 Installation

Installation is in reverse sequence.

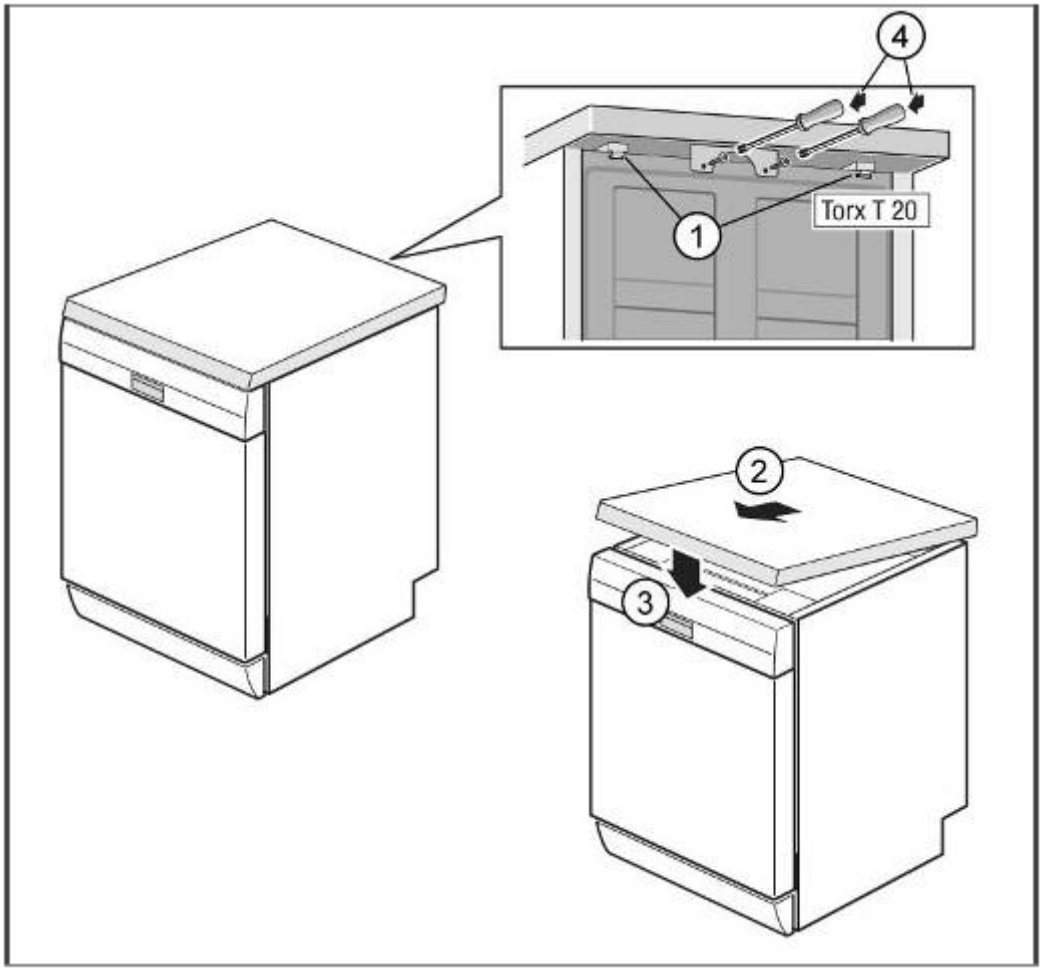
5.12 Removing the worktop

5.12.1 Removal



1. Remove two screws 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.

5.12.2 Installation

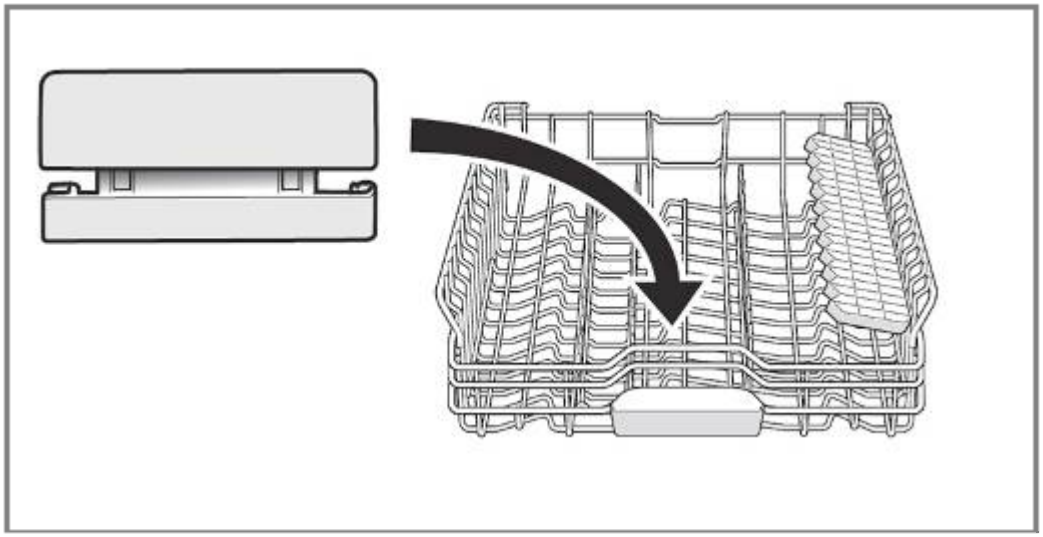


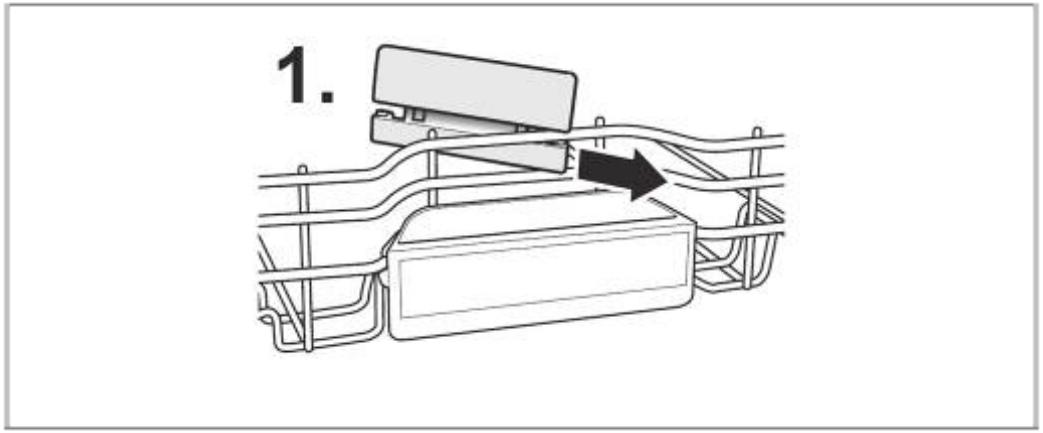
1. Lock back of worktop into the guides with the retaining lugs.
2. Push forwards.
3. Press down front of worktop until both locking levers click into position.
4. Screw the two screws back in again.

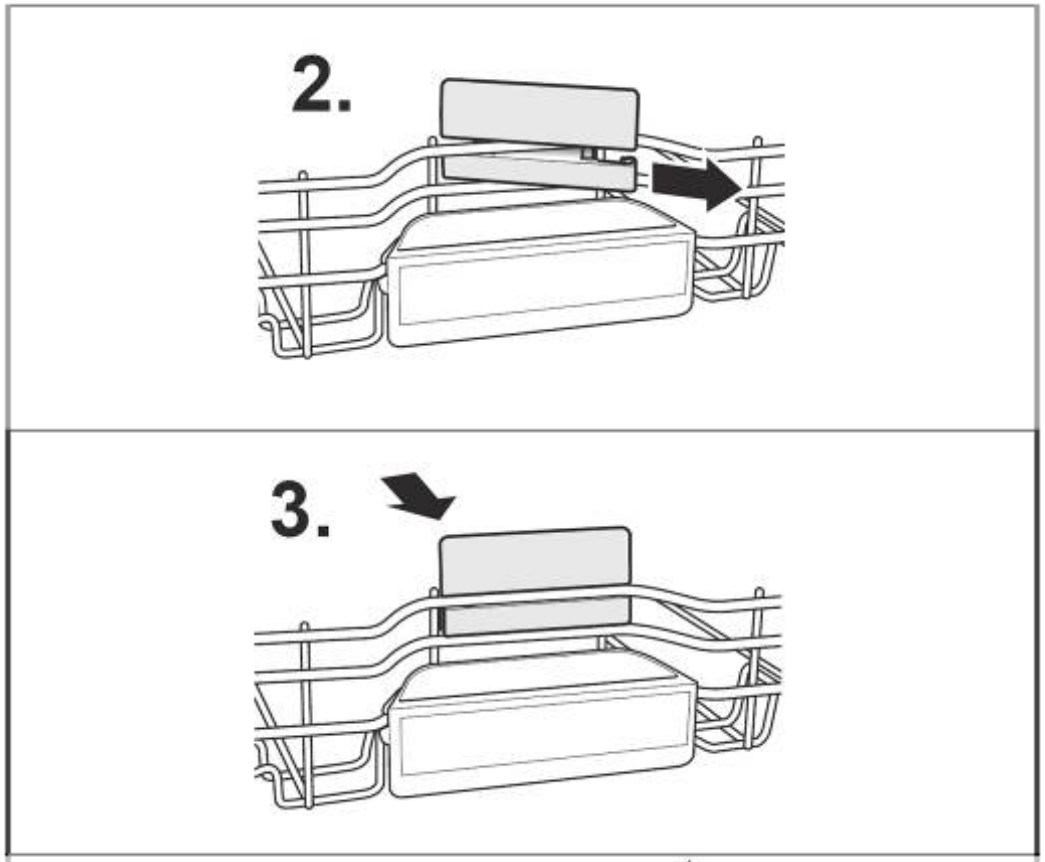
5.13 Installing optional elements in the baskets

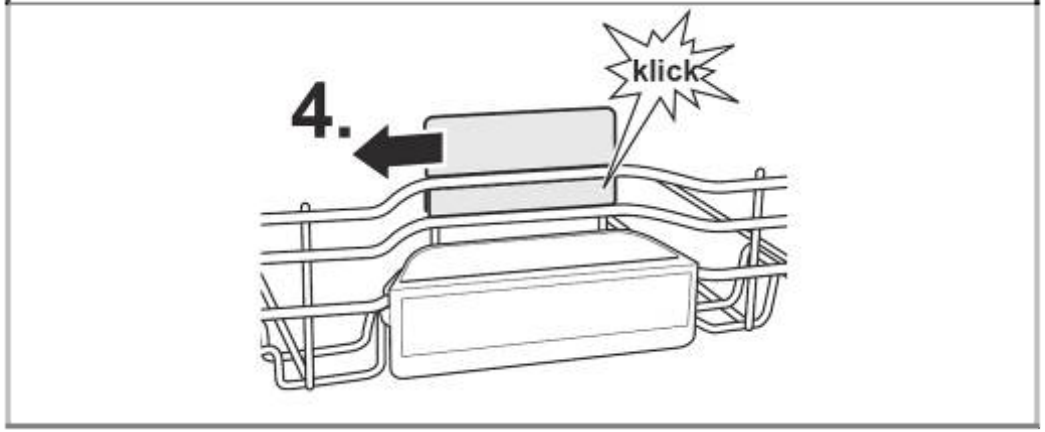
Optional elements can be fitted in the baskets.

5.13.1 Tablet chute 86 cm model 614935





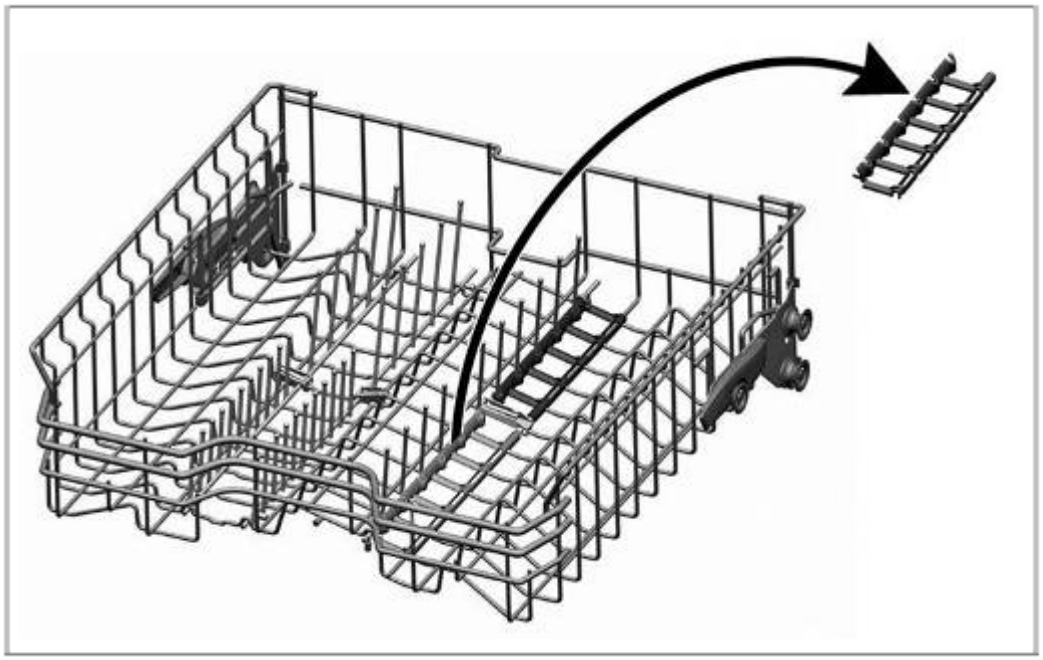




5.13.2 Cup support clip618565

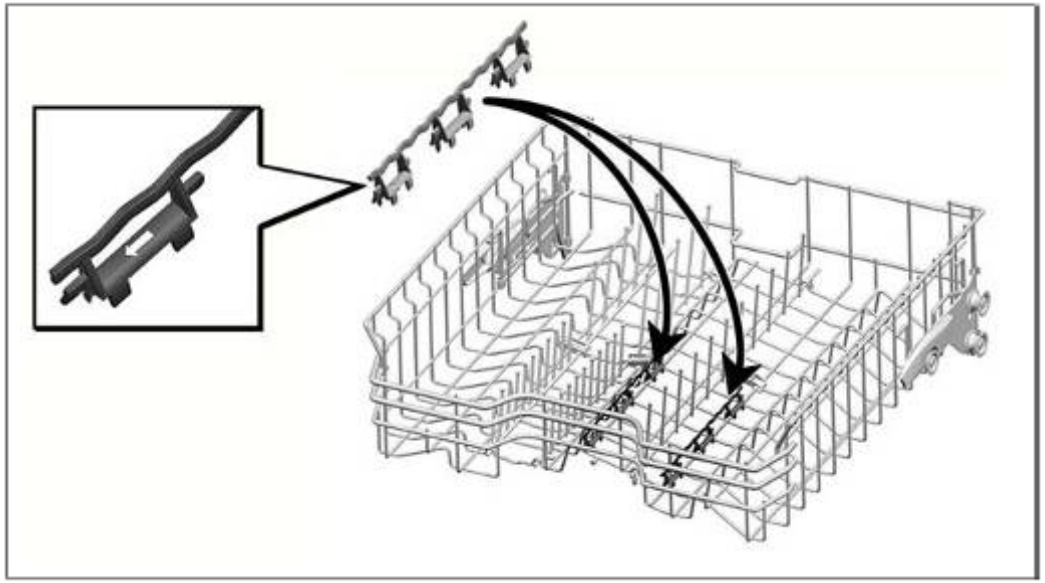
When washing cups, the cup support clip can be folded up. The additional inclined position reduces the accumulation of water on the underside of the cup. In the case of tall glasses it is recommended to fold down the cup support clip.

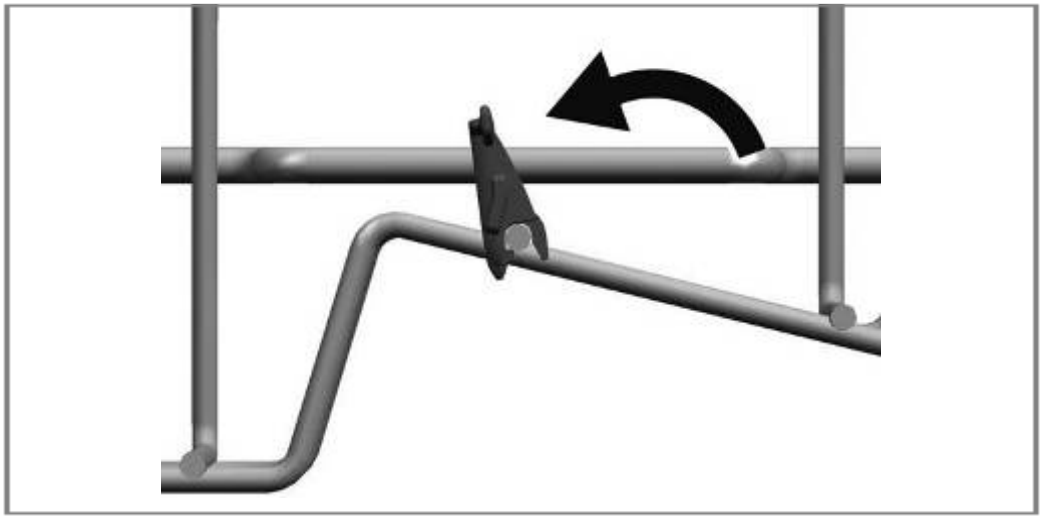
If top baskets feature optional plastic inserts, these must be removed first.



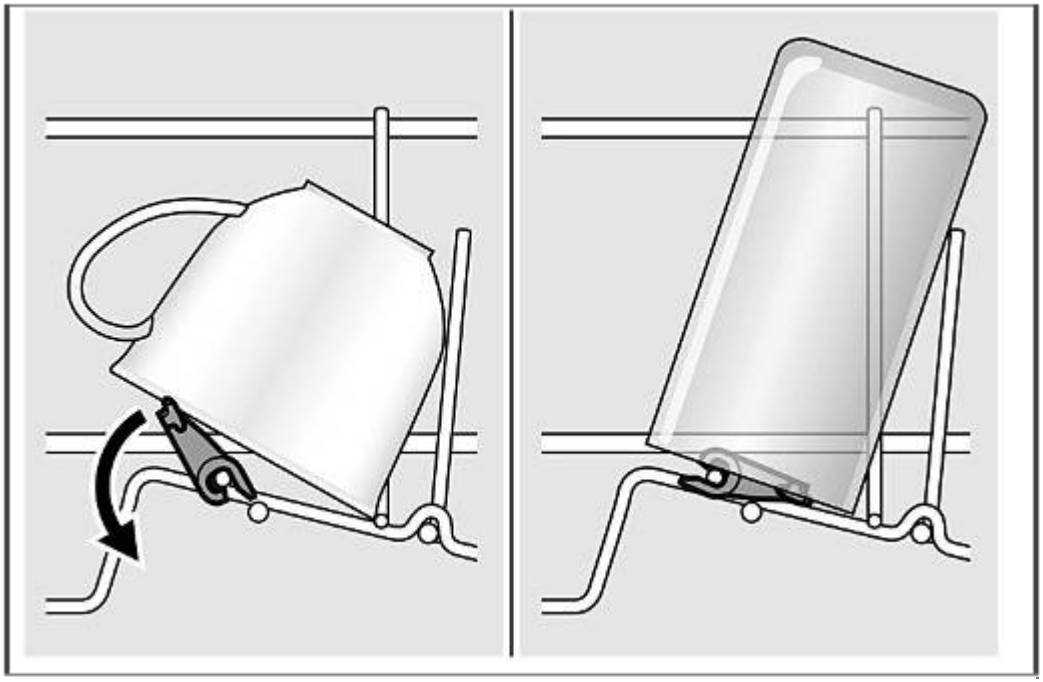
Engage cup support clips.

Opening the clips:

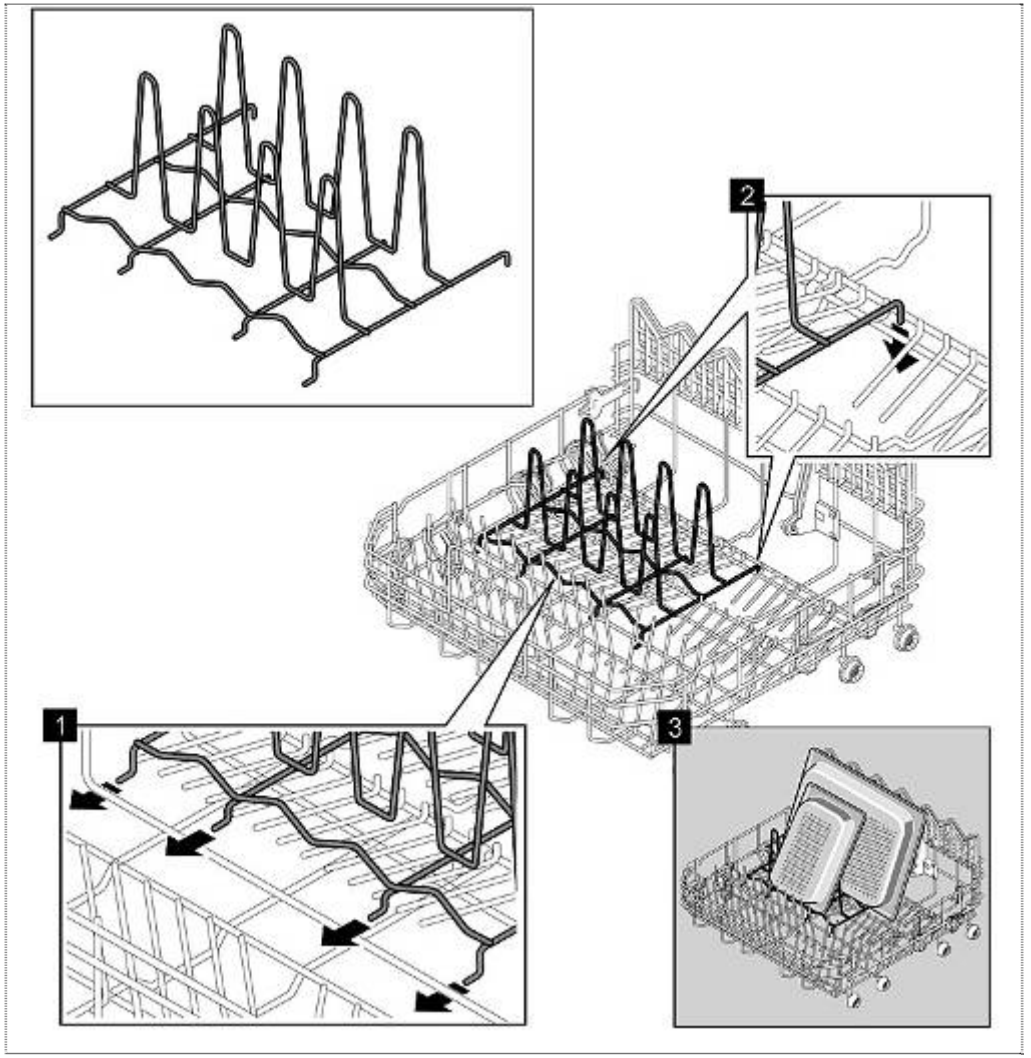




Positioning the utensils:

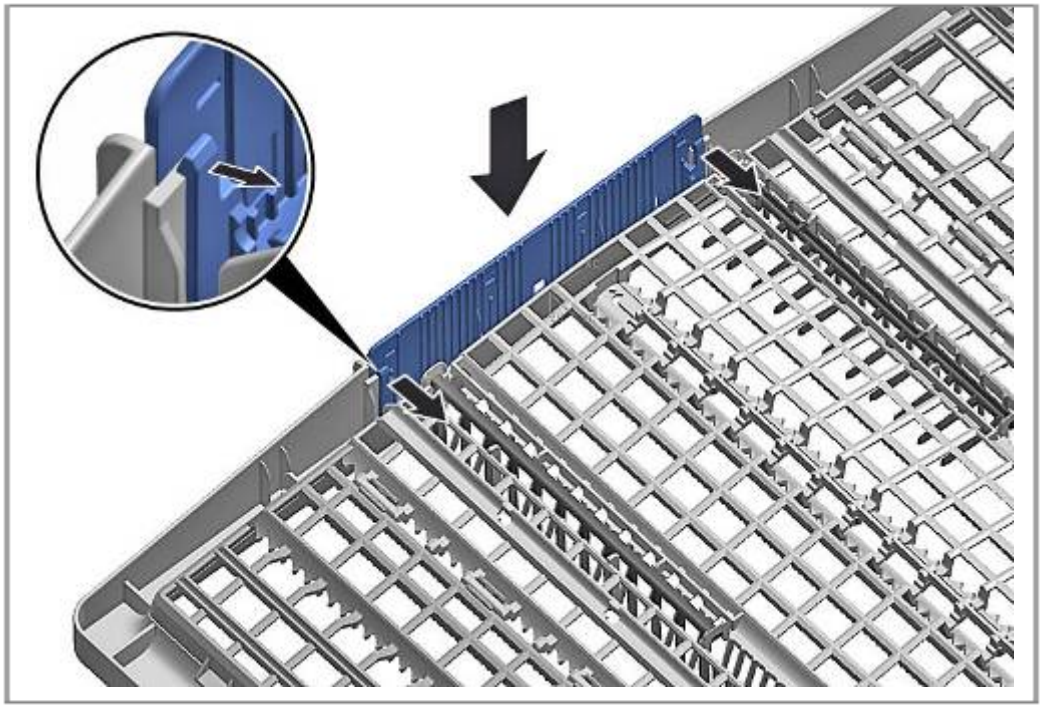


5.13.3 Gastronorm insert holder



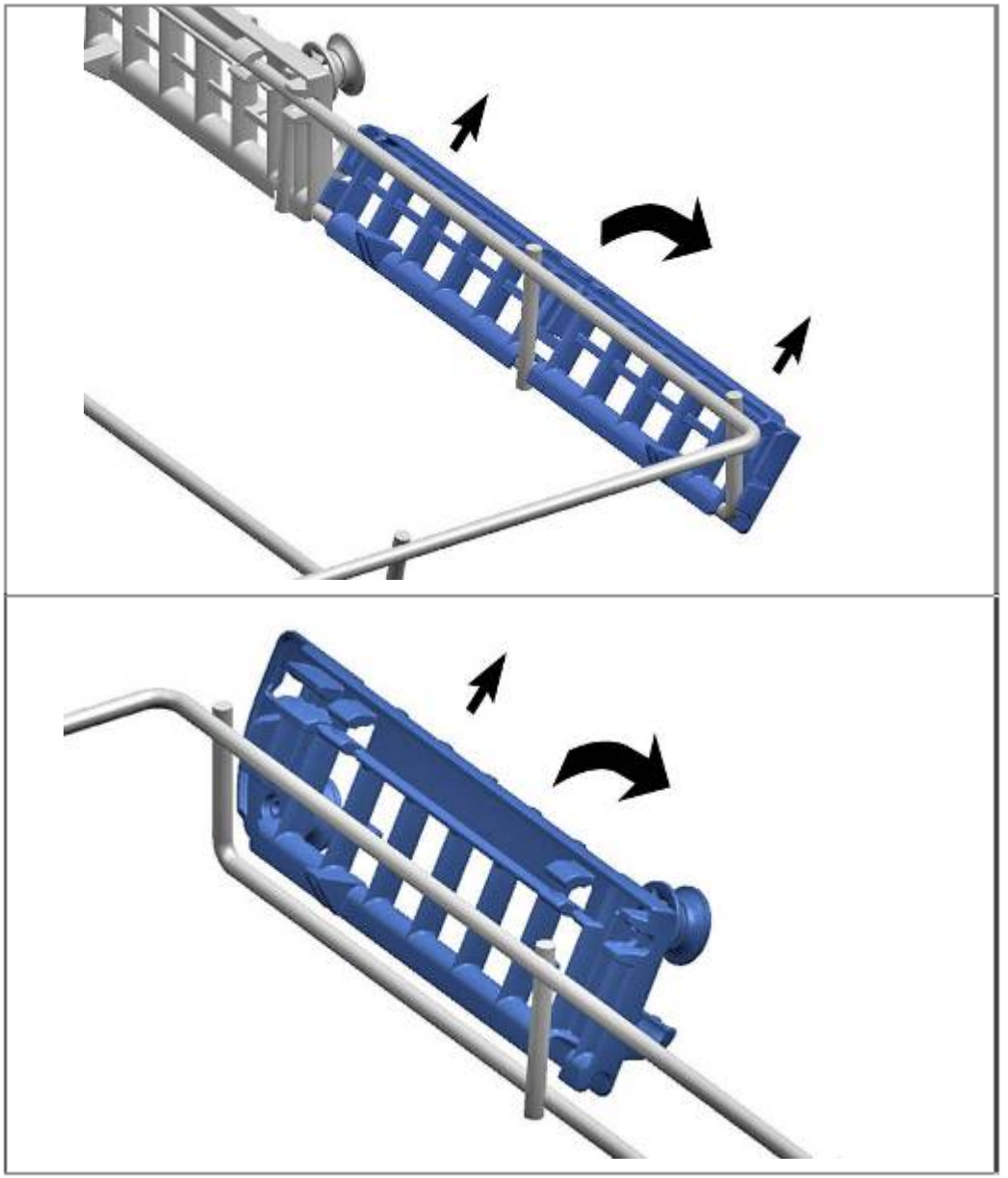
5.13.4 Setting up vario cutlery drawer plus – optional from 10/2011 on

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:

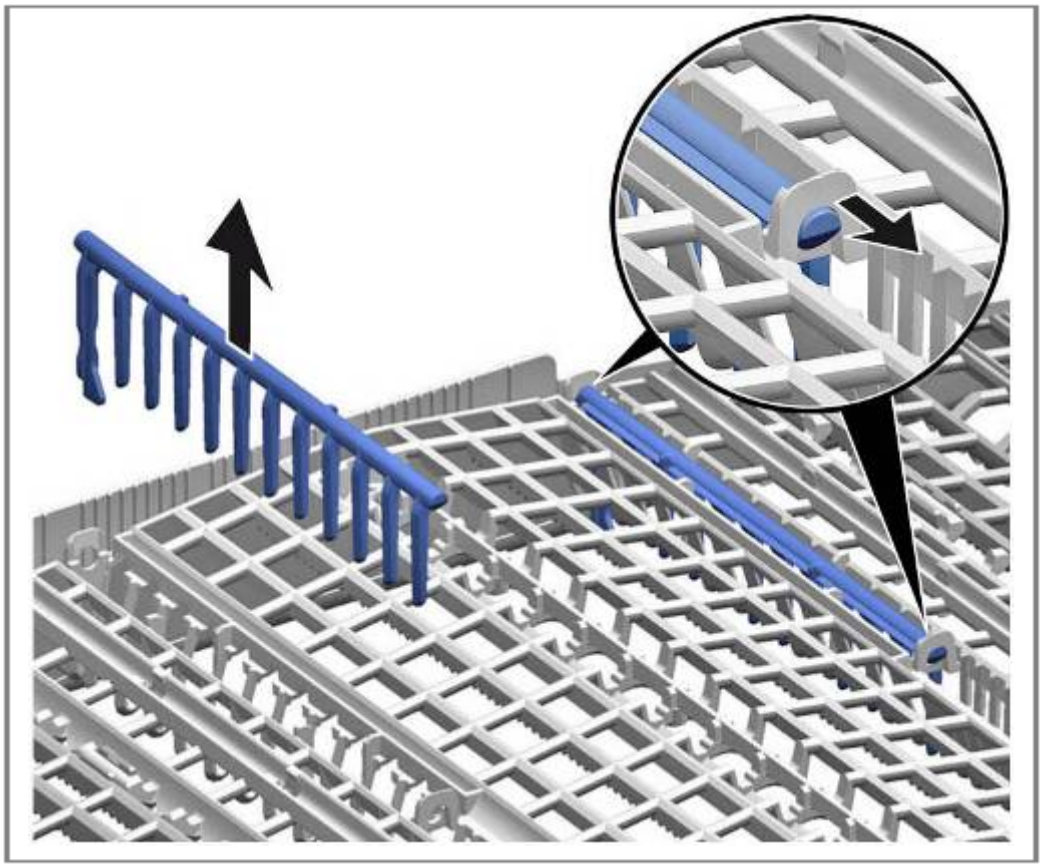


Bend latches inward.
Remove handle upward.

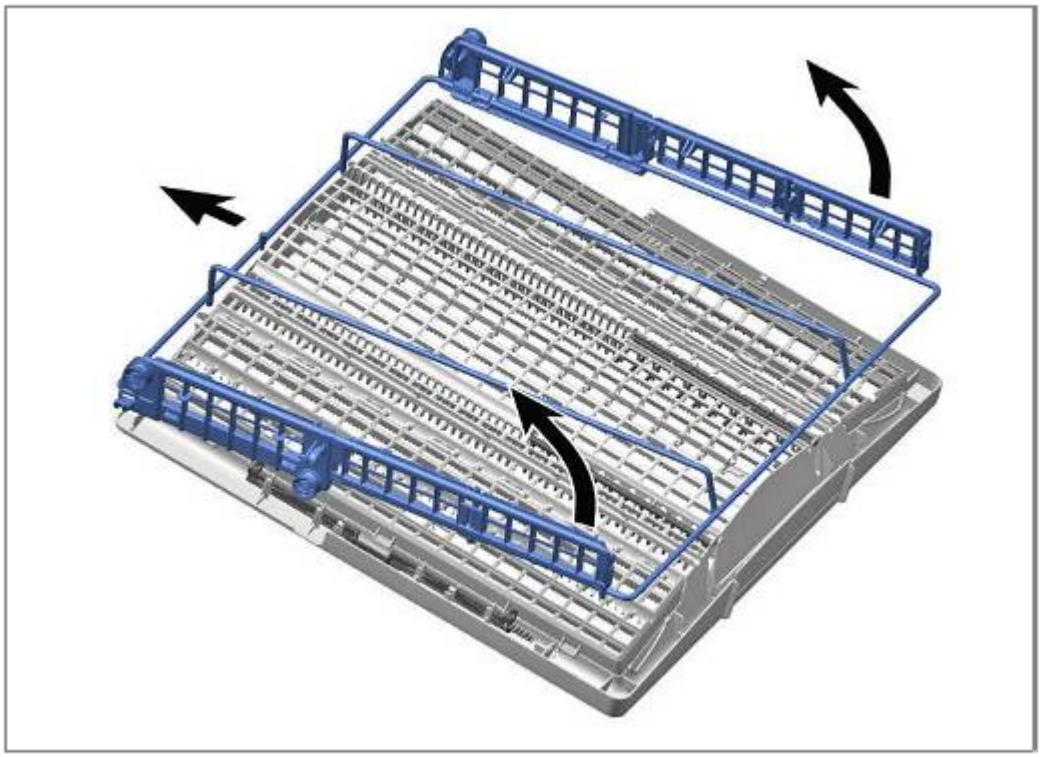
Press the lateral plastic inserts outward.
Pull it upward from the framework.



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



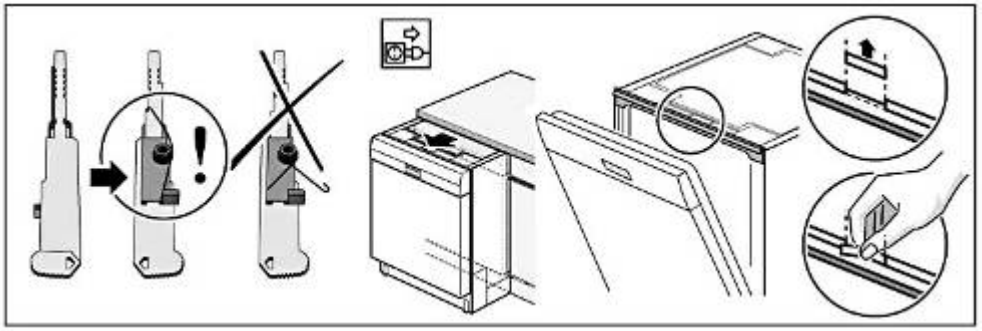
Press the metal frames from the mounting plates in front.
Push to the rear from the guidance.

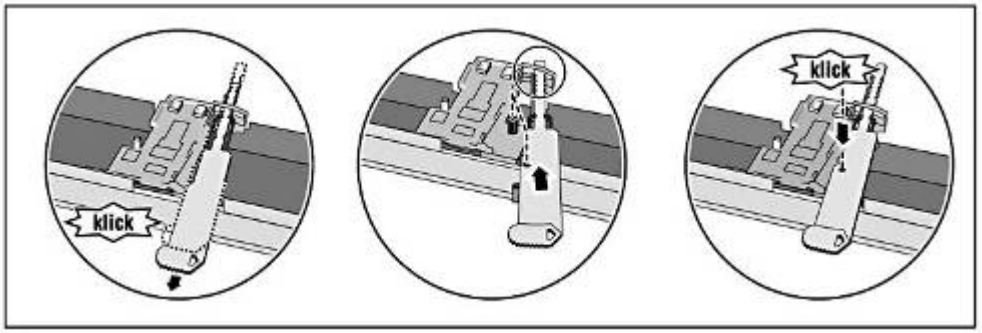


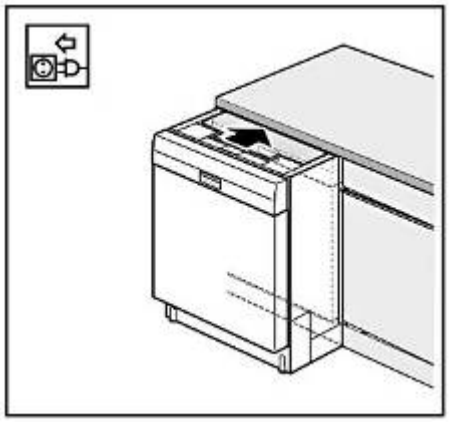
5.14 Installing childproof lock

Requirement:

► Worktop removed







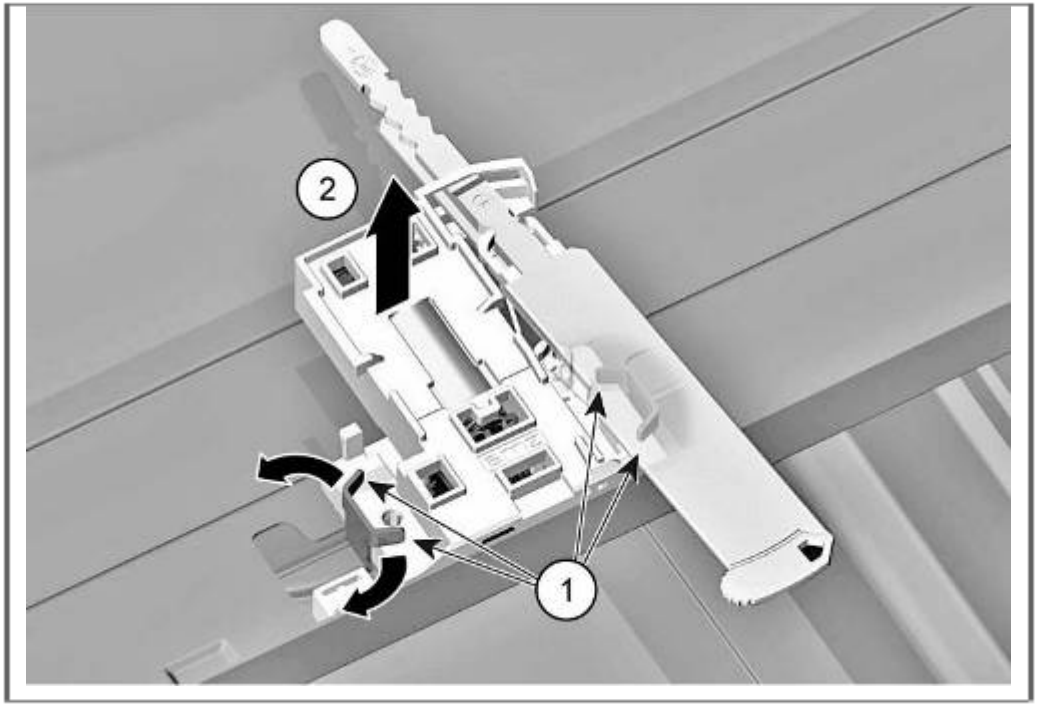
5.15 Replacing / resetting door lock

Requirement:

√ Worktop removed or

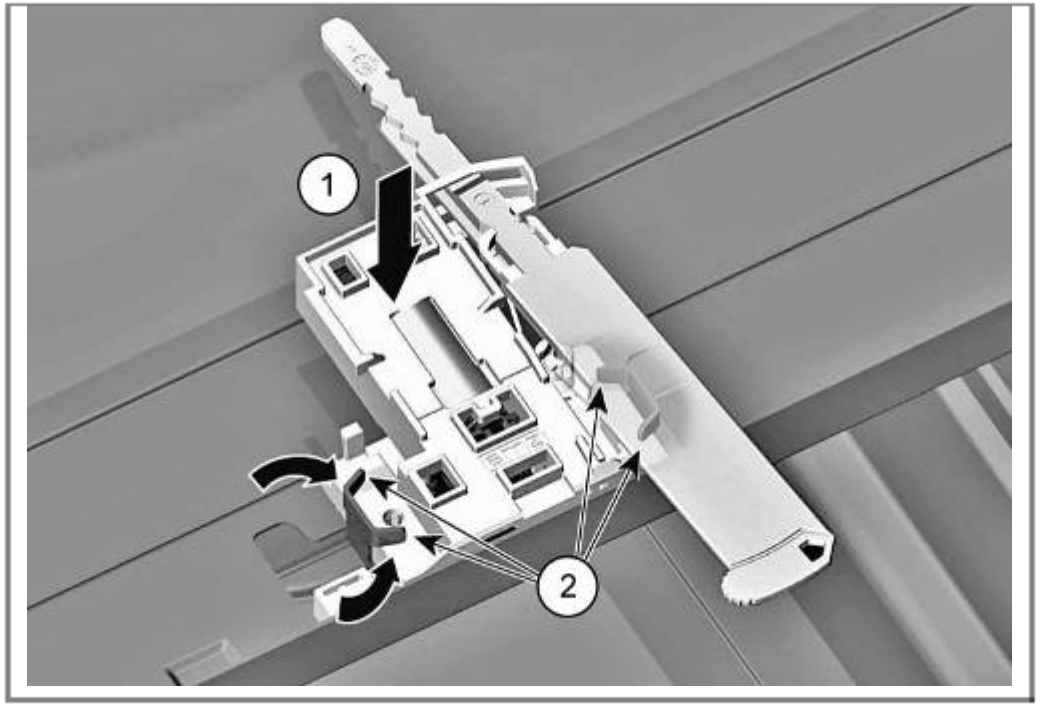
√ appliance pulled out as far as rinsing tank frame.

5.15.1 Removal



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

5.15.2 Installation



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

5.15.3 Reset

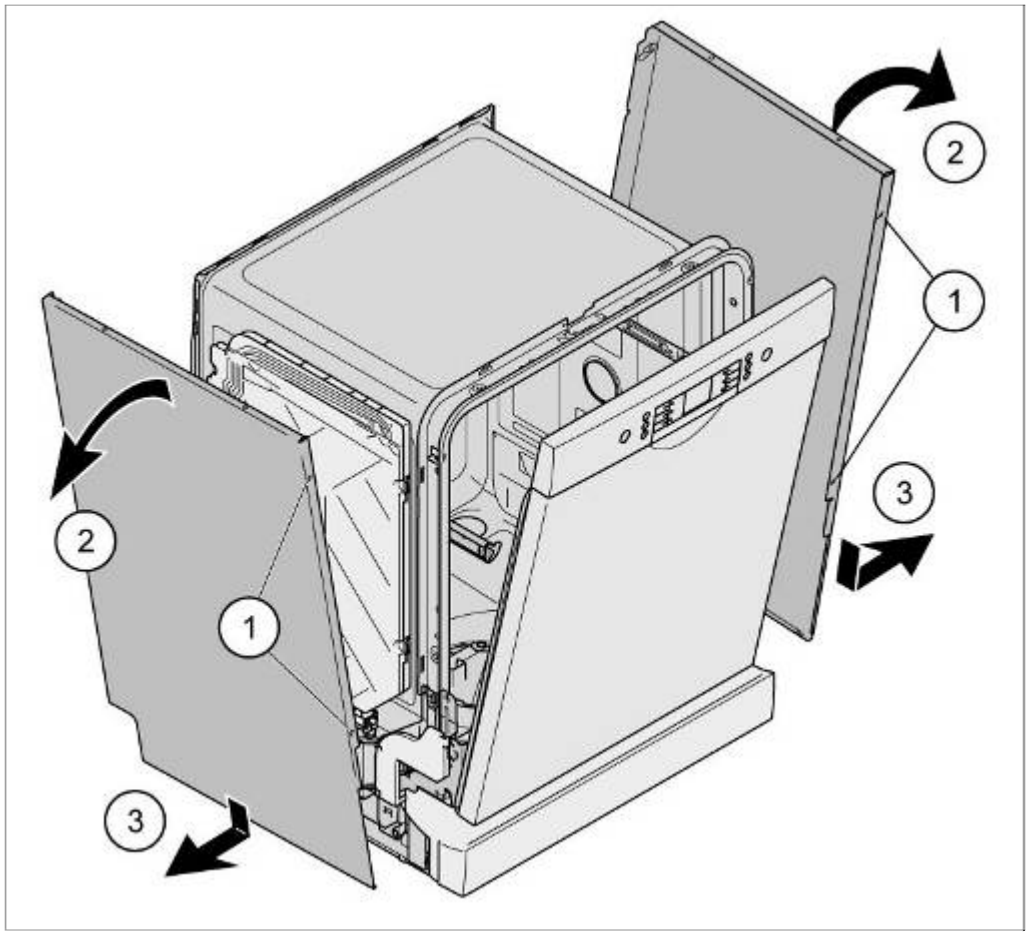
If the snap lock is locked manually (if required when using the transparent diagnosis door), the system must be released again. To do this, close the door firmly.

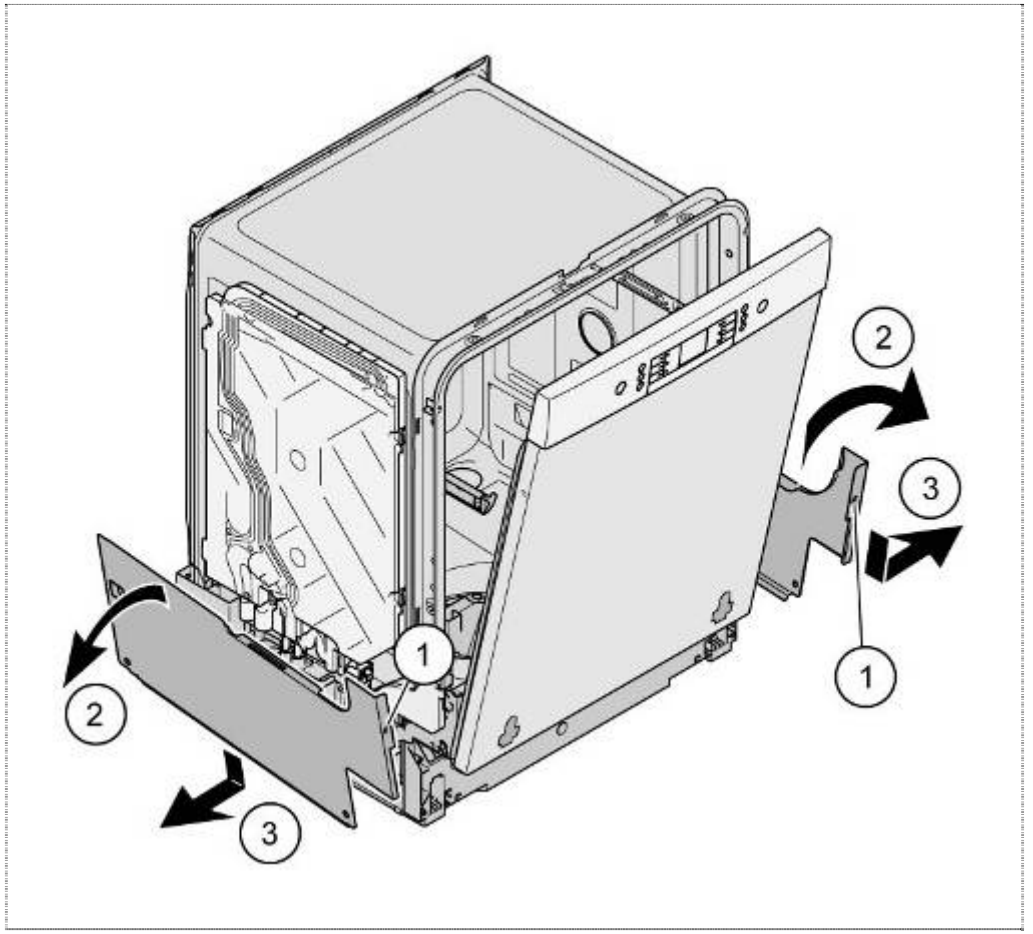
A strong mechanical resistance must be overcome!

5.16 Replacing side panels

Requirement:

√ Remove worktop (if fitted).

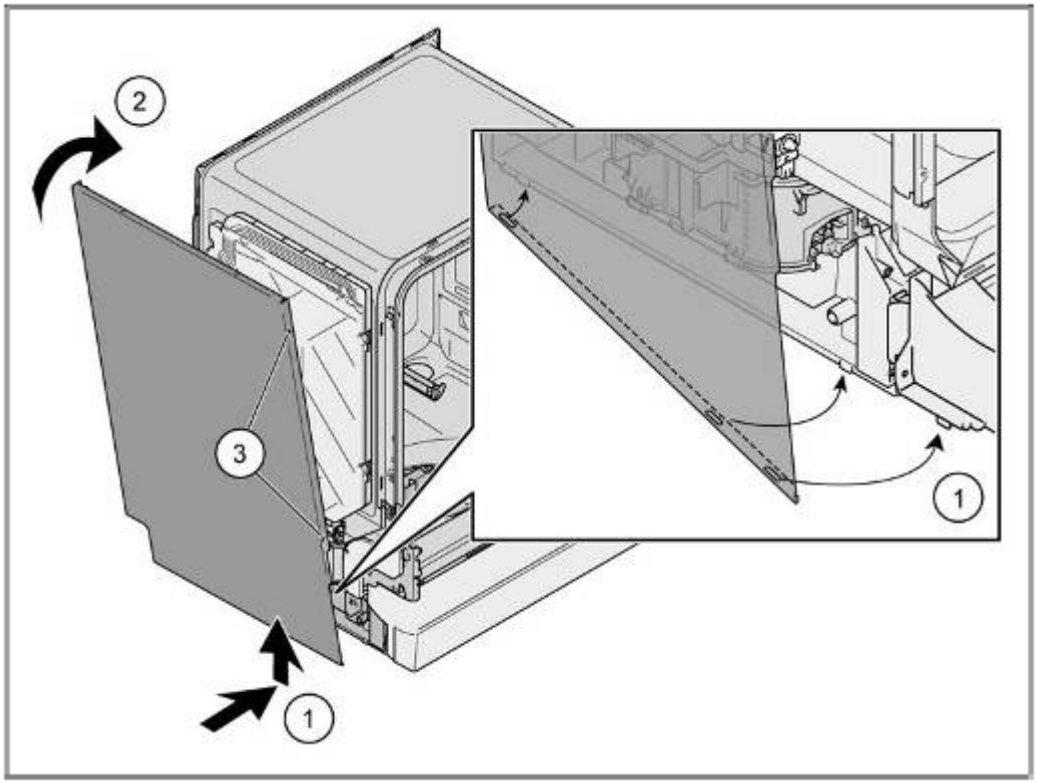


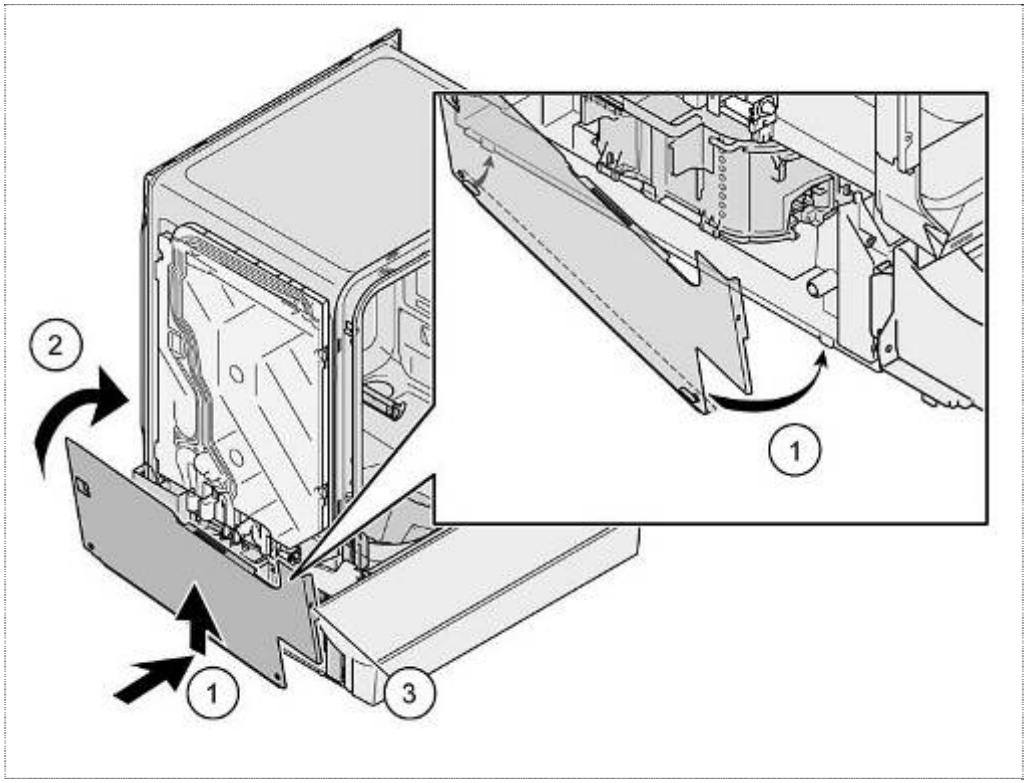


5.16.1 Removal

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.

5.16.2 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.

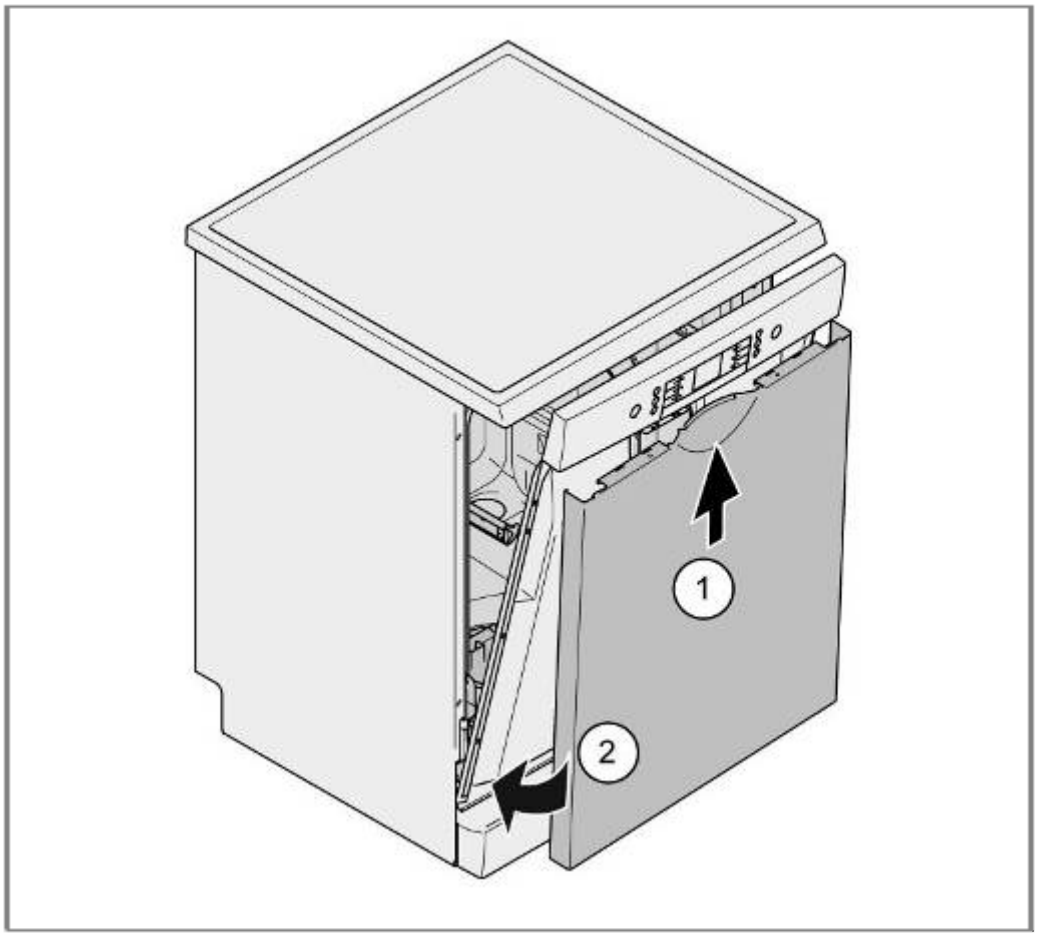
5.17 Removing outer door

5.17.1 Removal

Remove outer door by removing the 3 screws on each side of the inner door.

Panel screws

- ► It is not necessary to remove the topmost 6 screws in order to remove the outer door.
- ► Take hold of the sides of the outer door to prevent it falling down.



5.17.2 Installation

Position insulating mats and force sensors.

Close inner door but do not engage.

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

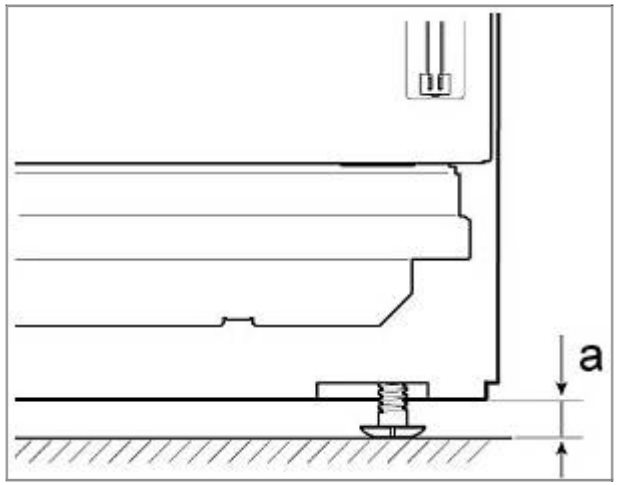
► Use 4x11 mm screws.

5.18 Variable hinge – installation, optional

Note Installation height

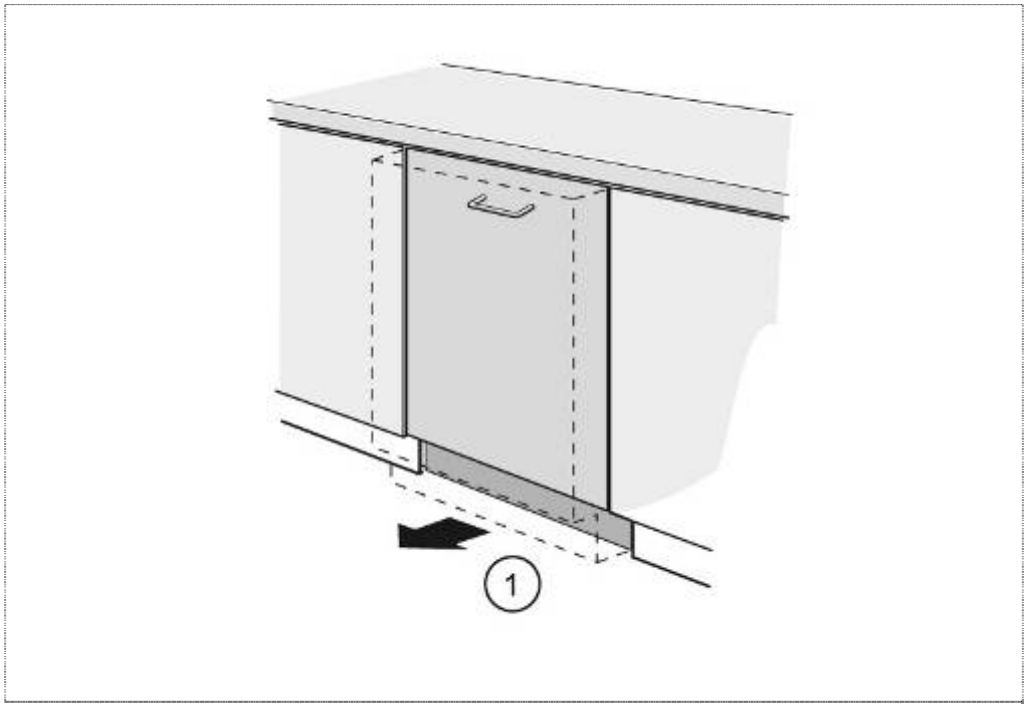
- ► Before pulling the dish washer out of installation mark the installation hight.
  (e.g.: distance (a) between floor to lower edge of the dish washer).
- ► The equipment must be aligned in the same height before assembly the furniture front

Example:

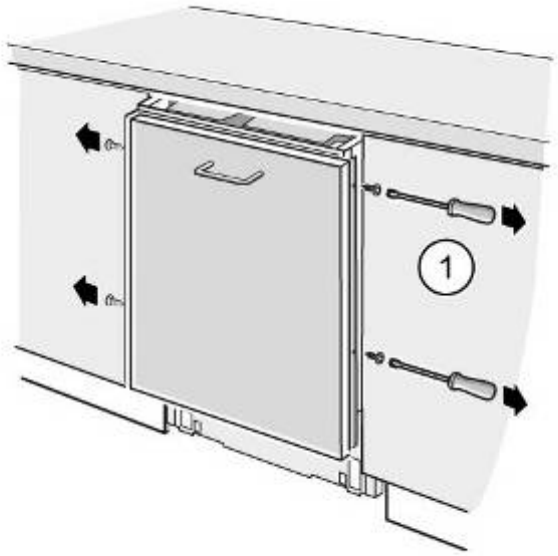


5.18.1 Removal

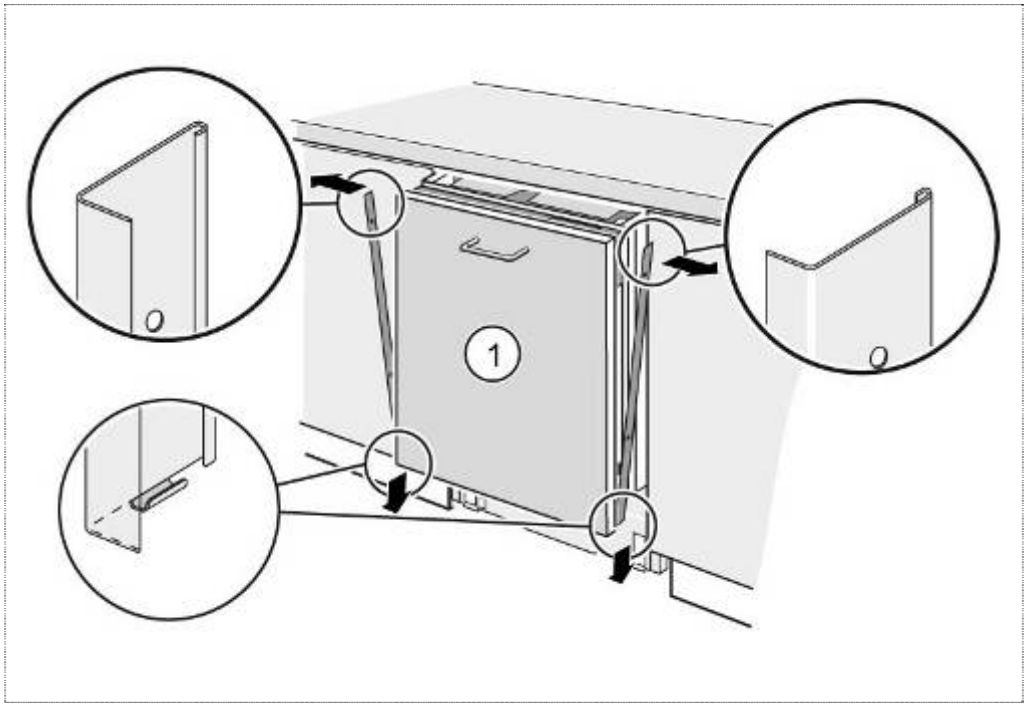
Requirement: base panel removed



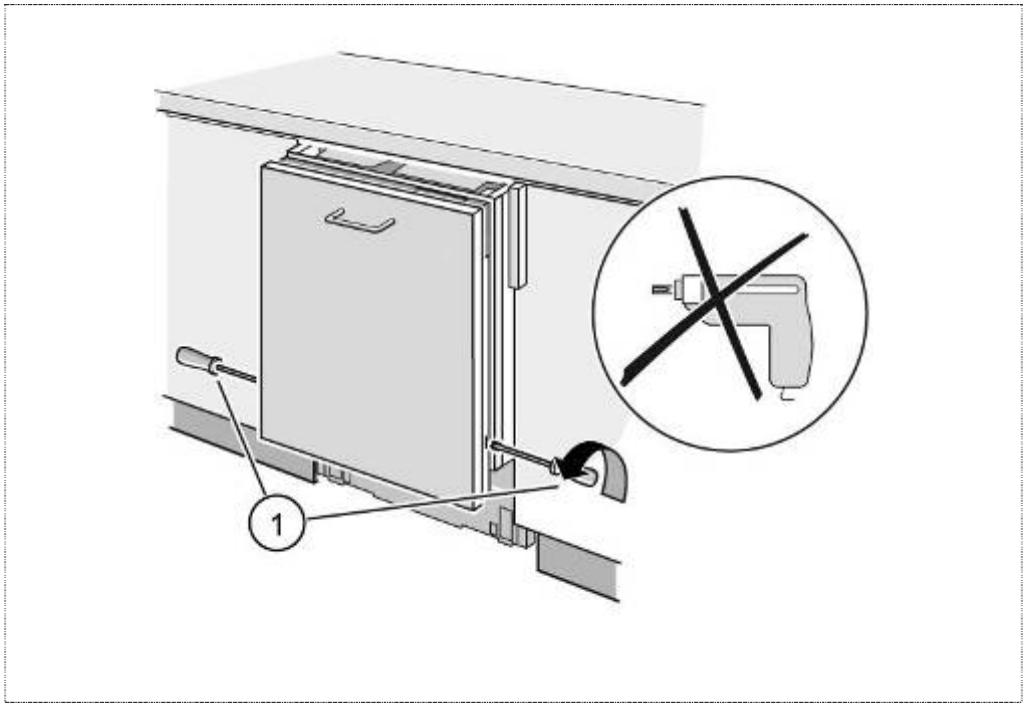
1. Pull appliance out of the installation cavity.



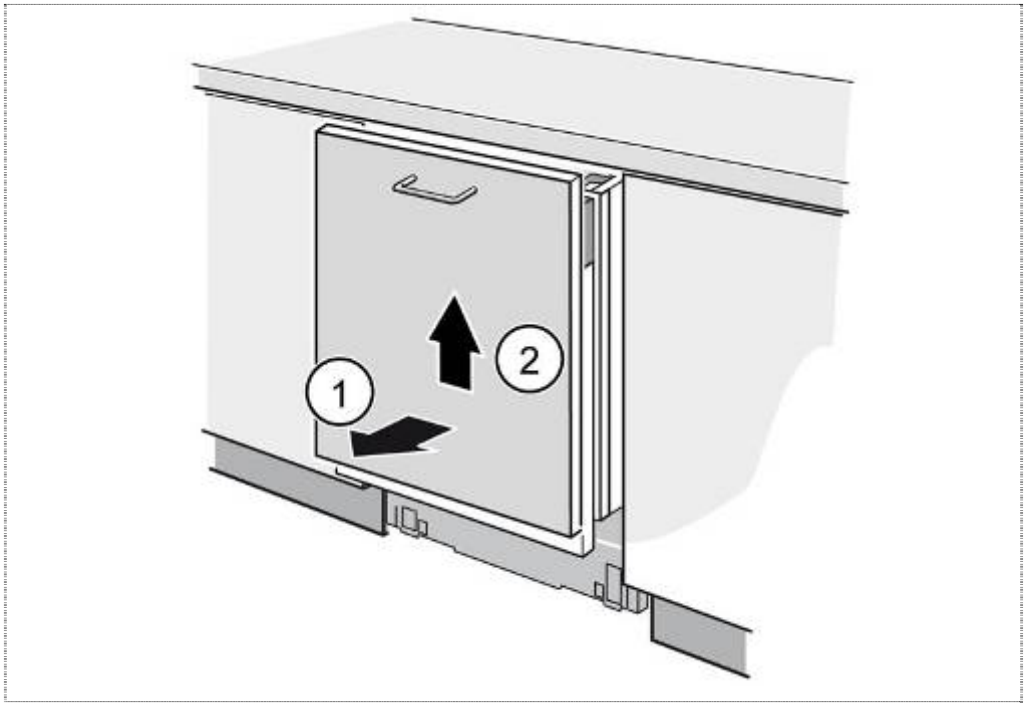
1. Remove 4 screws.



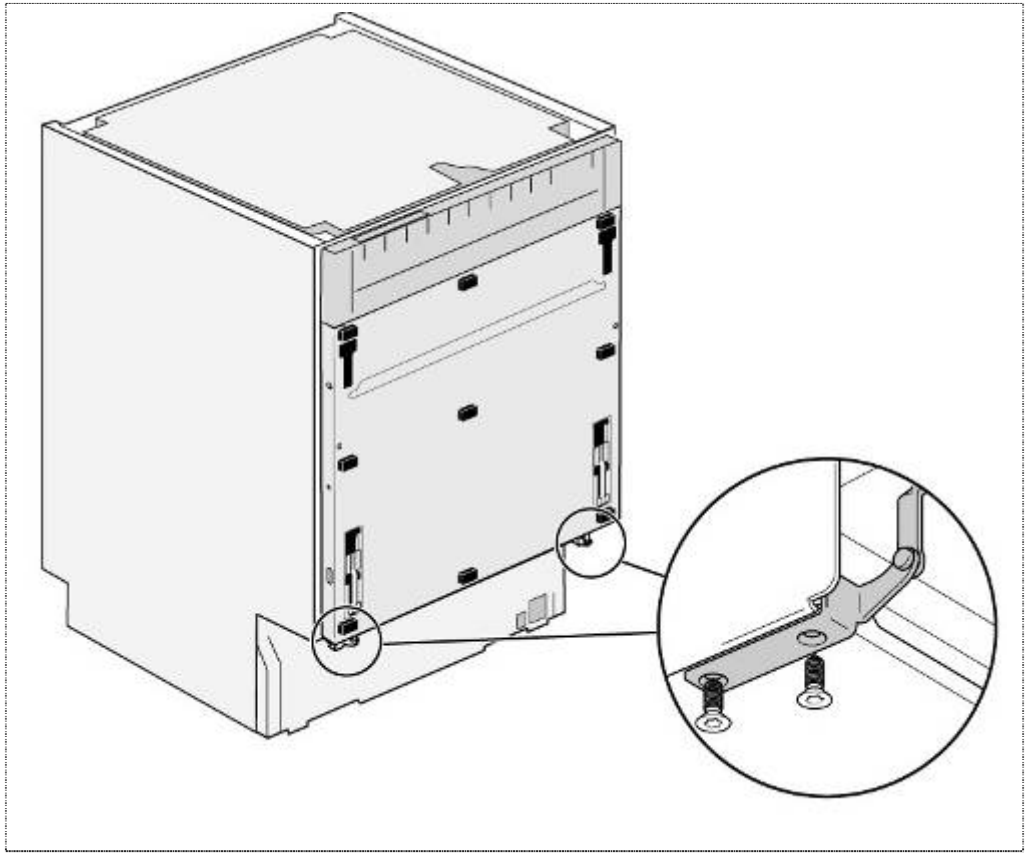
1. Remove both chrome strips.



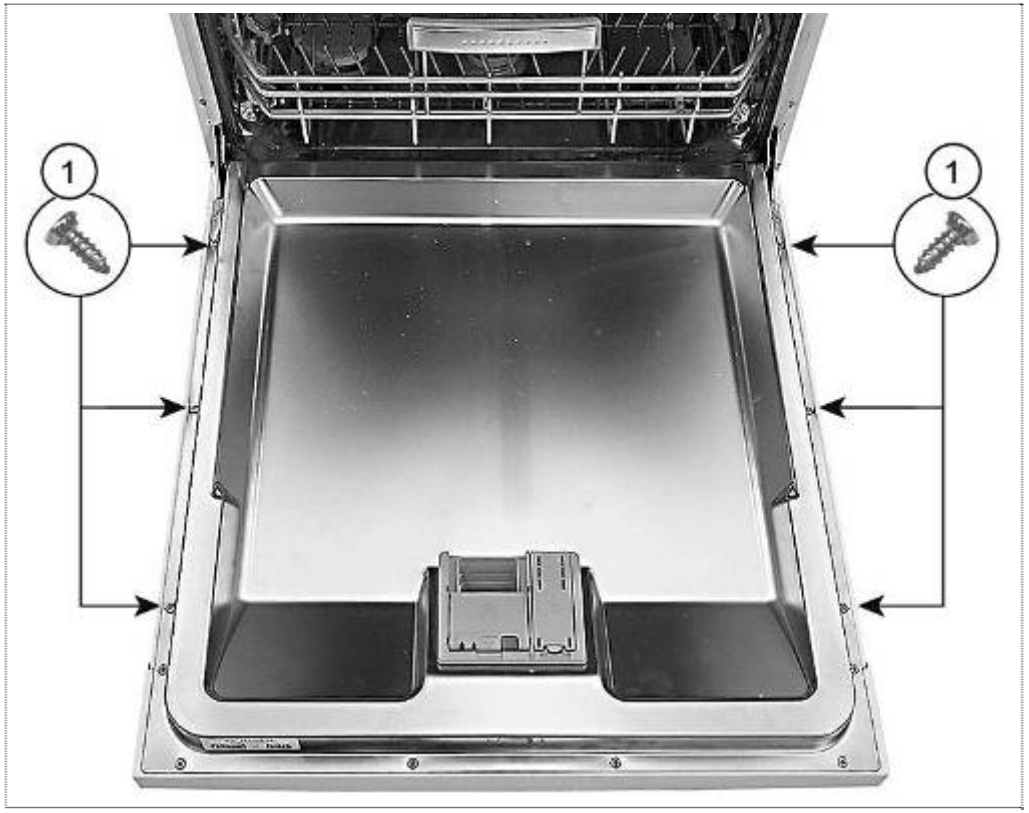
1. Loosen lock screws (3 ~ 5 rounds).



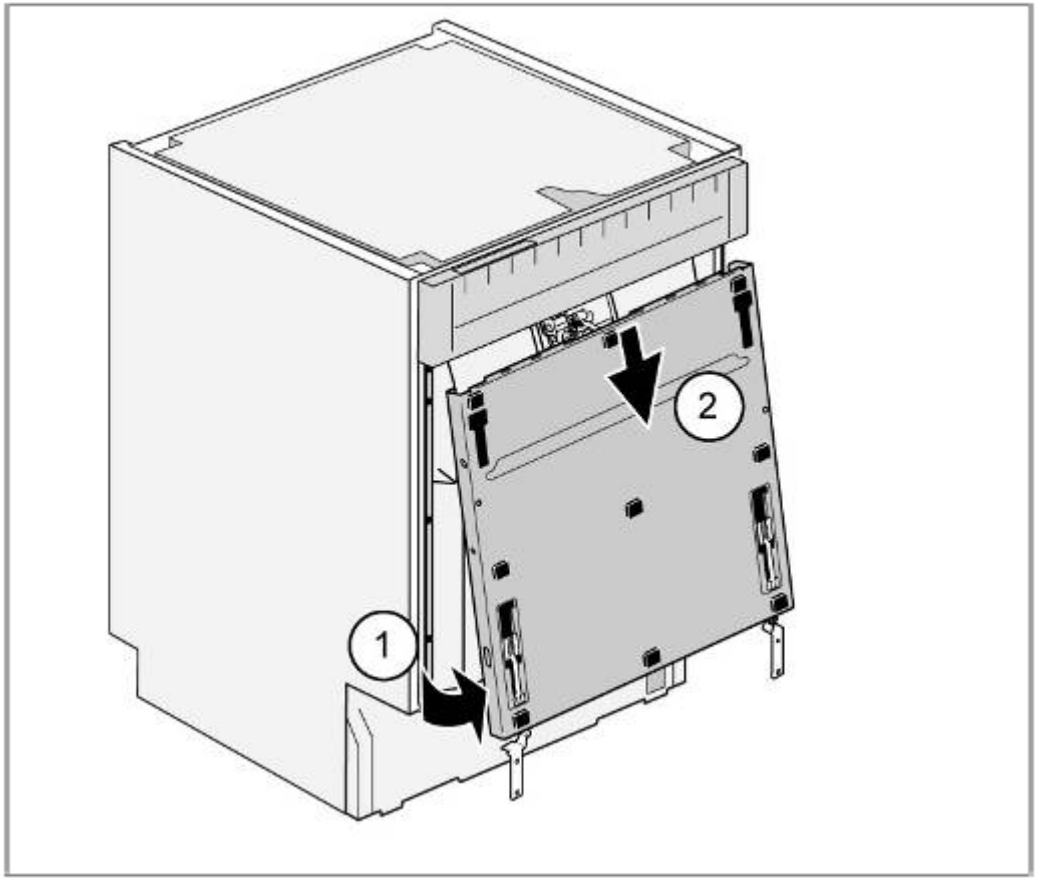
1. Raise furniture door and
2. push it upwards till the upper slide is out of the guide.



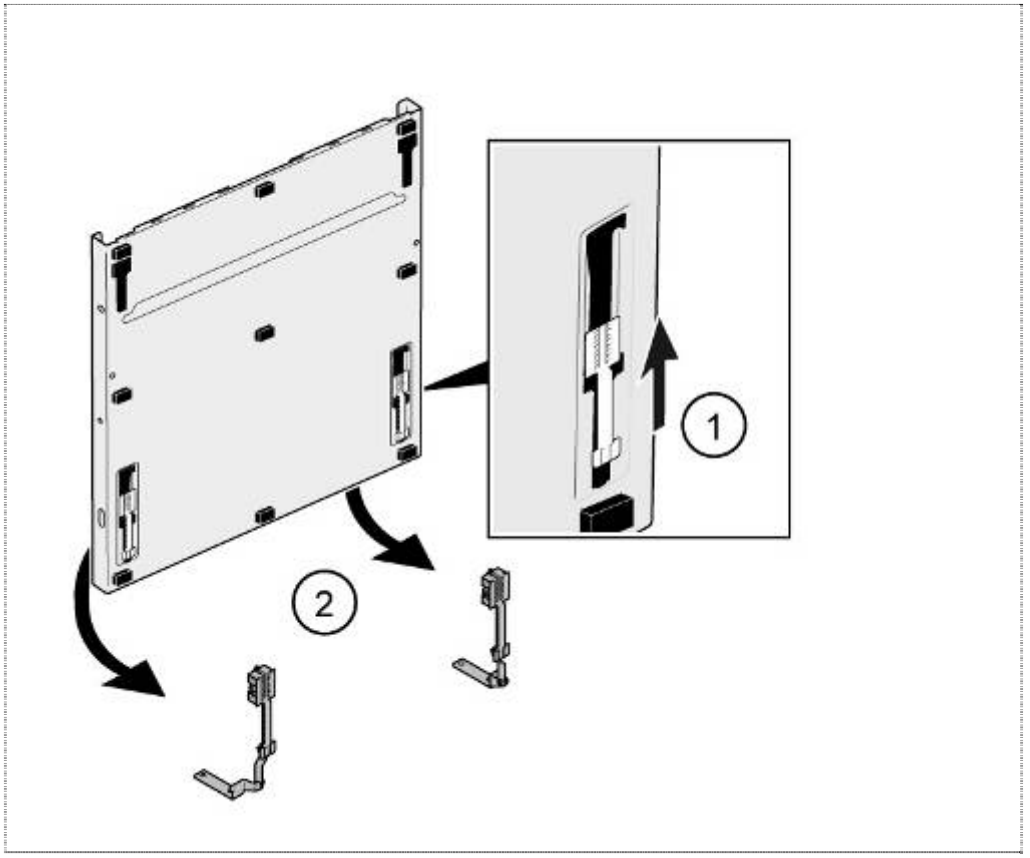
1. Remove screws.



1. Remove 6 housing screws from the front door.

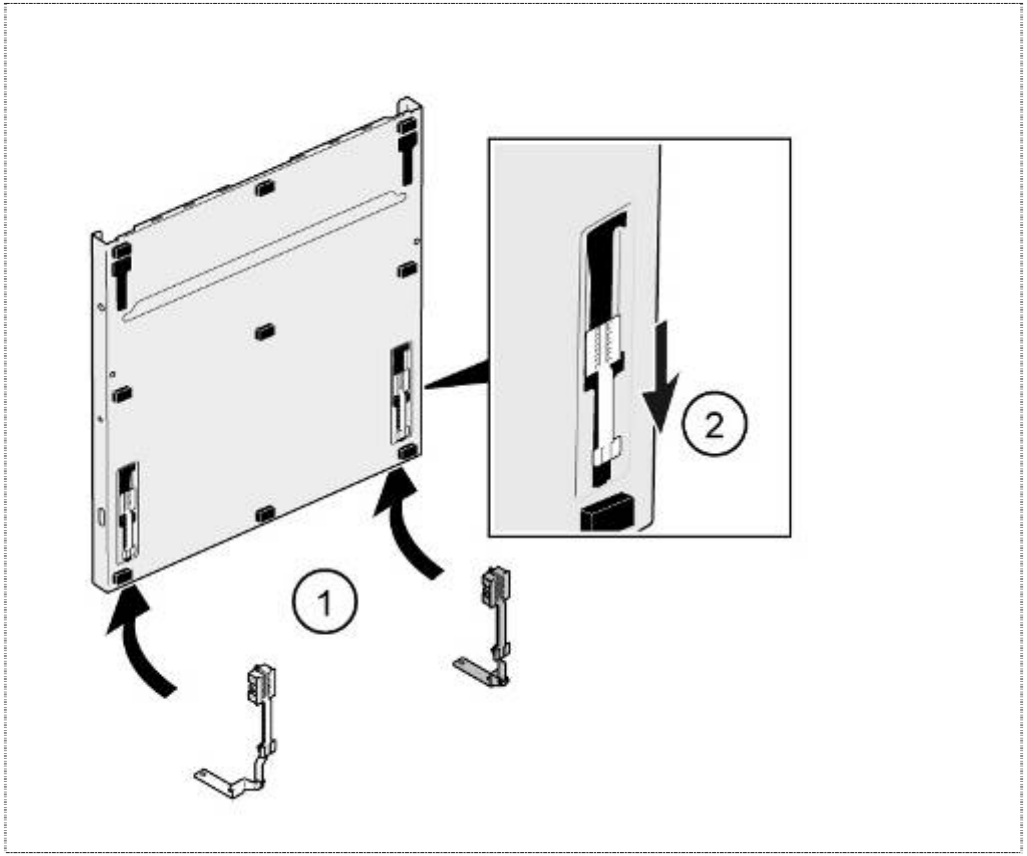


1. Pull outer door slightly away from the appliance.
2. Carefully remove downwards.

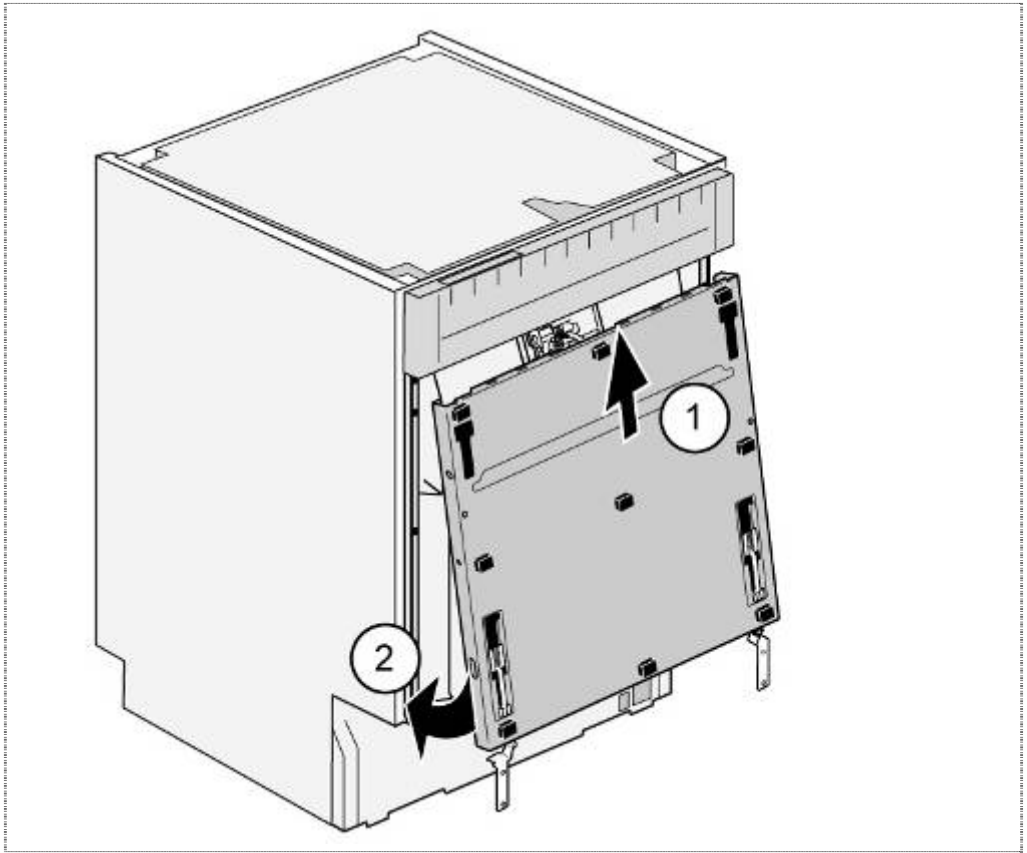


1. Move hinge upside
2. Remove both slideelements from the conduct

5.18.2 Installing outer door



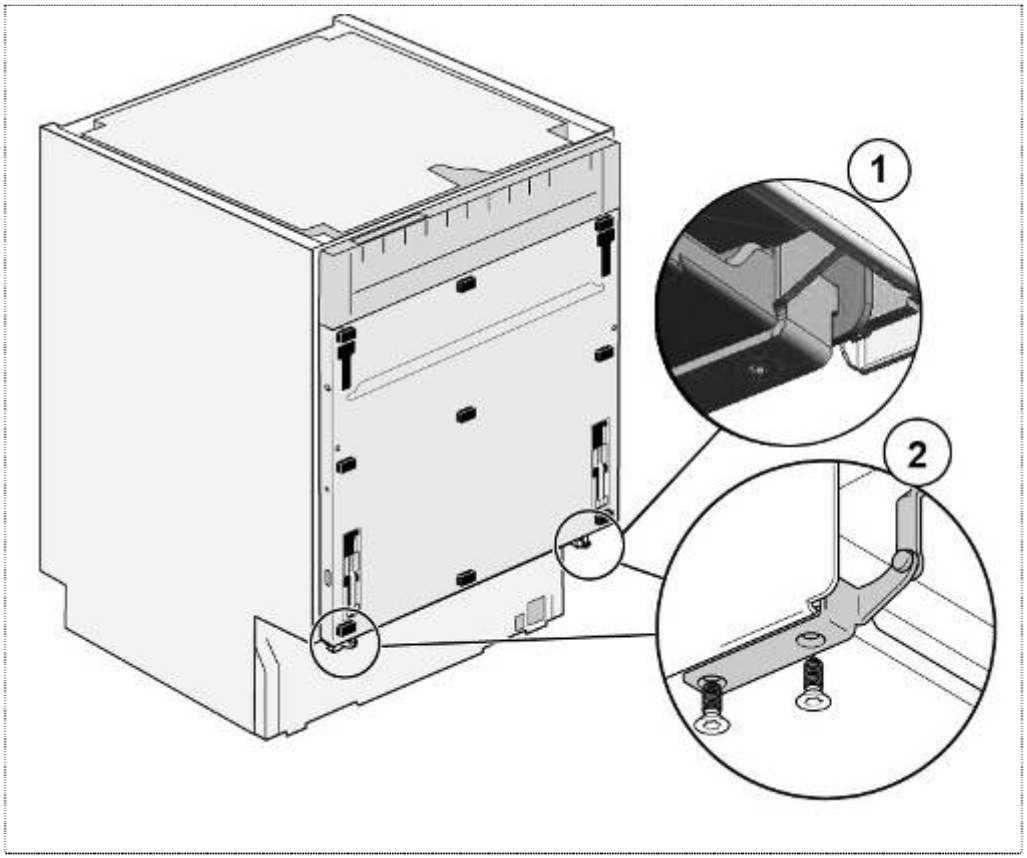
1. Insert both slideelements to the conduct
2. Move hinge upside



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

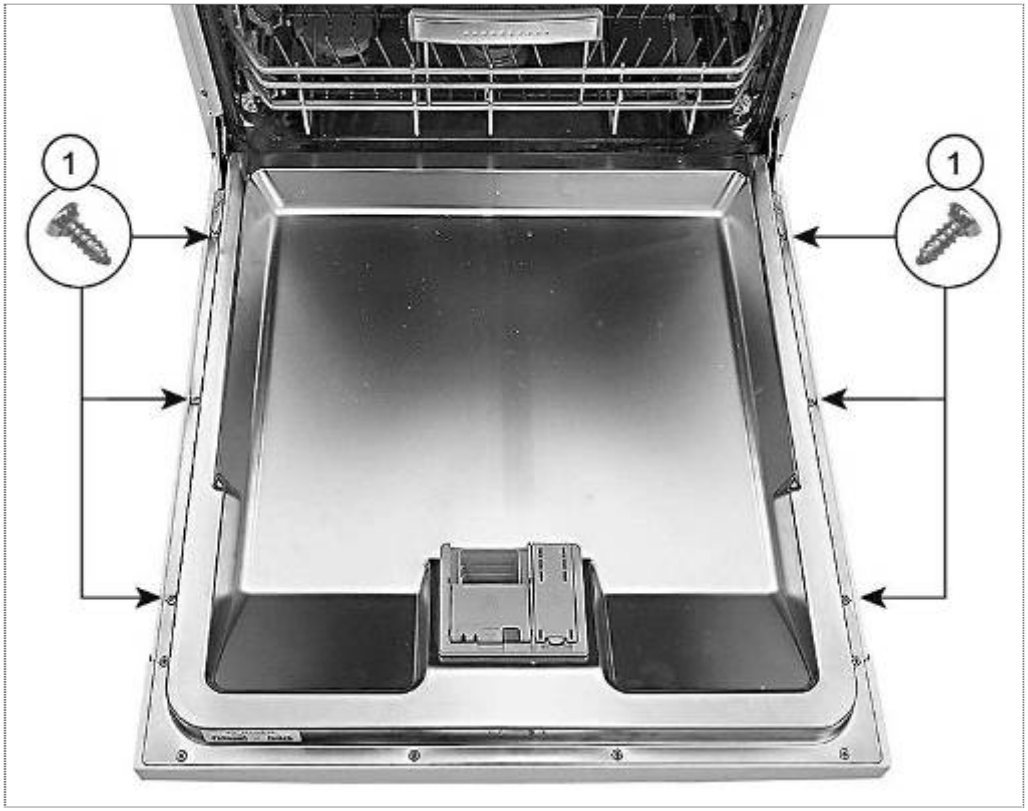


1. Mount the joint on the hinge side plate and screw in from below.

Installation

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

2. Screw from below



Screws

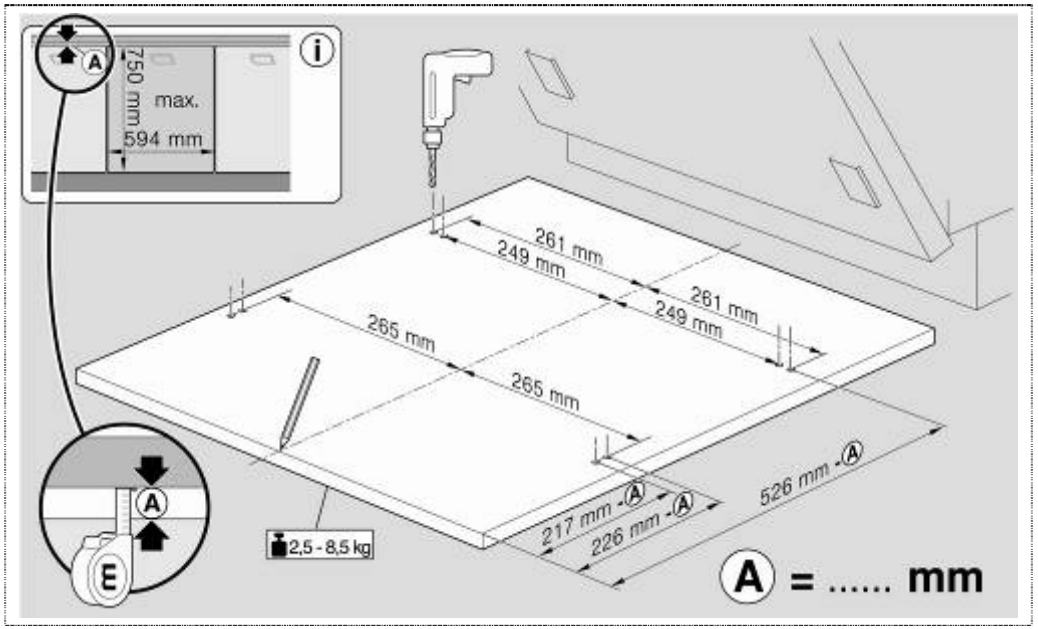
► Use 4x11mm screws.

1. Assemble outer door with 6 housing screws.

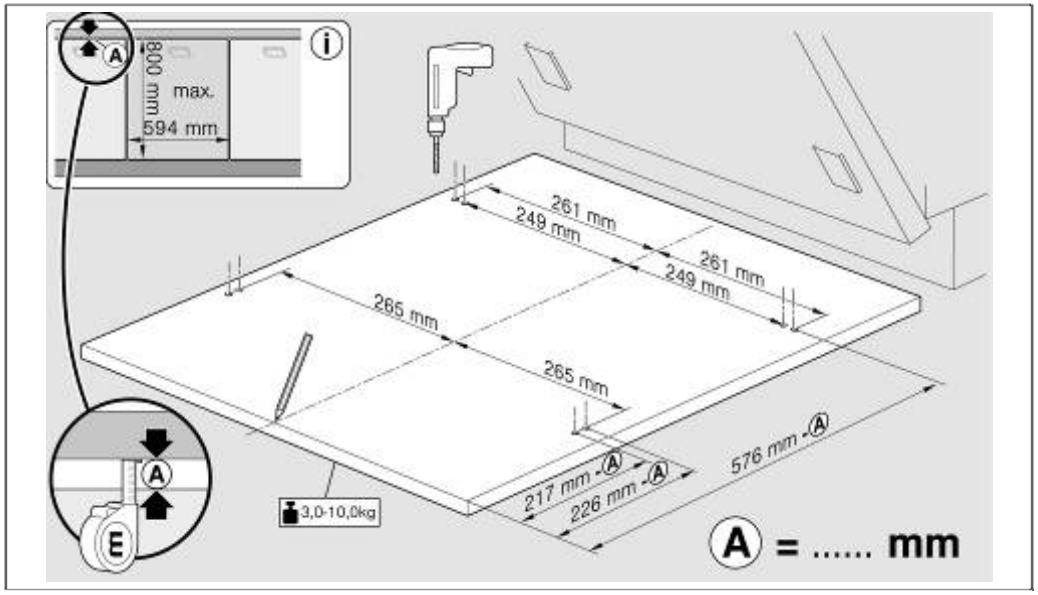
5.18.3 Installing furniture door

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:



Dimensions for 86 cm models:



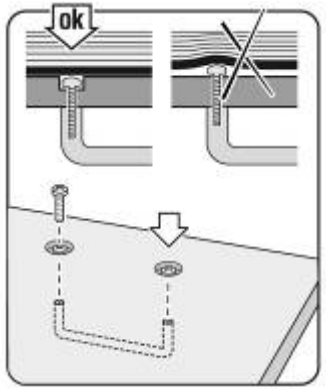
1. Mark installation points exactly with 2 mm drill bit attach 4 retaining elements exactly.

CAUTION

Incorrect marking and attachment!

Destruction of the furniture door

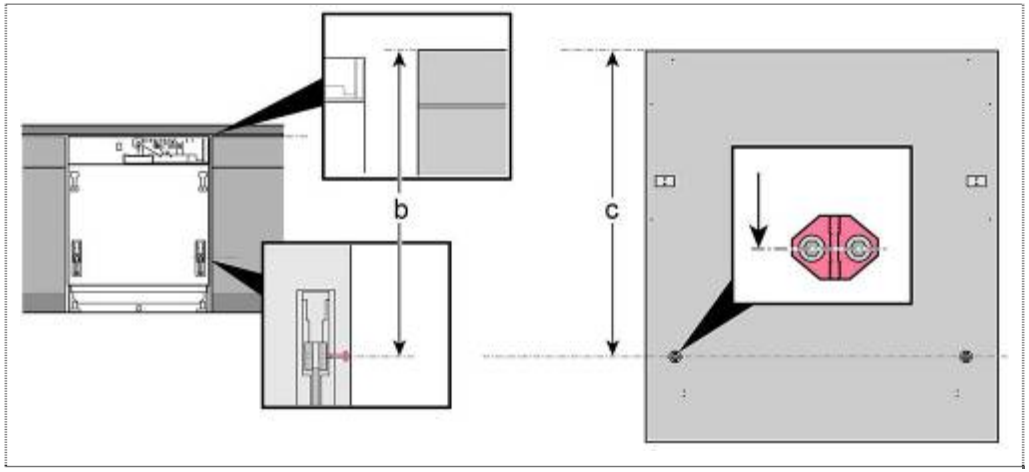
- ► The attachment points of the retaining element must be observed exactly. If the 4 retaining elements are attached unevenly or slanted, the furniture door may jam when it is being opened or closed.
- ► The screw fittings of the hand grip must always be countersunk.



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

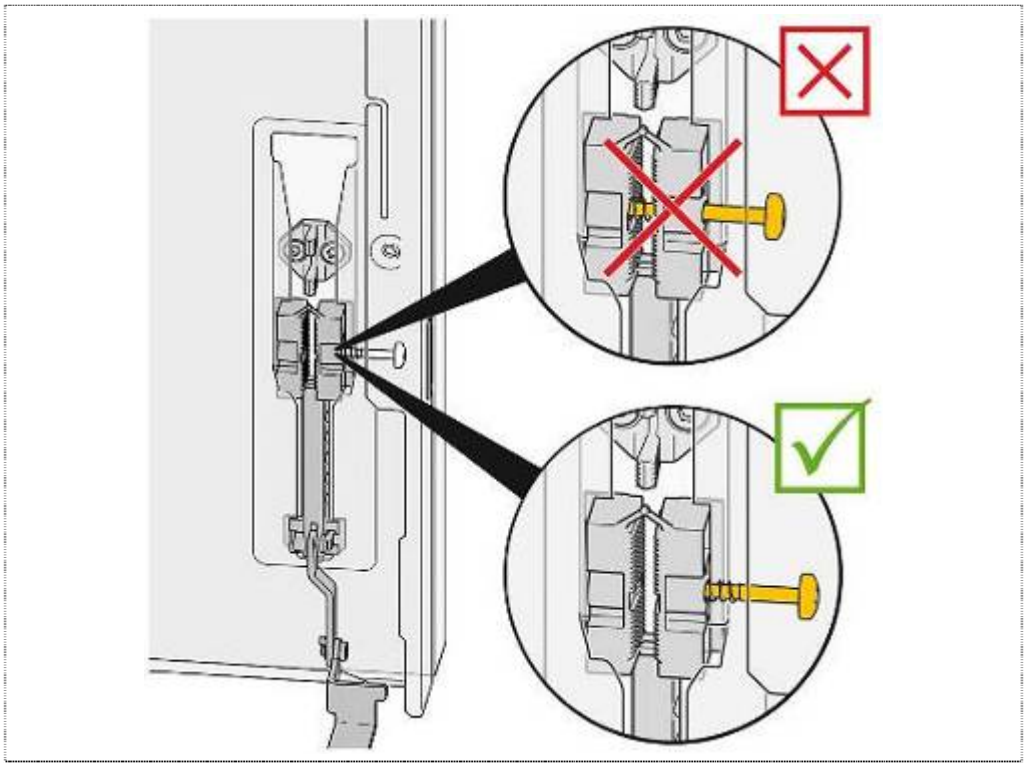
(Primary system)

CAUTION

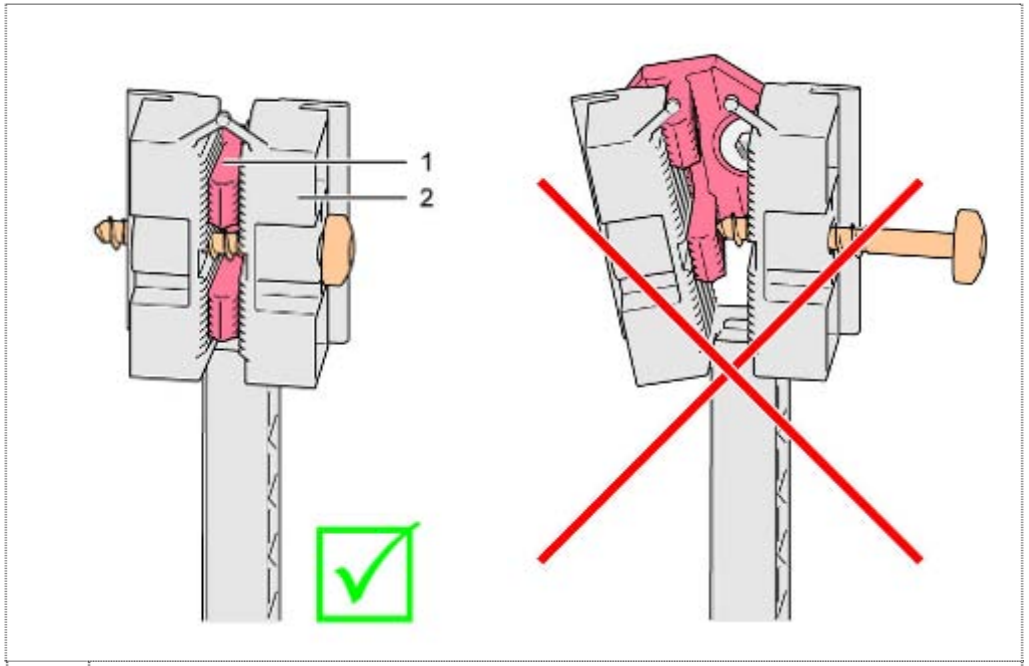
Incorrect position of the locking screws!

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.

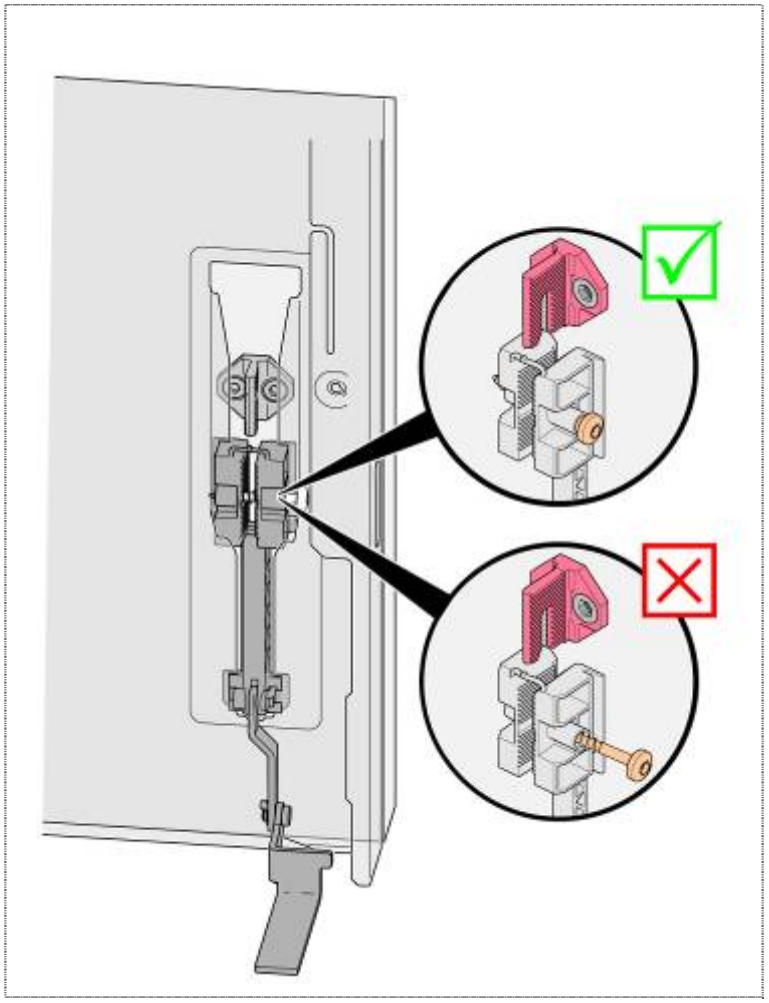


1	Guide part
2	Slider

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

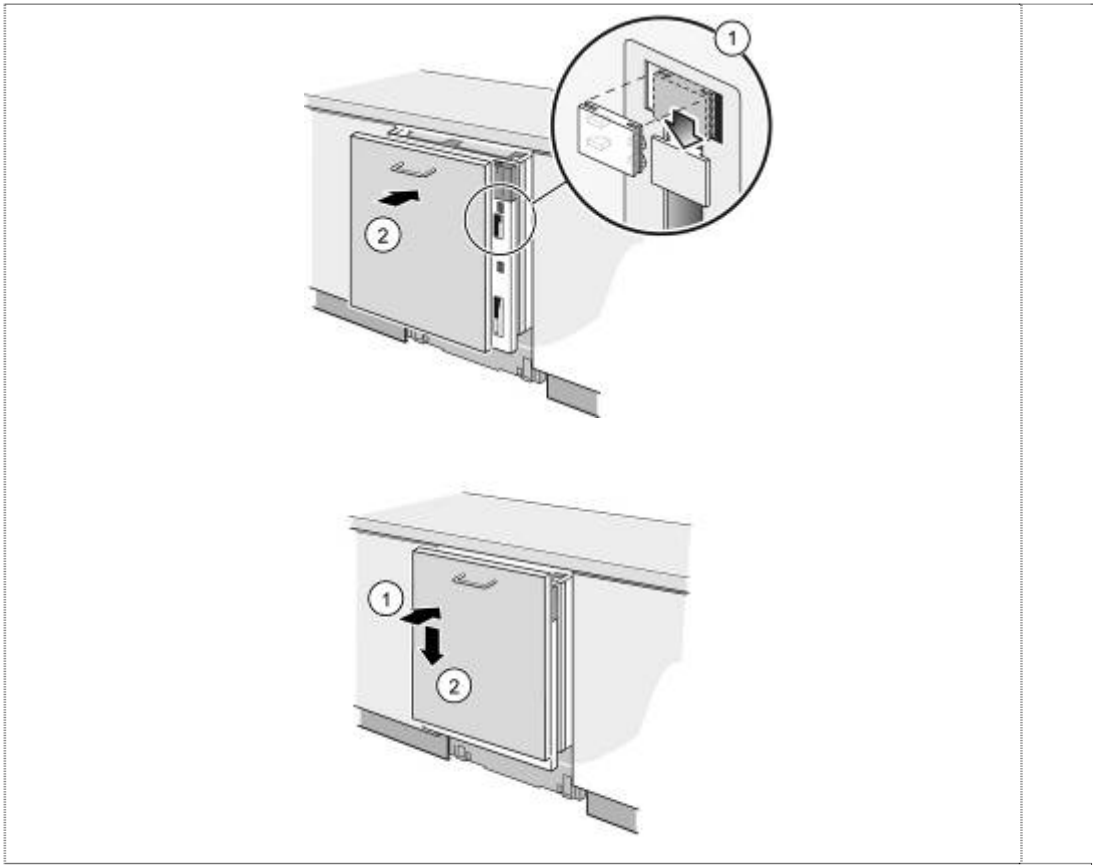
From FD 9205 on

(Modified system)



The screw must be screwed in, but not fixed.

For all FD:

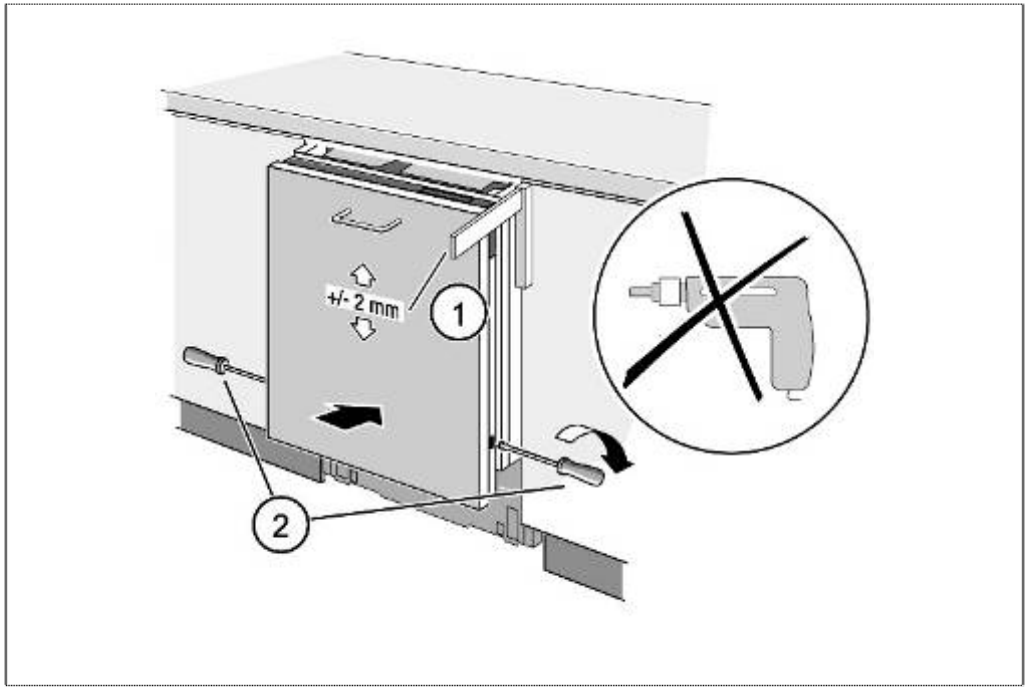


1. Insert sliding elements correctly into the guides.
2. Press furniture door onto the outer door. Carefully lower furniture door as far as the stop.

VORSICHT

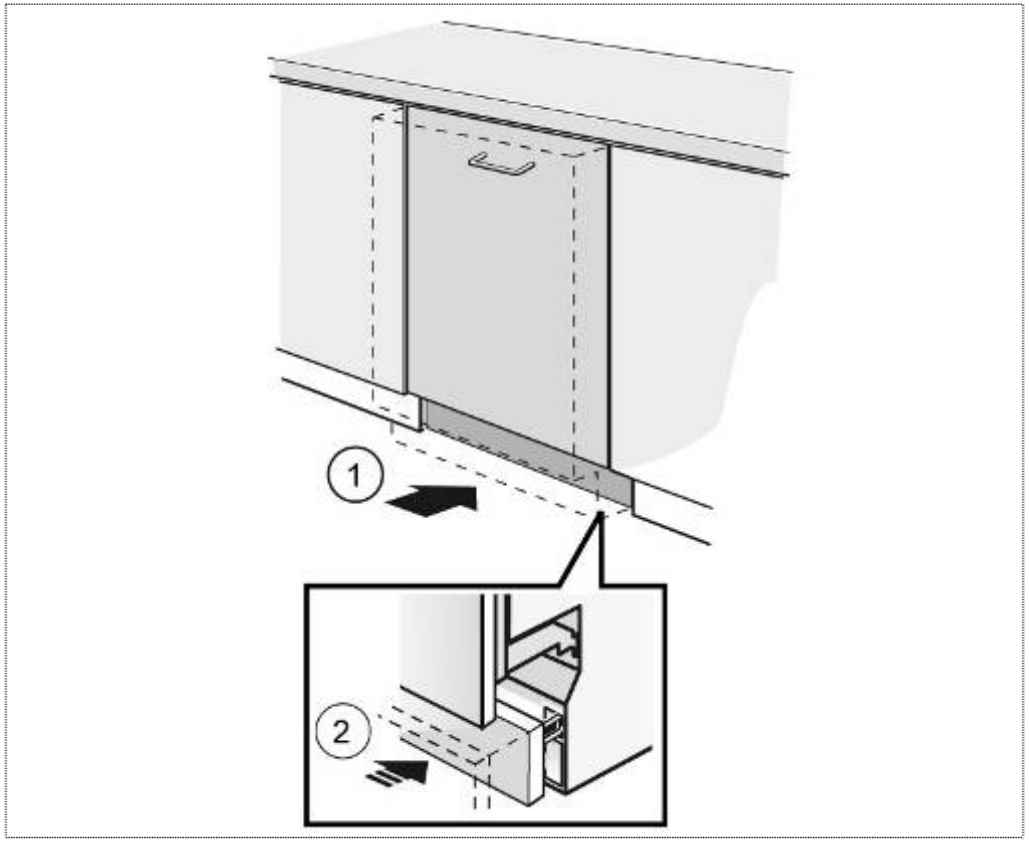
Mounting by using screws

- 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.

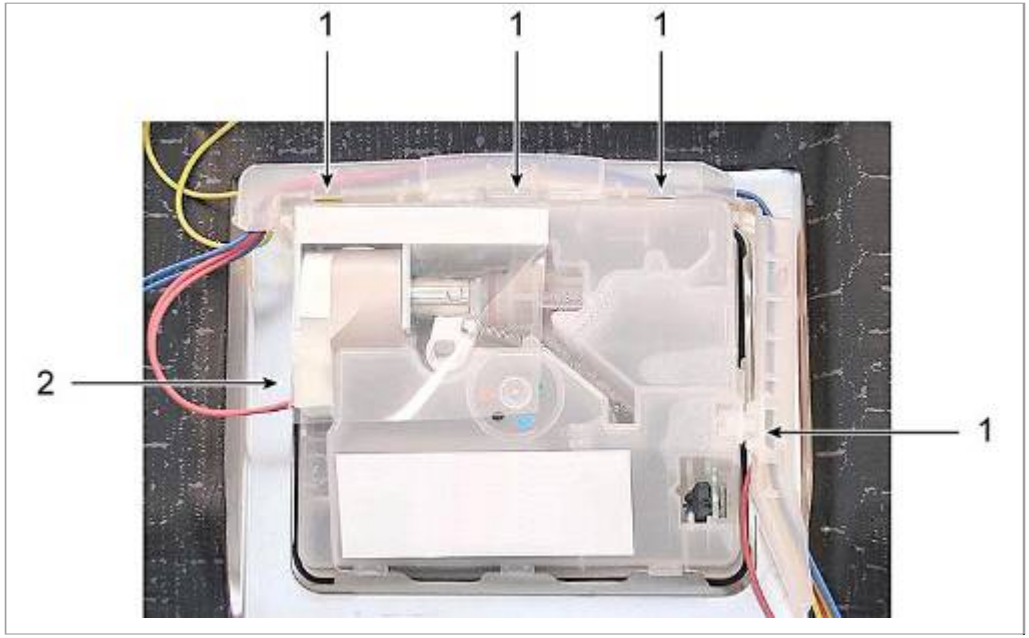


1. Install appliance and
2. install base panel.

5.19 Replacing the dispenser

Requirement:

► Outer door or décor panel removed.



5.19.1 Removing the dispenser

1. Take cable duct out of the catches.
2. Loosen plug-and-socket connection.

Sharp-edged sheet-metal parts!

Risk of injury

► Wear protective gloves.

CAUTION

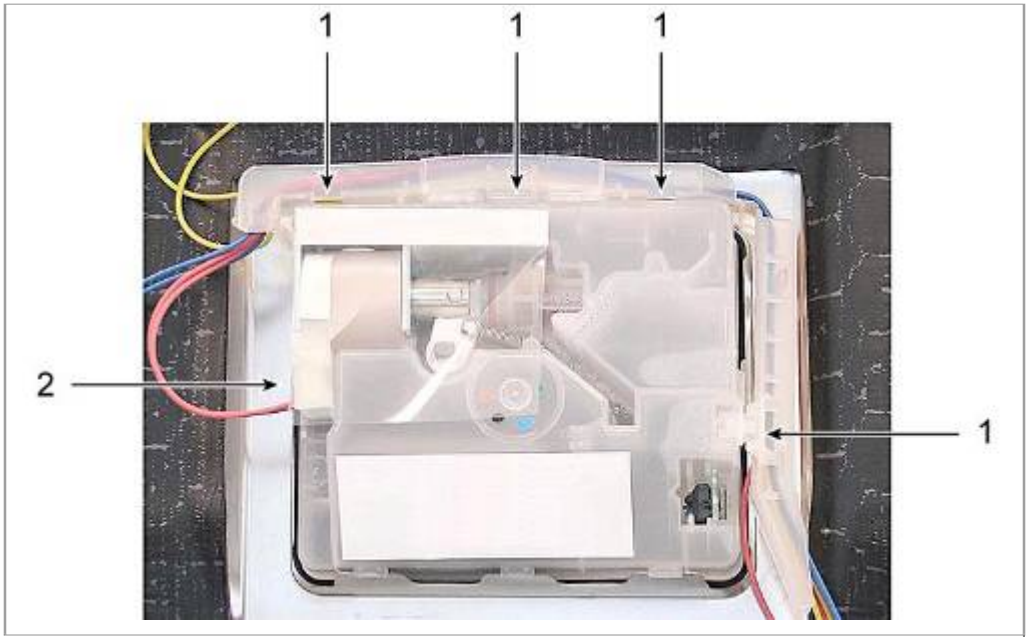
5.19.2 Removal

1. Carefully bend sheet-metal brackets away from the dispenser and press dispenser carefully inwards and ensure that it does not fall into the appliance.

5.19.3 Installation

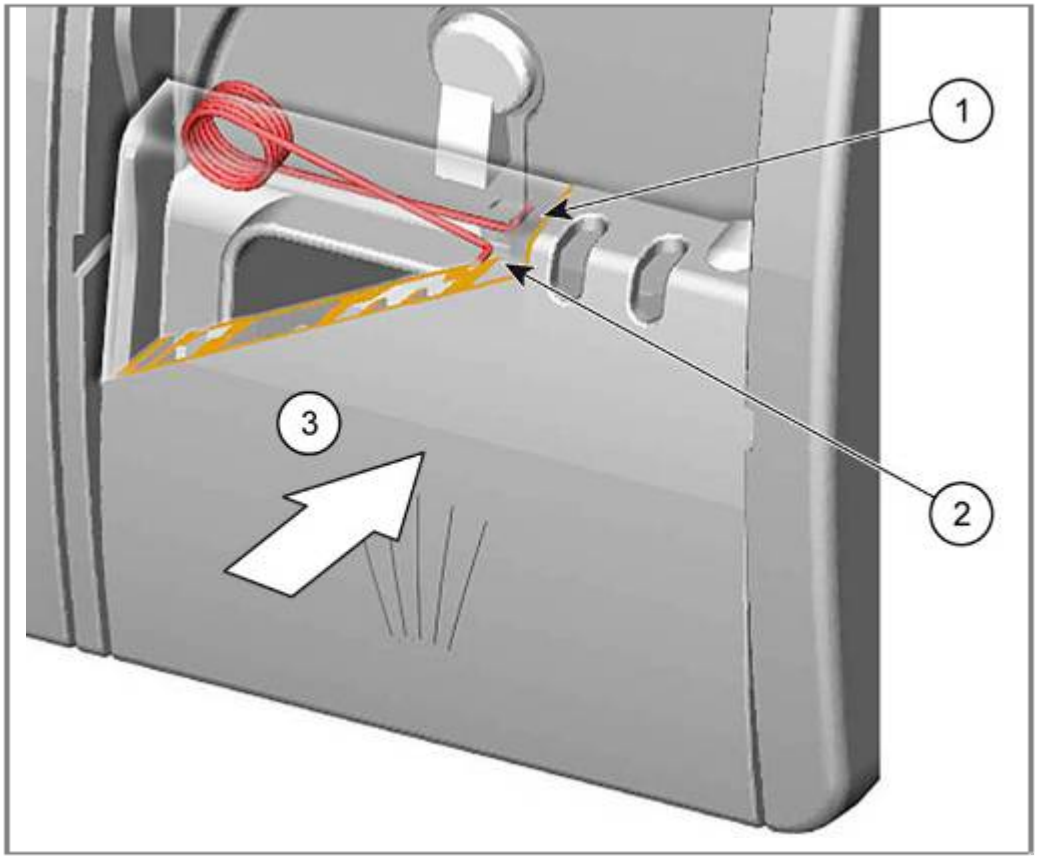
► Before installing the dispenser, bend back sheet-metal brackets to the initial position.

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



1. Install cable guide.
2. Re-attach plug-and-socket connection.

5.20 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.

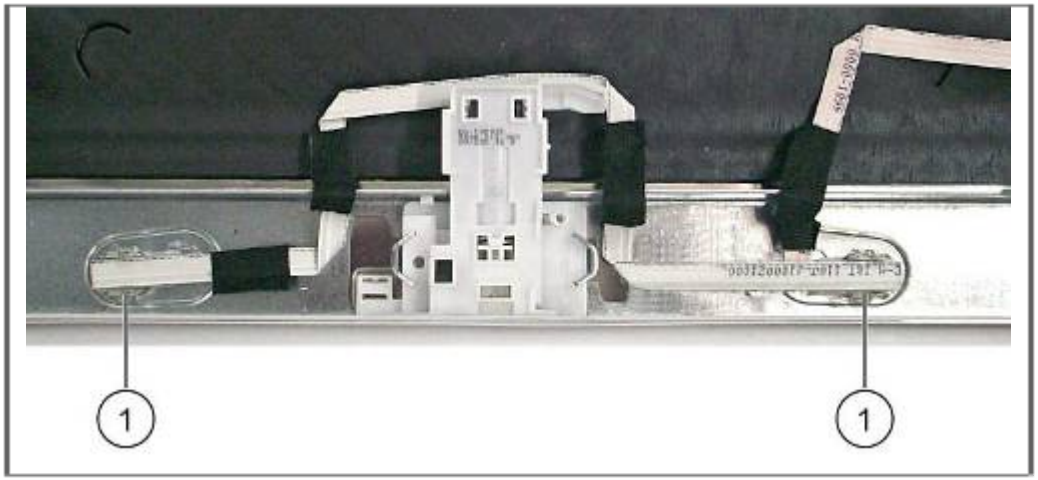
5.20.1 Replacing EmotionLight (optionally)

Requirement:

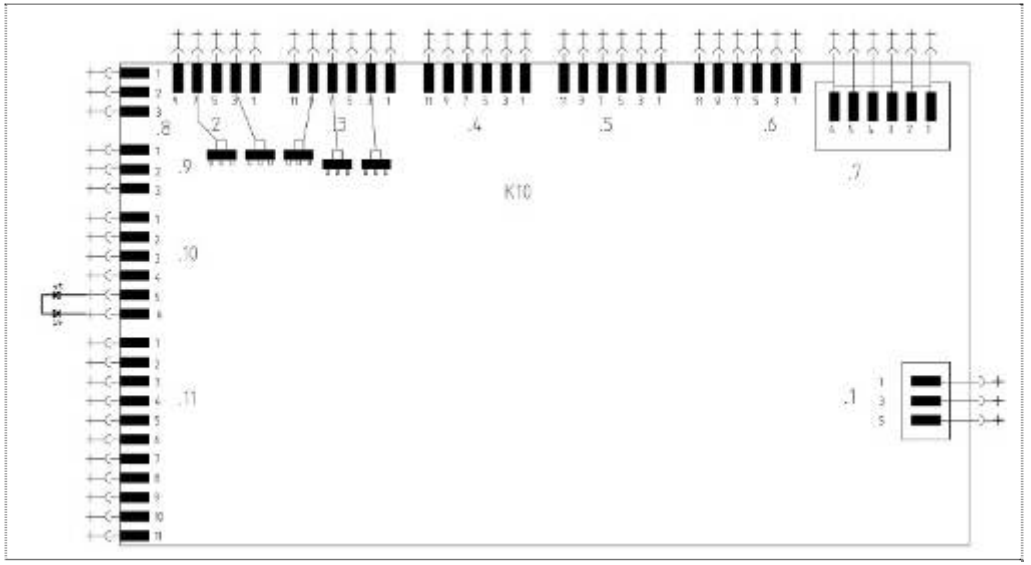
√ Worktop (optional) removed

√ Side panel on right removed

5.20.2 Removal



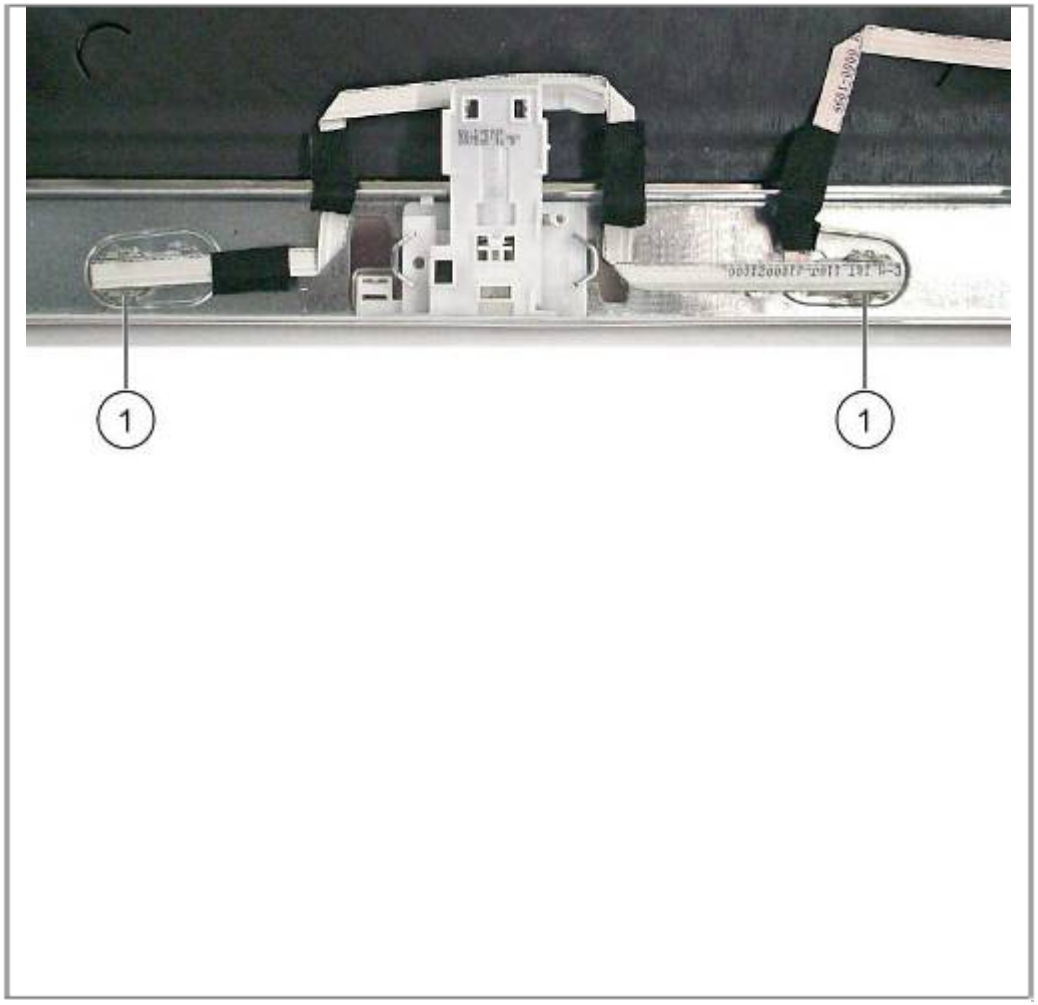
1. Remove both LEDs
2. with holder from the rinsing tank.



1. Loosen plug-and-socket connection. (Carefully expose ribbon cable.)

5.20.3 Installation

1. Re-attach plug-and-socket connection. (Carefully lay ribbon cable behind the hinge plate.)

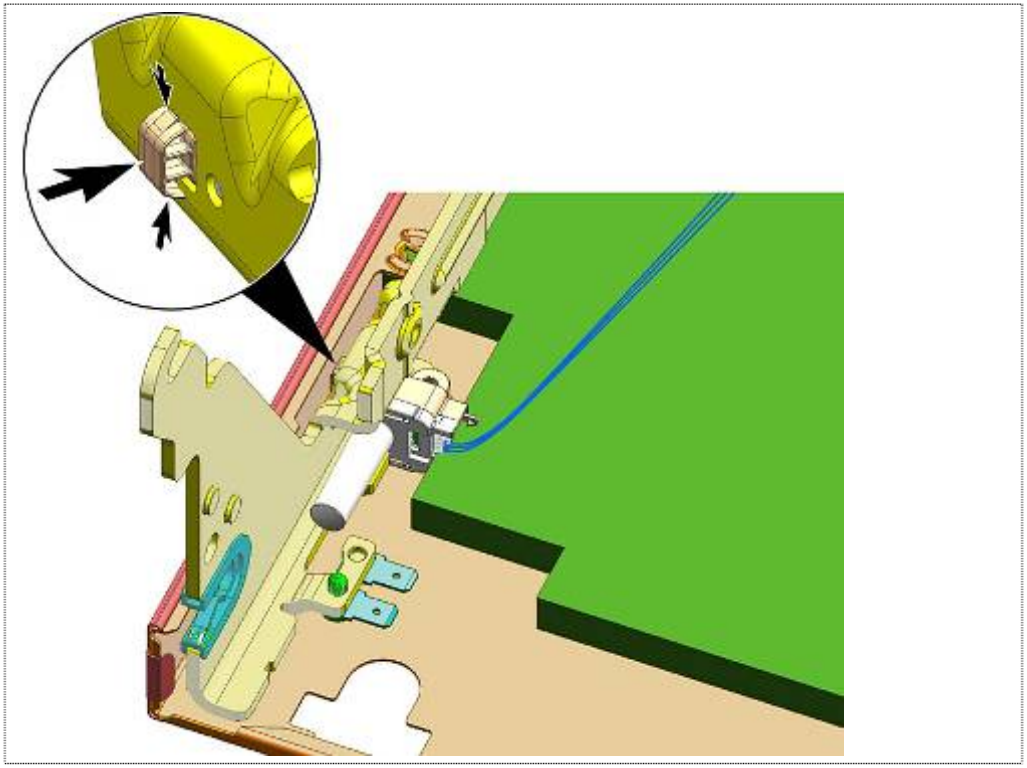


1. Insert LEDs into the frame of the rinsing tank.

5.21 Replacing infolight

Infolight

If the Infolight must be exchanged, be examined damming mat and cable run and adapted if necessary



Squeeze noses carefully together.

Remove Infolight to the door center.

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

With the installation the cutout of the damming mat and the cable run are to be examined. If the damming mat still is in the form such as illustration 1, this 15mm is to be cut out further, sees illustration 2.

This is valid only for fully integrated devices without Piezooperation.

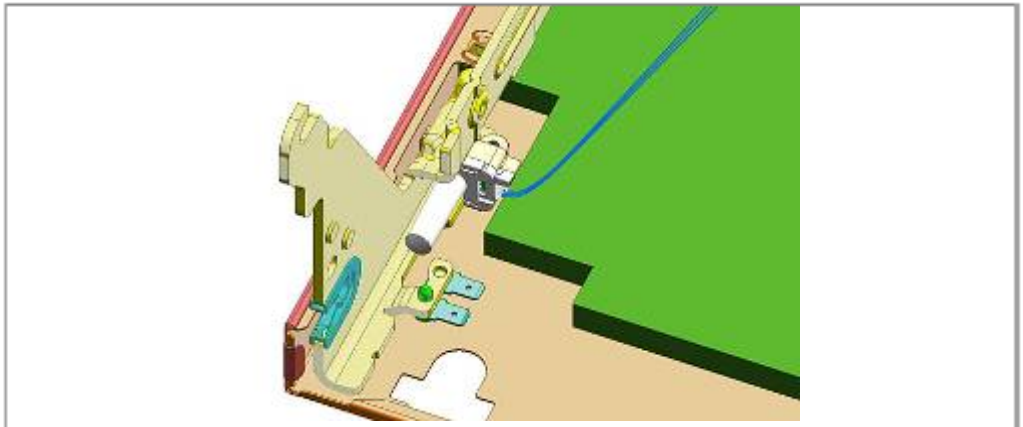


Illustration 1: Cut out damming mat to FD 8810 and devices with Piezooperation

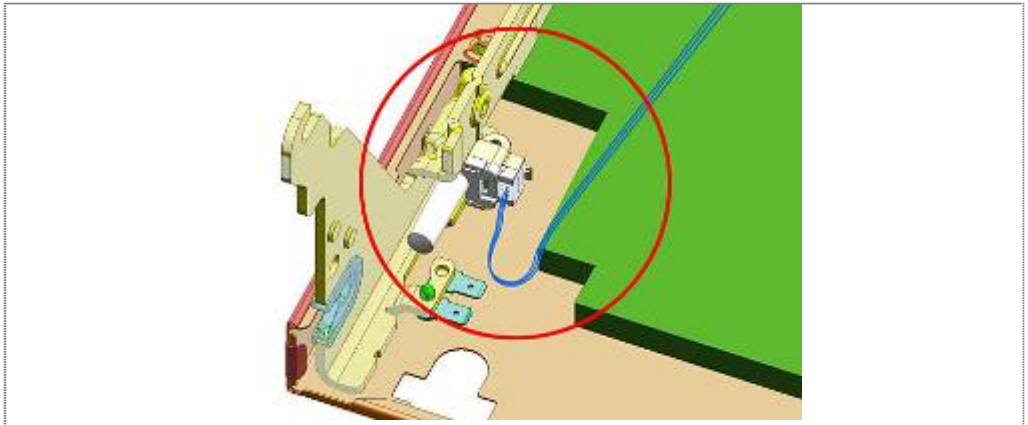
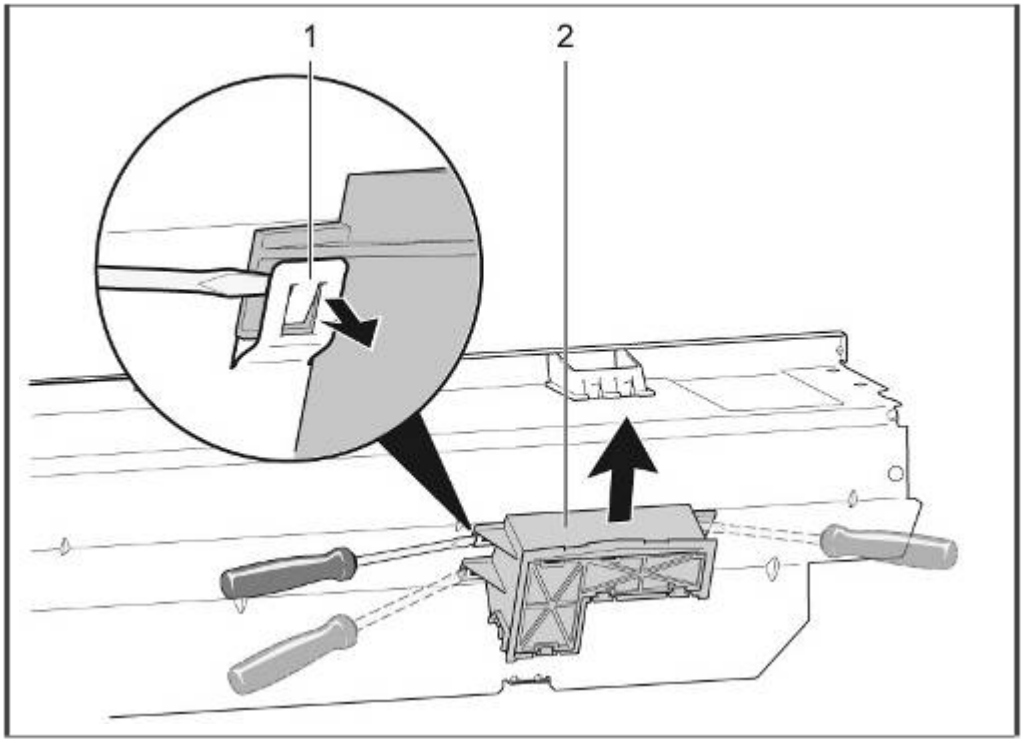


Illustration 2: Cut out damming mat from FD 8811on

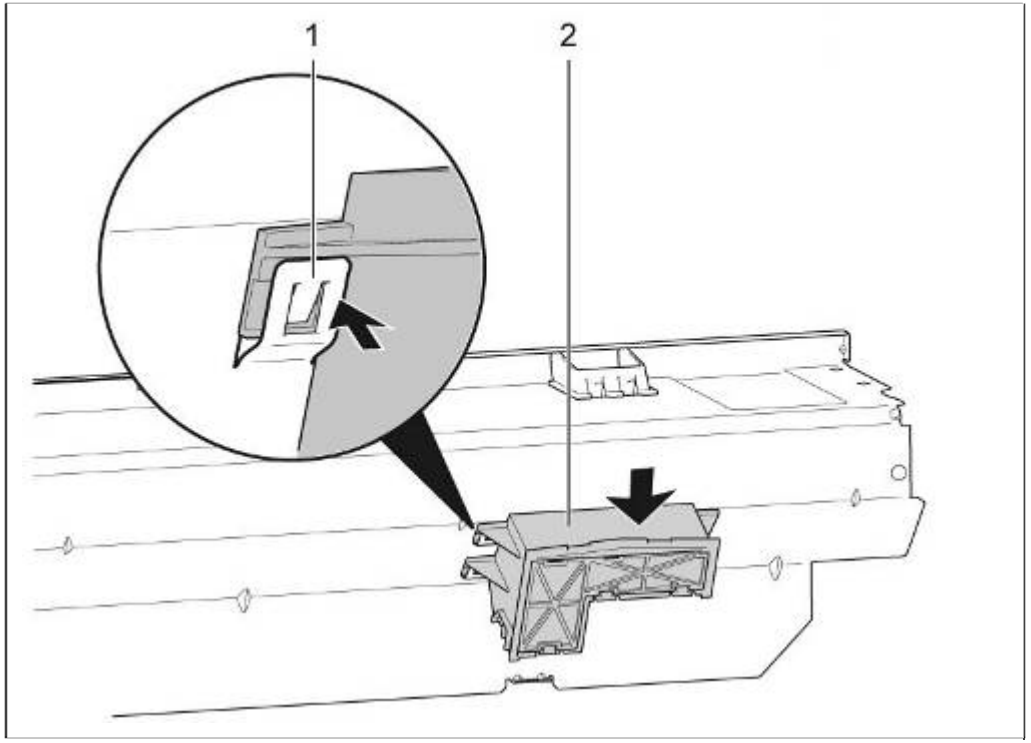
5.22 Replacing TimeLight

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).

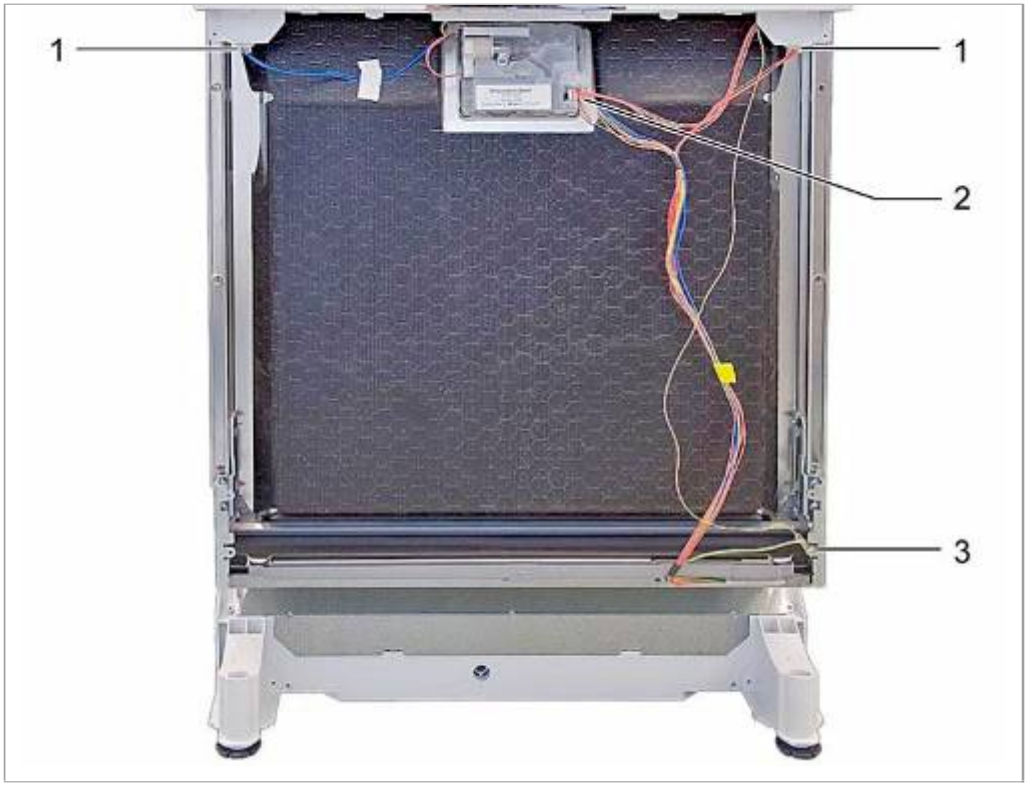


Bend the latches (1) back before installation.
Push the TimeLight module back into the guidance (2).



5.23 Replacing the fascia

√ Outer door (if fitted) removed.



5.23.1 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.

5.23.2 Removal

Open door.

Loosen upper 6 screws.

Remove fascia.

5.23.3 Installation

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

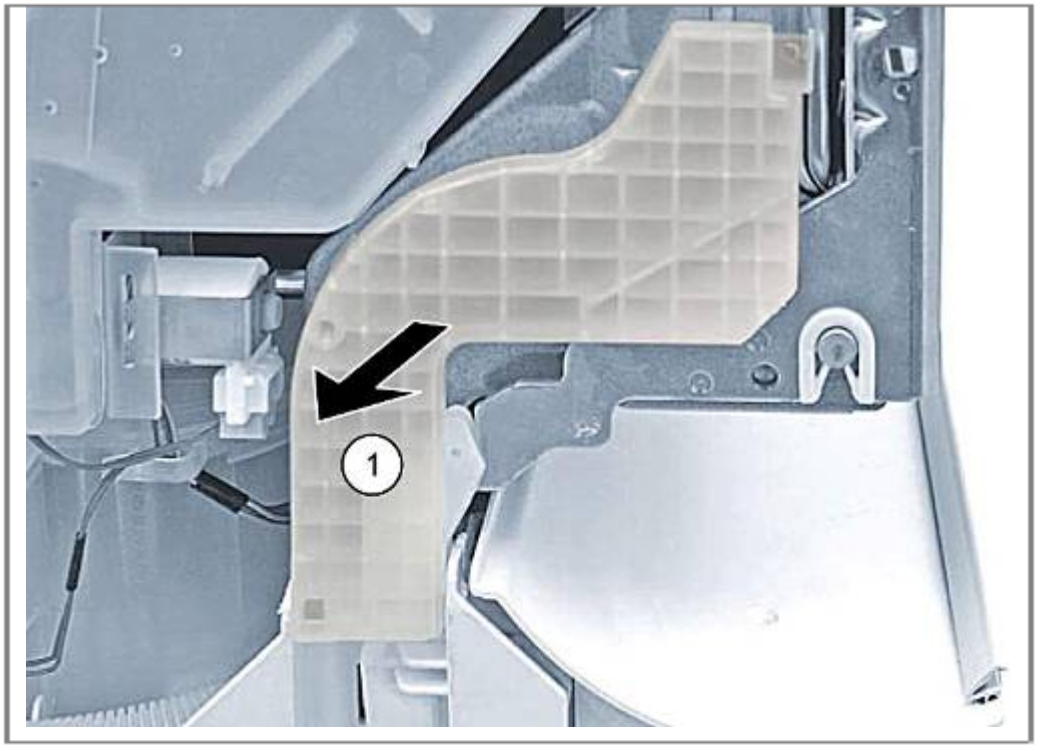
5.24 Replacing the door springs

√ Corresponding side panel removed.

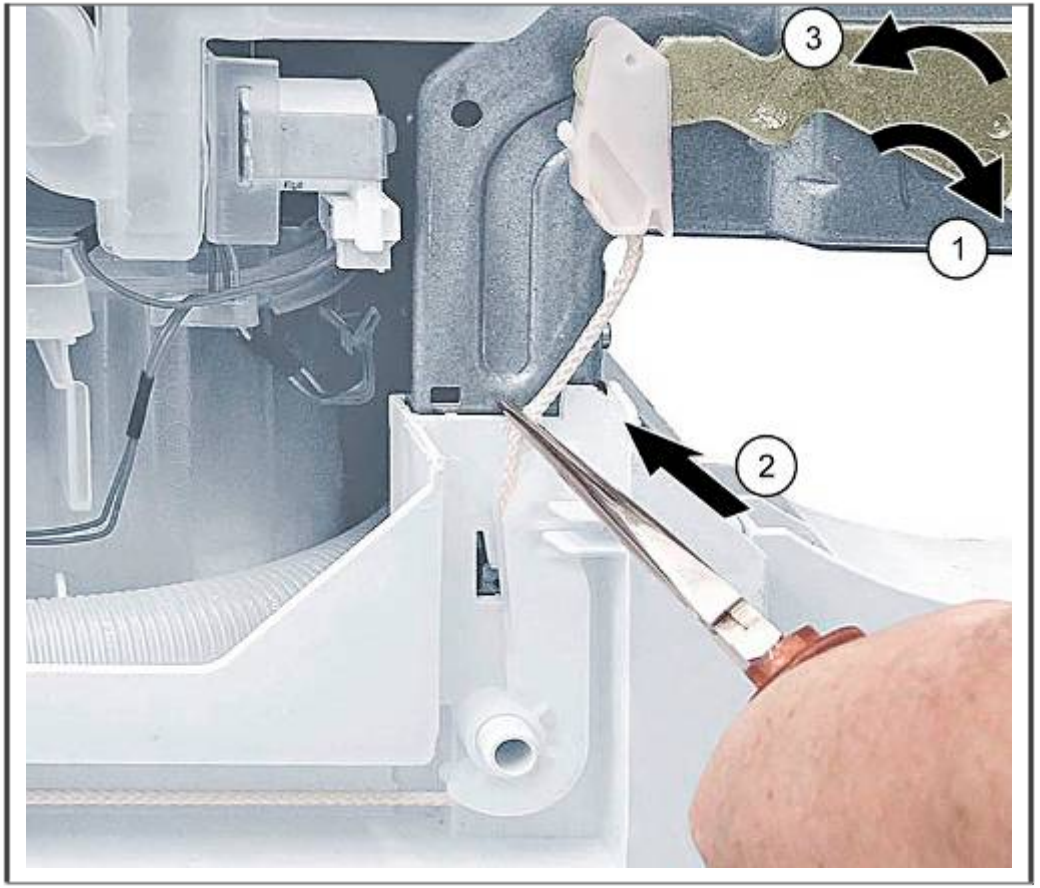
Different spring systems

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

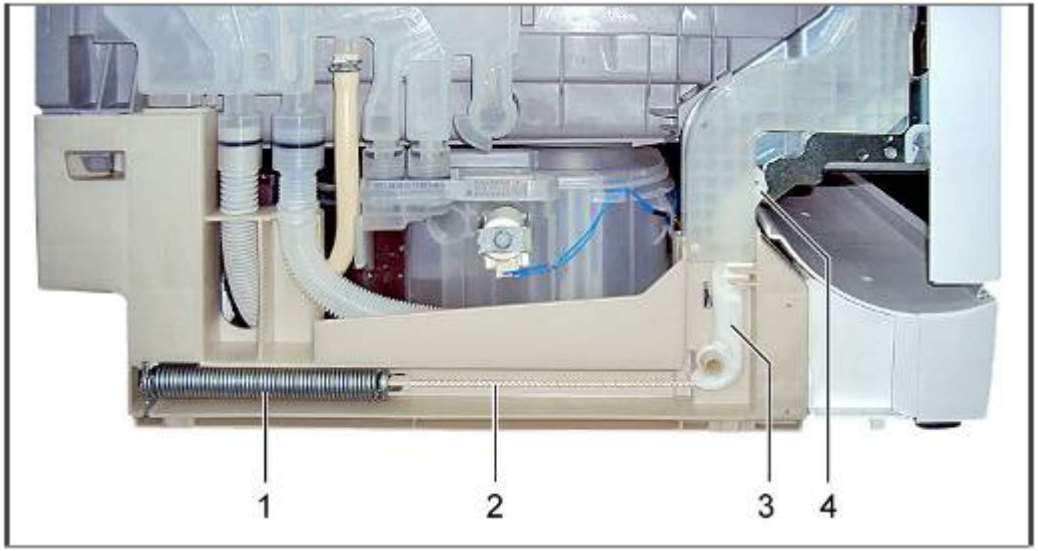
5.24.1 Removal (Spring system I)



1. Remove cord guide cover outwards.



1. Open door slightly.
2. Grip tension cord with flat-nosed pliers.
3. Close door.



Remove cord system with spring (1), cord (2), deflection lever (3) and holder (4) forwards.

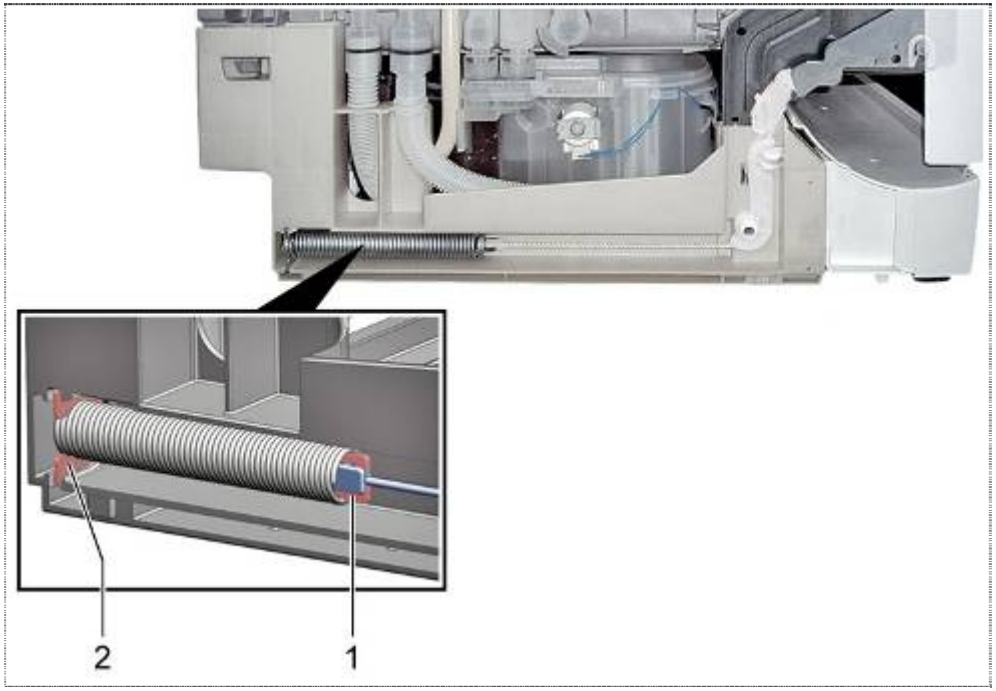
.

5.24.2 Table of springs (spring system I):

	Version:	Height:	Colour:	Mat.-Nr:	Weihgts of furniture door:
Max.	Fully integrated	86,5 cm (39dB)	Light Blue	623843	3,0 Kg to 10 Kg
	Fully integrated	86,5 cm	Pink	611340	3,0 Kg to 10 Kg
	Integrated	86,5 cm	Green	611339	2,5 Kg to 8,5 Kg
	Fully integrated	81,5 cm	Black	611338	2,5 Kg to 8,5 Kg
	Integrated	81,5 cm	Blue	611337	2,5 Kg to 8,5 Kg
	Free standing; Build under	86,5cm+ 81,5 cm stainless steel	Red	611336	-------
Min.	Free standing; Build under	81,5 cm	Yellow	611335	-------

- The door springs can be identified by a coloured dot on the rear of the appliance.
- The door springs must be replaced **in pairs** only!
- Do not install different springs!
- The same colour coding must be used on the right and left!

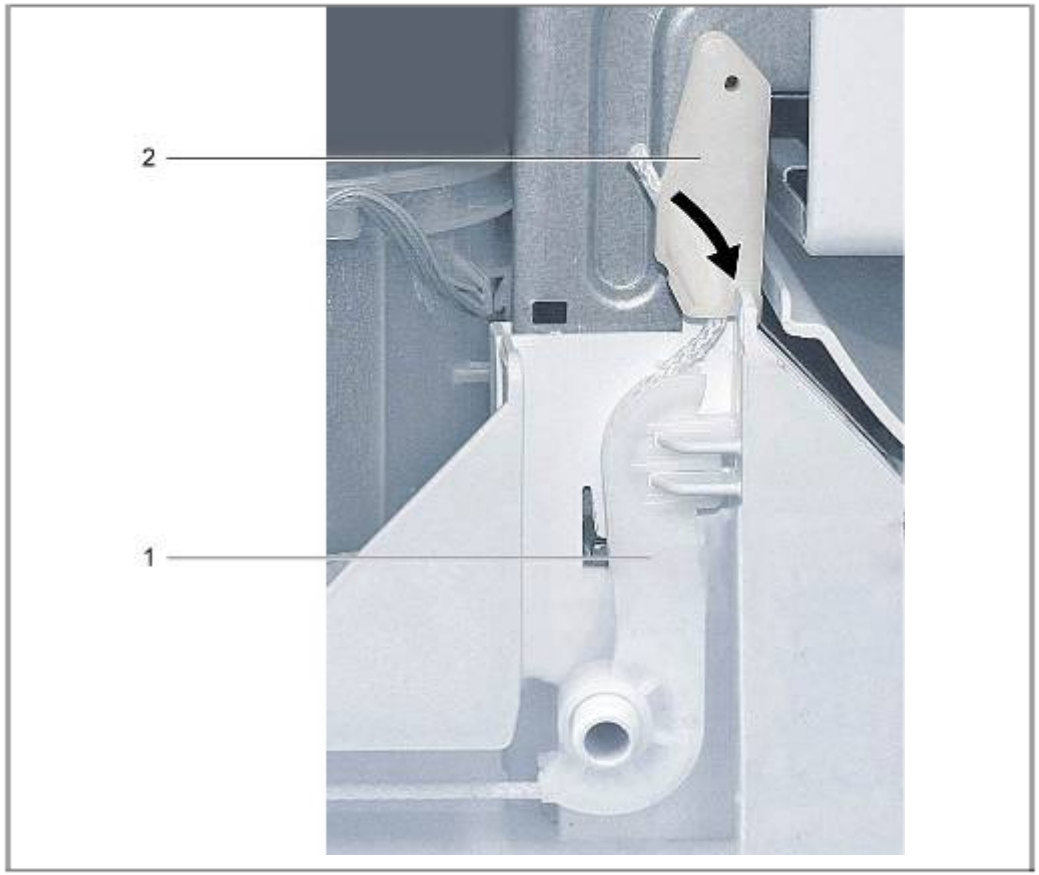
5.24.3 Assembling



Insert tension cord to the spring (1) and fix it in the notch of the base pan (2).

Tension cord holder

- The tension cord holder must be attached as illustrated in order to prevent friction on the base pan.



1. Fix tension cord holder in the notch of the base pan. The cord system is automatically attached to the door lever.

5.24.4 Removal (Spring sytem II)

See Removal Spring System I

5.24.5 Table of springs (Spring system II)

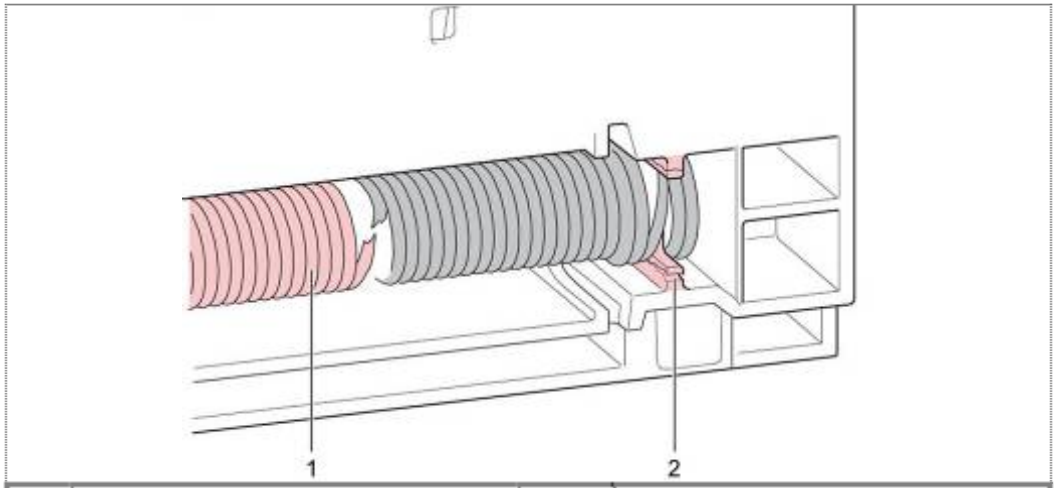
Table of springs

- Do not use springs of 45 cm models.

	Version:	Height:	Colour:	Mat.-Nr:	Weihgts of furniture door:
Max.	Fully Integrated	86,5 cm (39dB)	Light blue	659341	3,0 Kg to 10 Kg
	Fully Integrated	86,5 cm	Pink	626664	3,0 Kg to 10 Kg
	Integrated	86,5 cm	Green	659340	2,5 Kg to 8,5 Kg
	Fully Integrated	81,5cm	Black	626662	2,5 Kg to 8,5 Kg
	Integrated	81,5 cm	Blue	626665	2,5 Kg to 8,5 Kg
	Free standing; Build under	86,5 cm + 81,5 cm Stainless steel	Red	659339	-------
Min.	Free standing; Build under	81,5 cm	Yellow	626667	-------

- The door springs can be identified by a coloured dot on the rear of the appliance.
- The door springs must be replaced **in pairs** only!
- Do not install different springs!
- The same colour coding must be used on the right and left!

5.24.6 Installing door spring

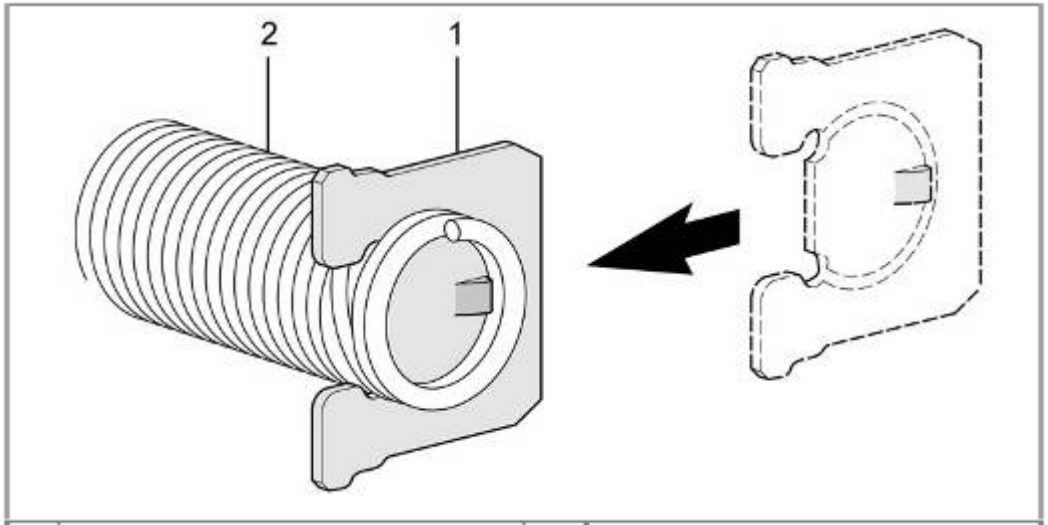


1	Spring	2	Notch

Install cord system in reverse order. Fix the spring in the providet holder of the base pan.

If spring is broken (1) or tension cord is torn and if it is suspected in general that the plastic holder (2) sprayed on the container is damaged:

- Attach new spring with the metal retaining plate enclosed with the spare part!



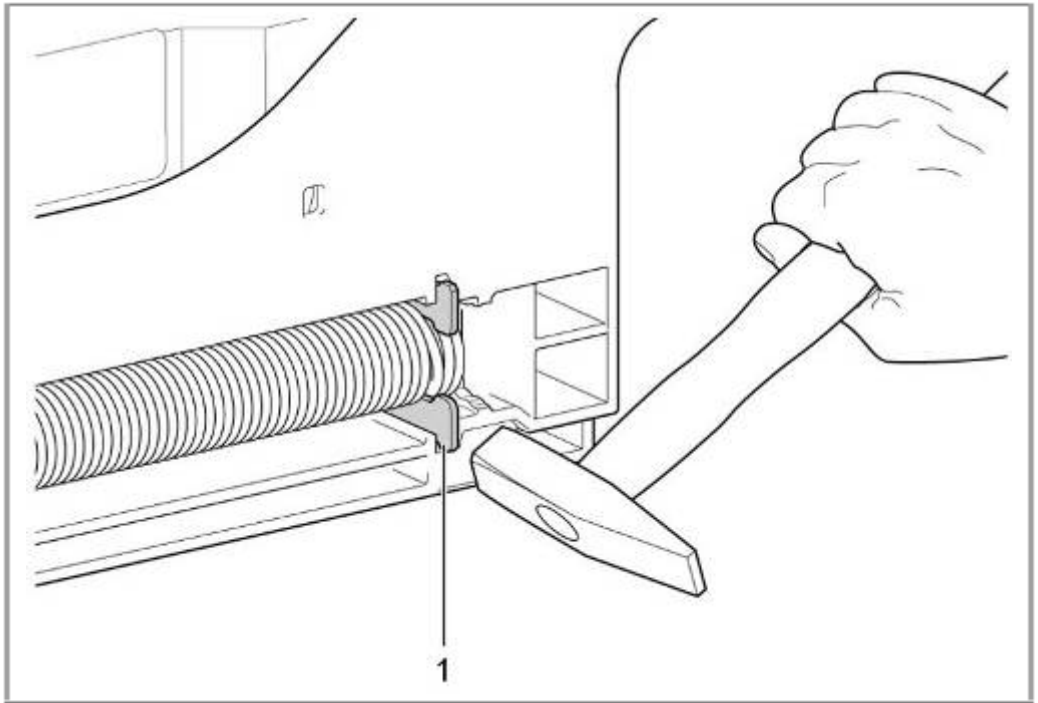
1	Metal retaining plate	2	Spring

Attach metal retaining plate to spring.

Noises

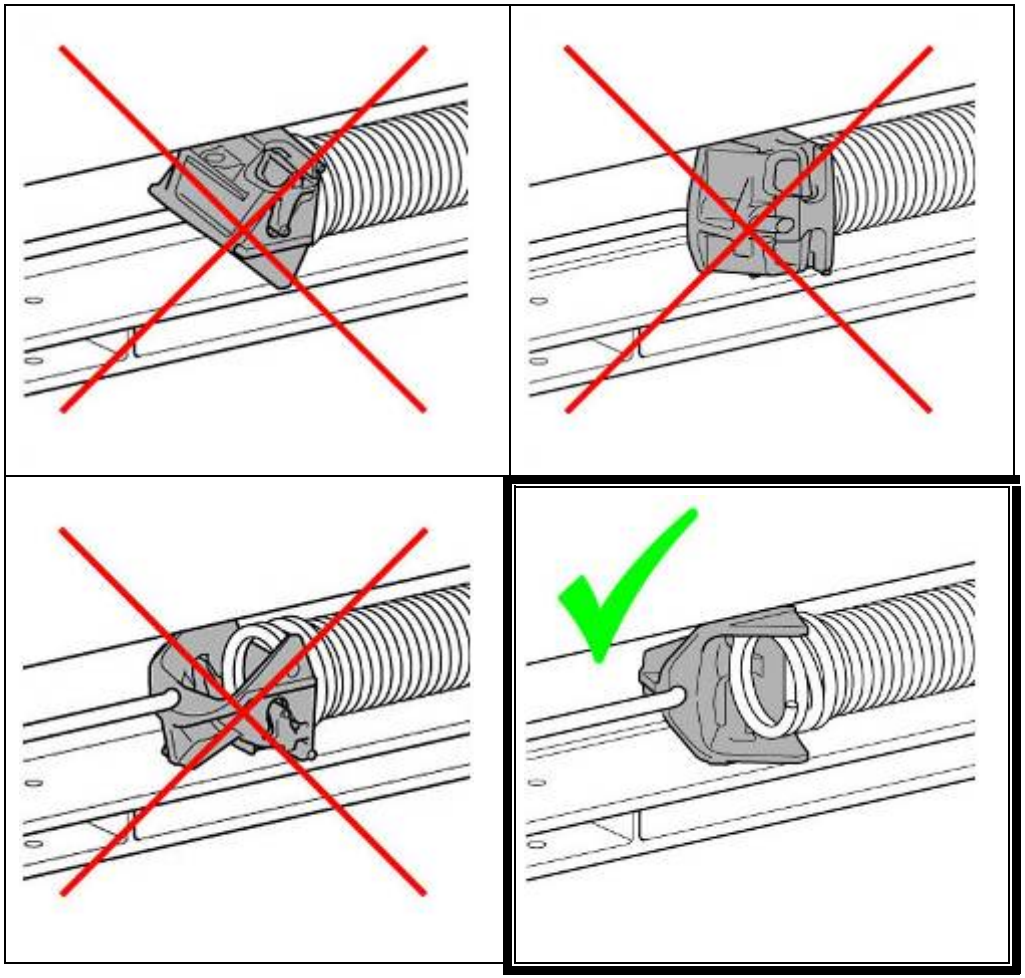
When converting or replacing the spring, ensure in particular that the front plastic holder is correctly repositioned; otherwise it may cause noises on the side panel.

► Place plastic holder correctly in the base group.



1	Metal retaining plate

Hammer metal retaining plate into designated groove in base group.

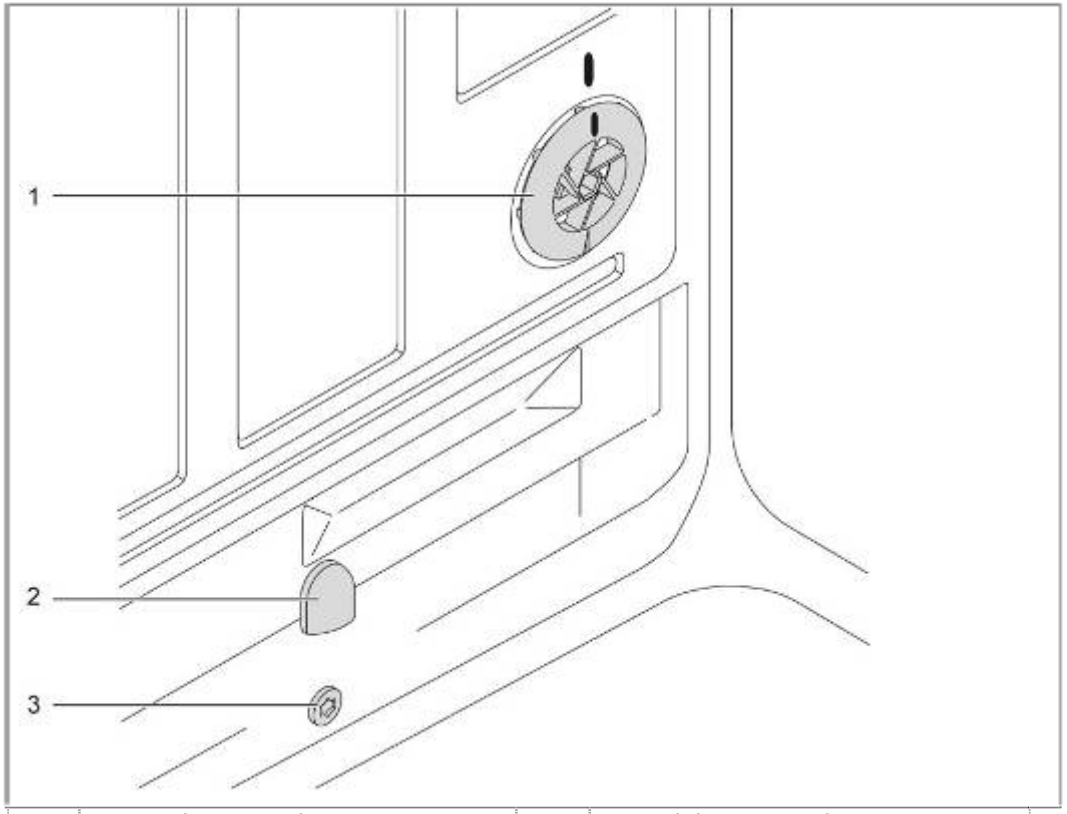


5.25 Replacing heat exchanger

Requirement:

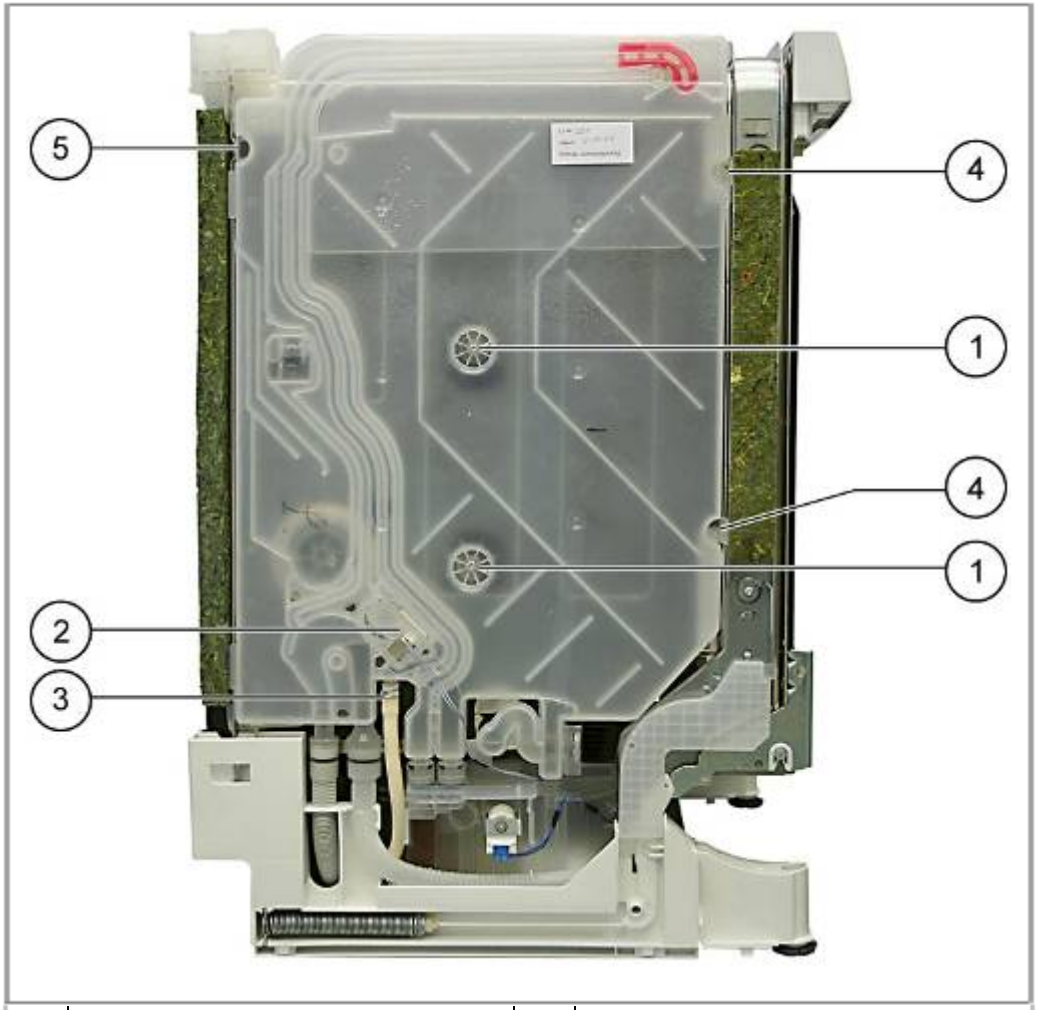
- ► Left side panel removed
- ► Heat exchanger emptied

5.25.1 Removal of heat exchanger



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

1. Tag expansion opening nut in mounting position.
2. Remove expansion opening nut.
3. Remove cover cap (optional).
4. Remove waterinlet connection.



1	Container fitting	4	Catch mechanism
2	Impeller wheel counter with cover	5	Holder
3	Water supply hose with clamp		

1. Remove both Torx screws on the outside of the tank.
2. Bend out the guard cover of the impeller wheel counter and remove plug connection.
3. Loosen hose clamp on the water supply and remove supply hose.
4. Loosen catch mechanisms on the front of the housing.
5. Carefully pull heat exchanger forwards. In doing so, detach from the holder on the rear of the appliance and remove.

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

5.25.2 Mounting heat exchanger

Assembly sequence

► The assembly sequence described here is to be kept.

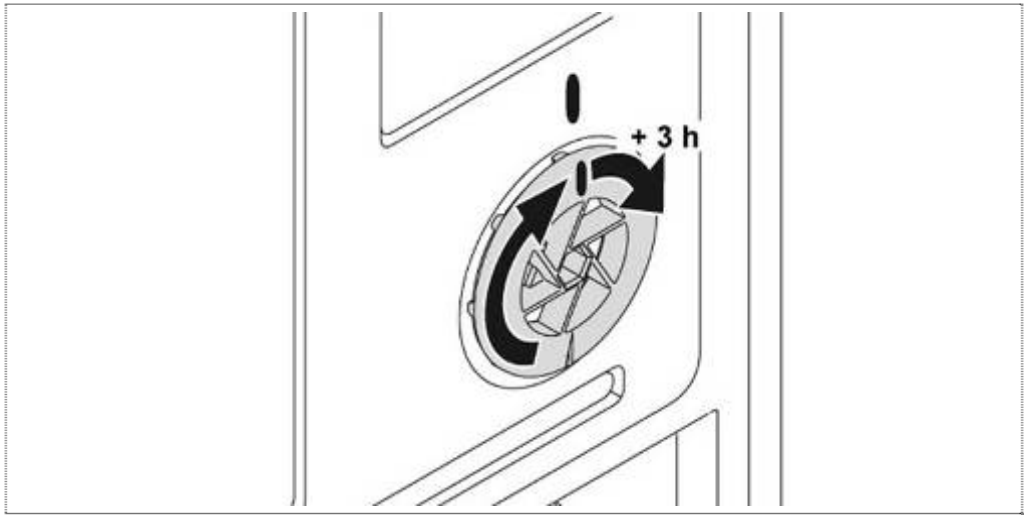
Prevent leakage

► Avoid squeezings of the connections to the Water softener and water drain hoses

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

Leakage

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



1. Tighten the expansion opening nut to the marking.
2. To prevent leakage, around the value + 3 hours (1/4 revolution) continue to tighten.
3. Mount and tighten waterinlet connection.
4. Push cover cap (optionally) to water inlet connection.
5. Fix the heat exchanger with screws from outside to the container.
6. Connect the wheel counter with the electrical plug.

5.26 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!

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

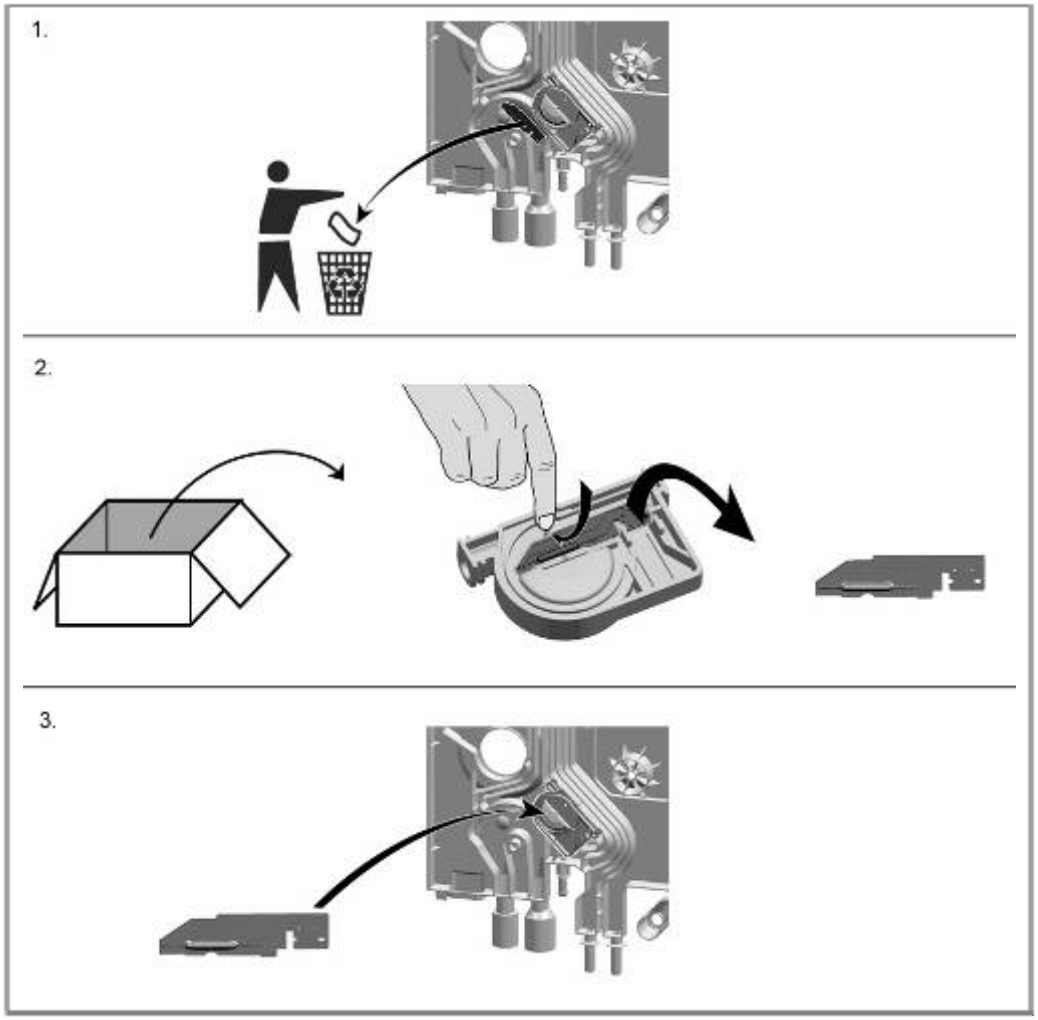
Loosen plug-and-socket connection

1. Take complete board with flow sensor out of the catch mechanisms.

2. Unpack new flow sensor, take board out of transportation safety device and dispose of holder.

3. Carefully attach new board to the heat exchanger / water inlet.

Reconnect power supply and bend back plastic flap.



5.27 Replacing the regeneration valve

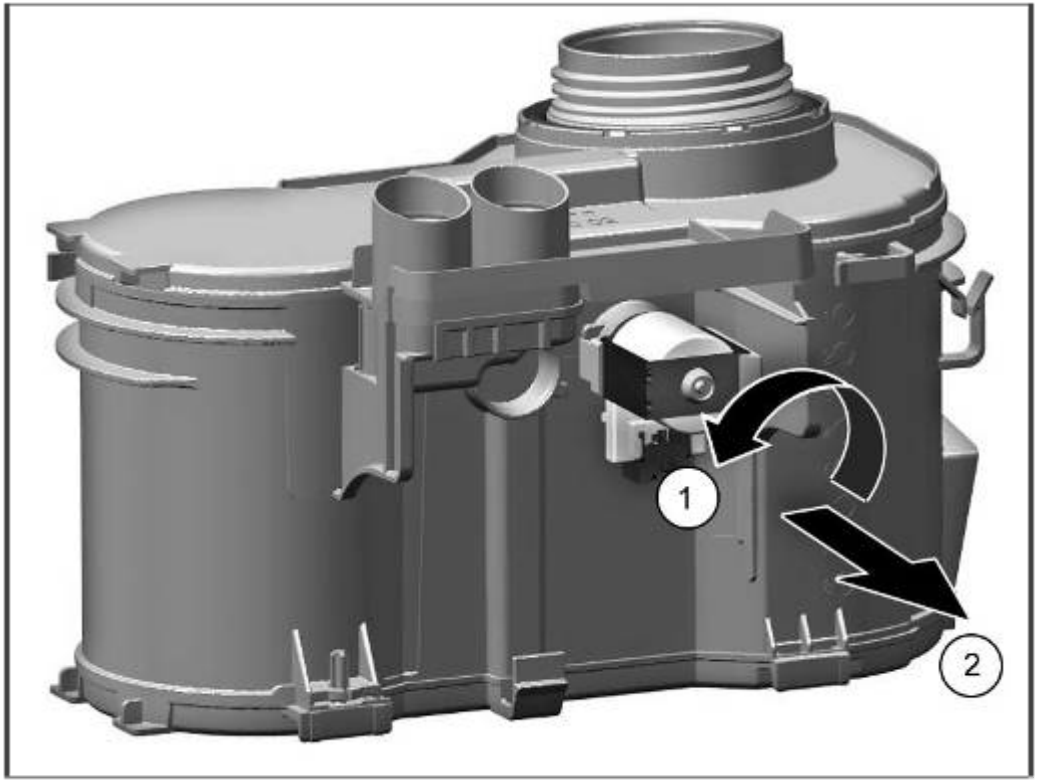
Requirement:

√ Side panel on left removed.

√ Optionally: Heat exchanger emptied.

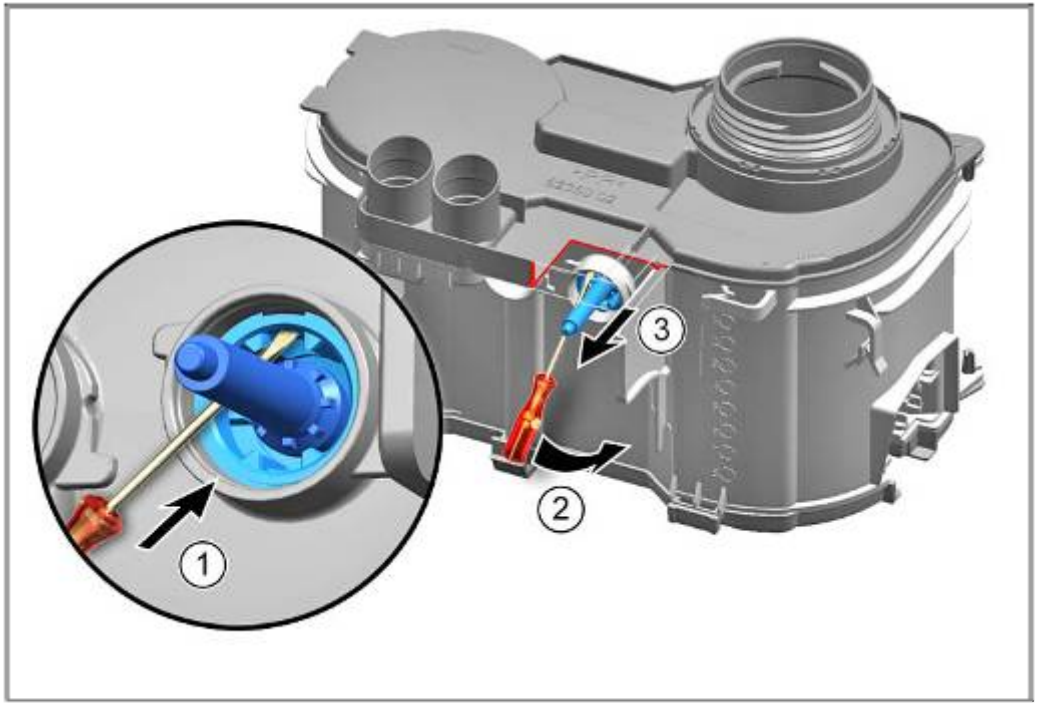
√ Water drained from the salt dispenser.

5.27.1 Removal



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

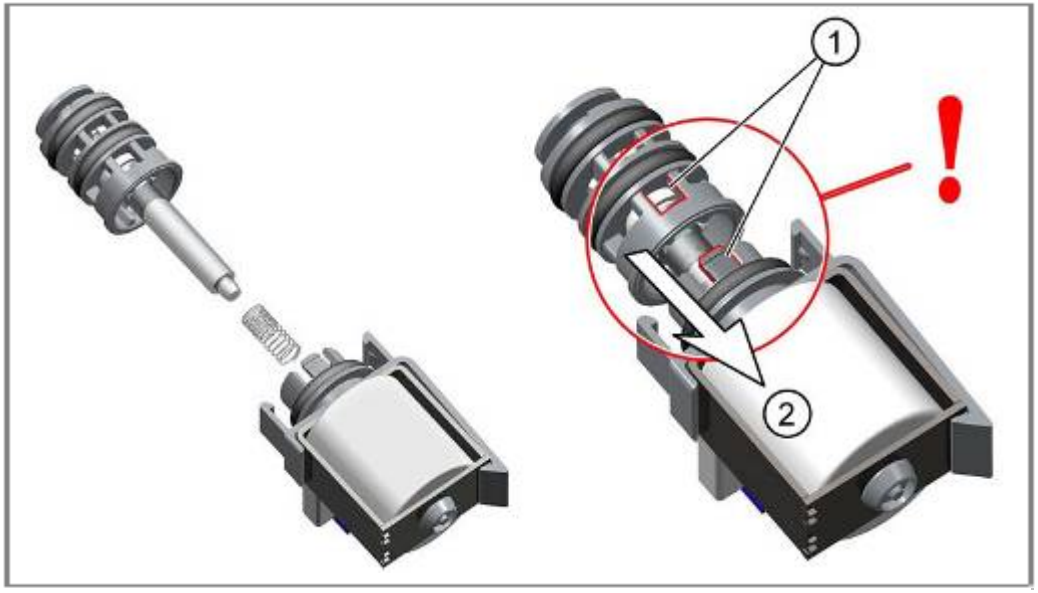
5.27.2 Remove anchor



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.

5.27.3 Positioning the armature



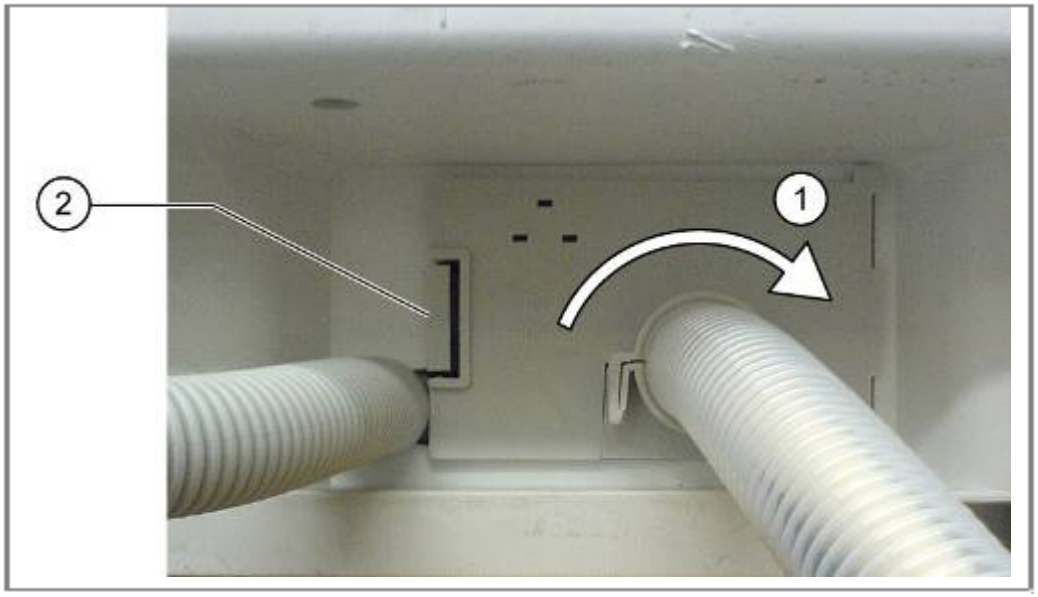
1. Align the marked points.
2. Press valve with spring back into the coil until the valve engages.

5.28 Replacing the drainage hose

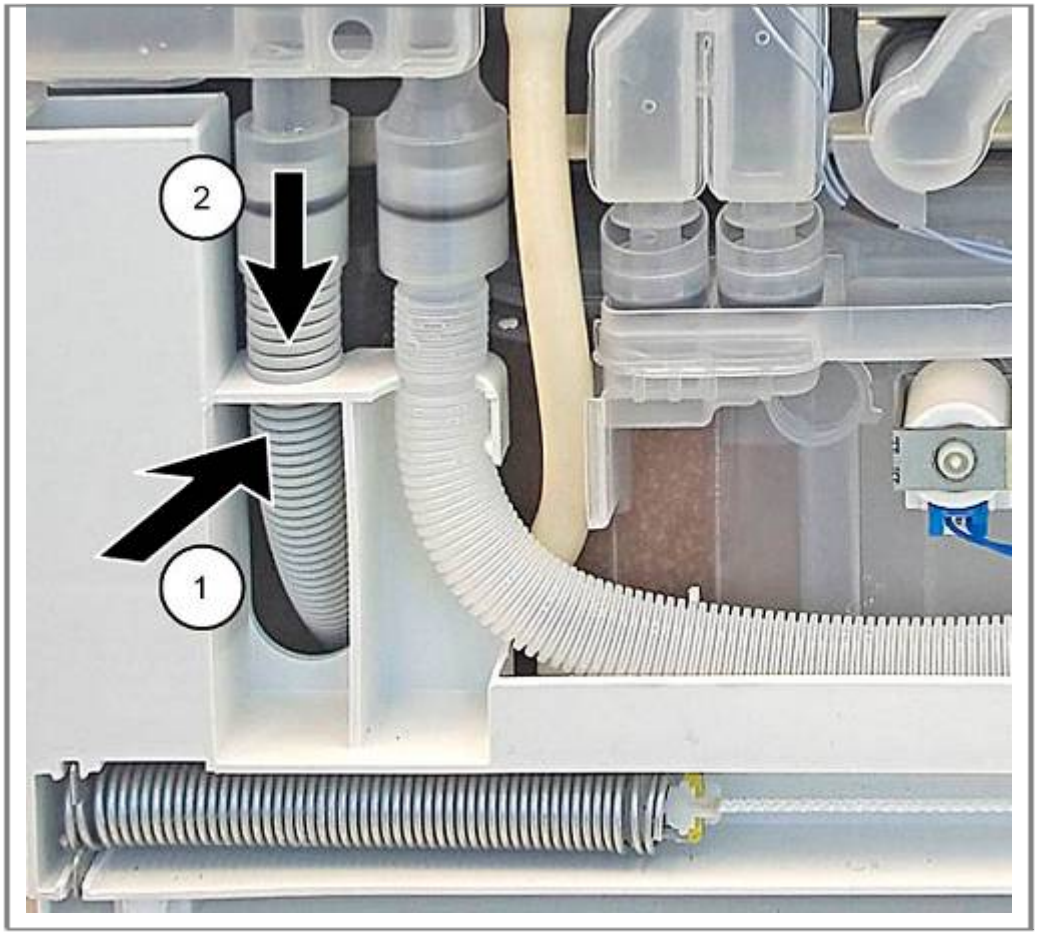
Requirement:

√ Left side panel removed.

5.28.1 Removal



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



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

5.28.2 Installation

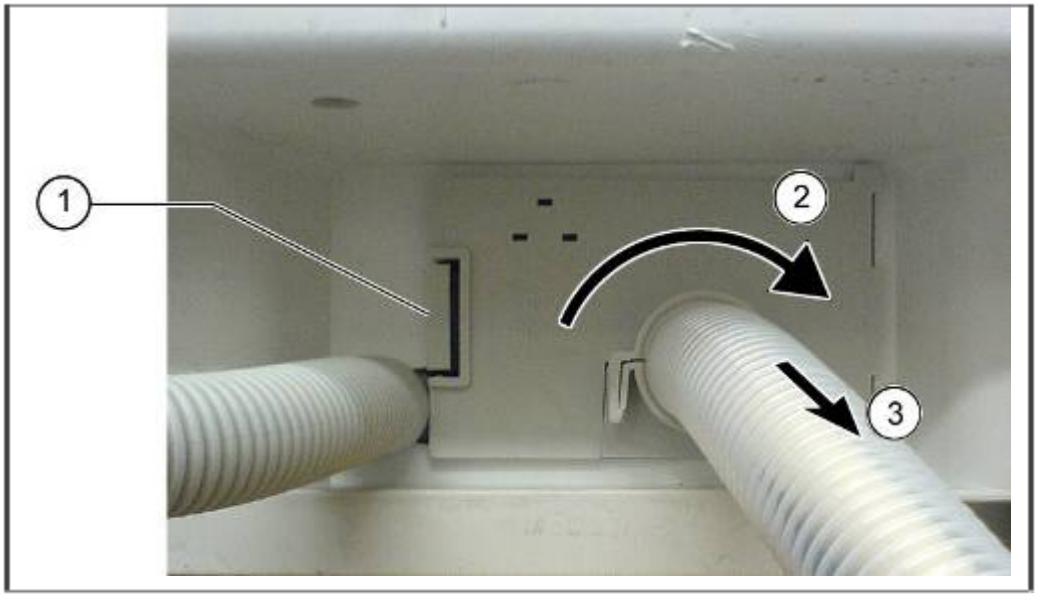
Is in reverse sequence.

5.29 Replacing the supply hose

Requirement:

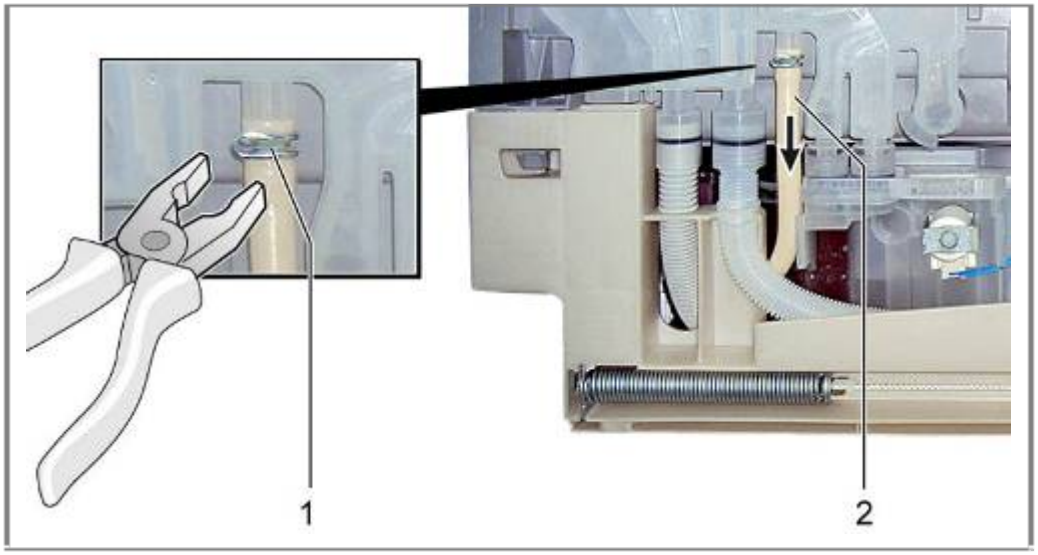
√ Left side panel removed.

5.29.1 Removal



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

1. Remove electrical connection.



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

5.29.2 Installation

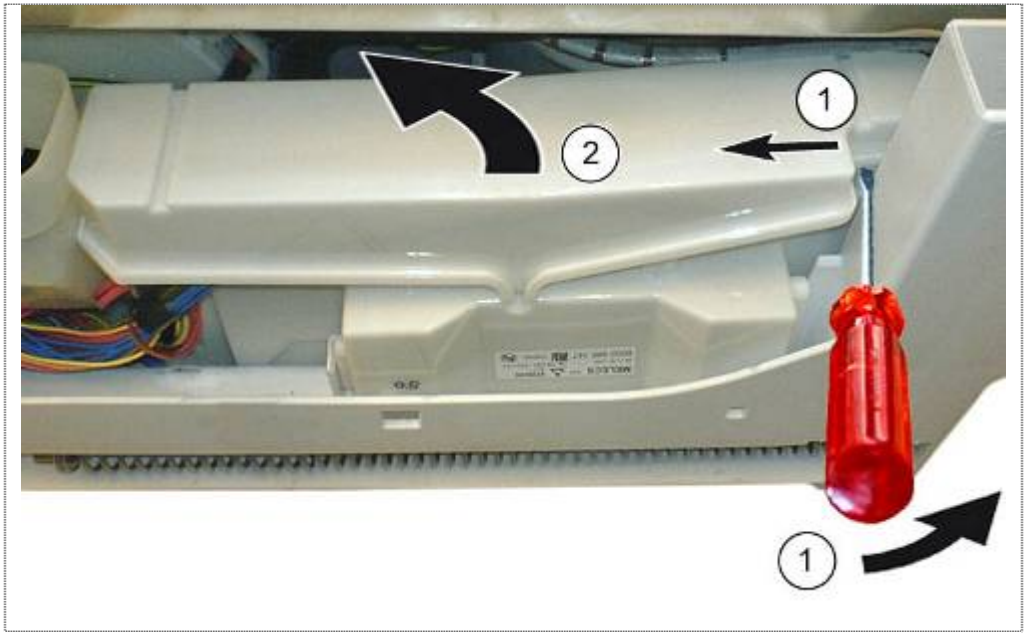
Is in reverse sequence.

5.30 Replacing the power module

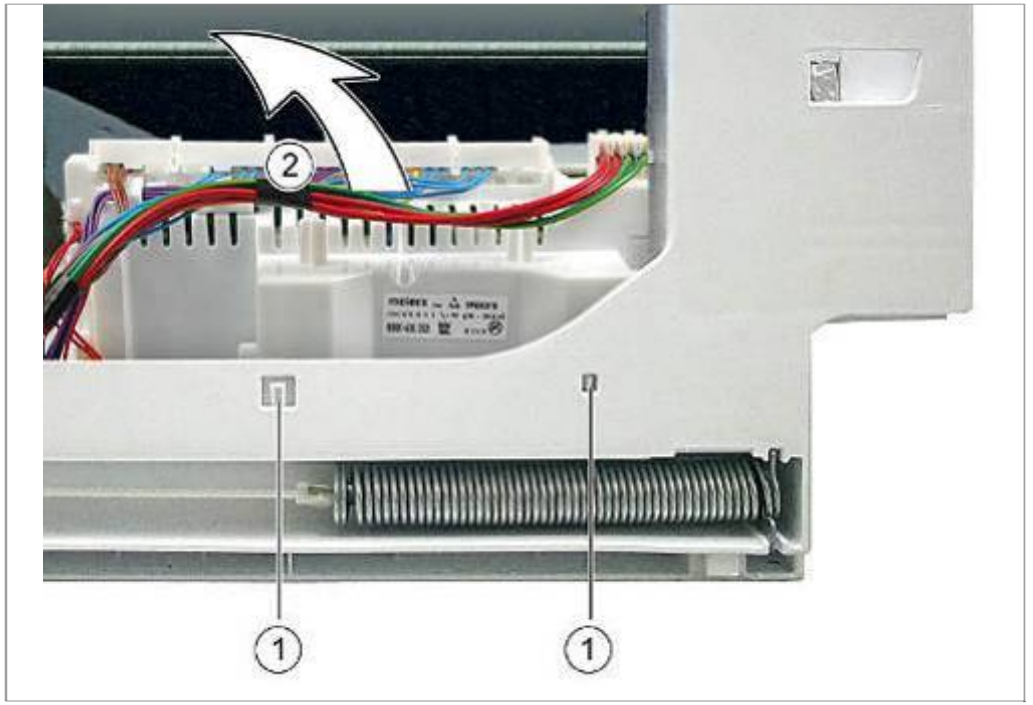
Requirement:

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

5.30.1 Removal

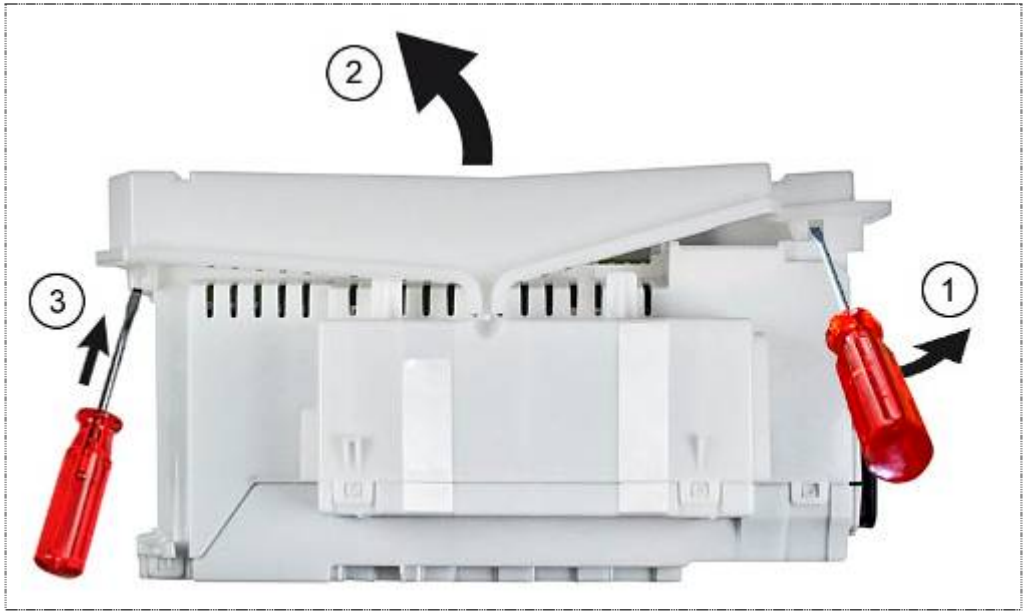


1. Using a screwdriver, carefully lever the cap to the left and loosen the catch.
2. Lift off cap upper section.



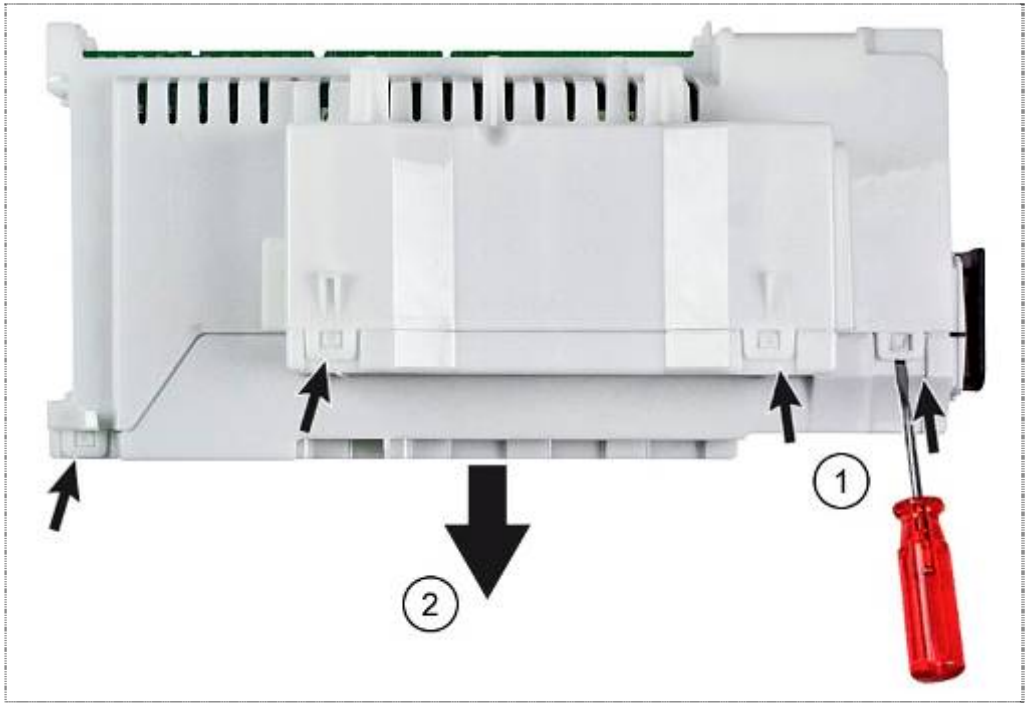
1. Loosen catches and
2. lift off module.

5.30.2 Remove cap



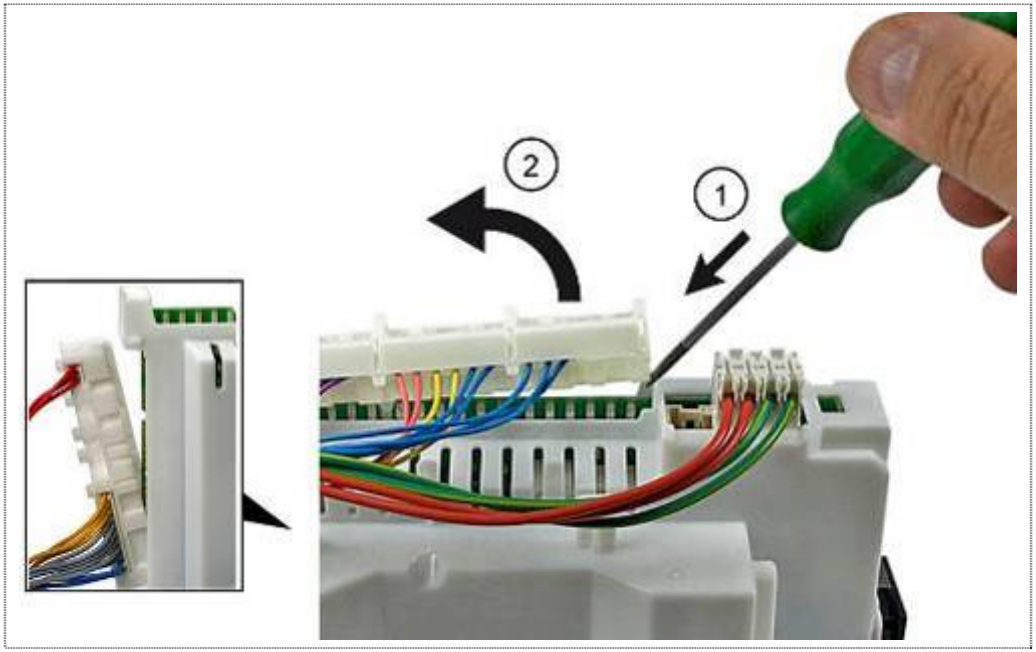
1. Loosen the catching by an easy hitch.
2. Remove the cap.

5.30.3 Open the power module



1. Loosen housing catches all around.
2. Pull housing parts apart.

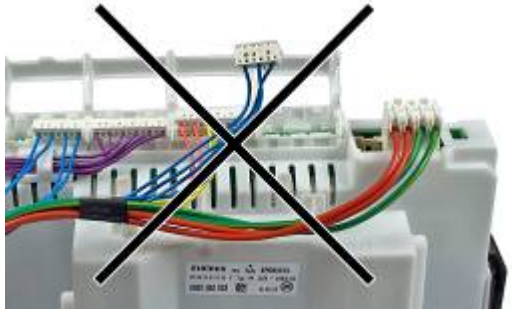
5.30.4 Loosen cable harness



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

Coding frames

► The coding frames are to be opened only if necessary. They are a component of the wiring harness and remain not on the module.

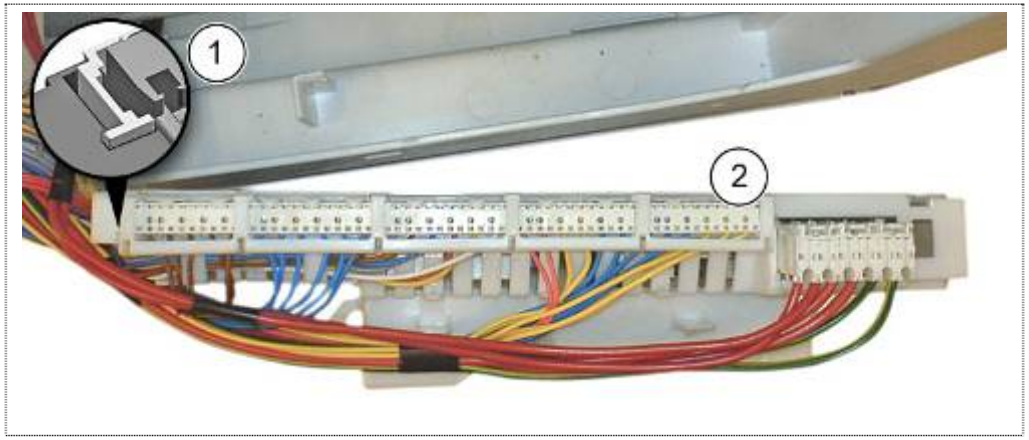


Components which come into contact with electro-static voltage will be damaged beyond repair

► 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.

5.30.5 Installation

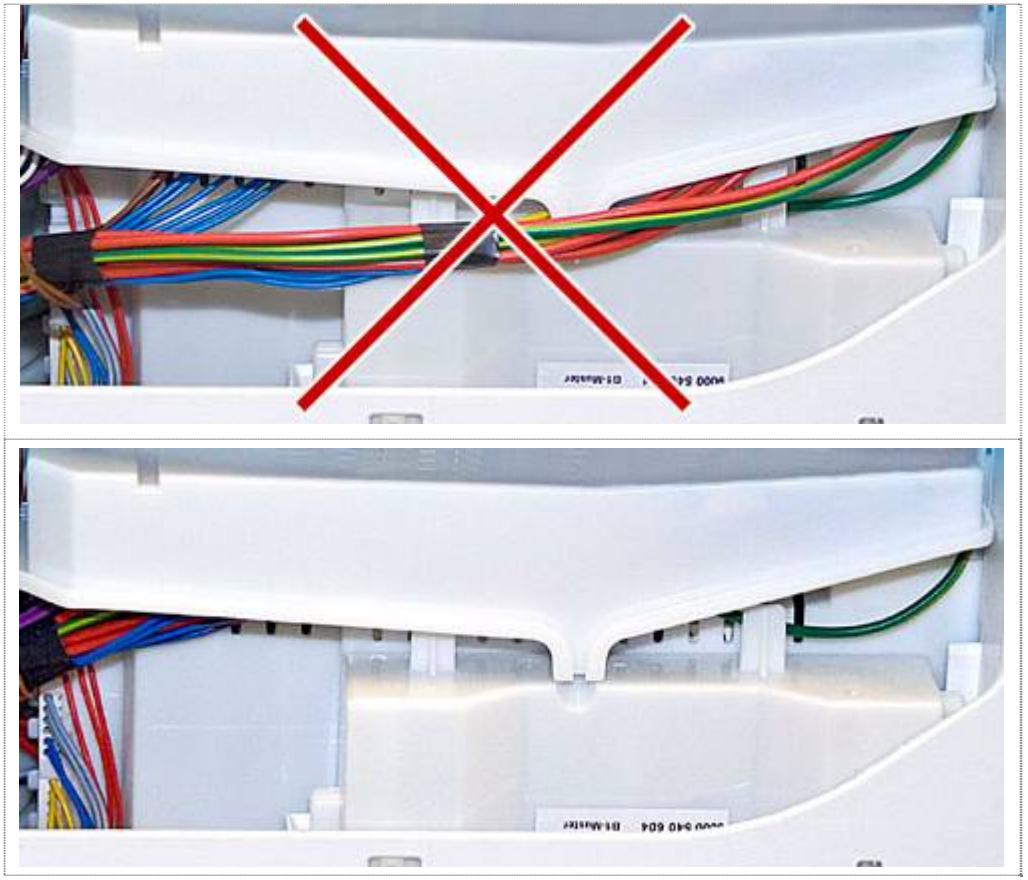


1. Insert coding frame into the guide.
2. Press down until the catch clicks into position.

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

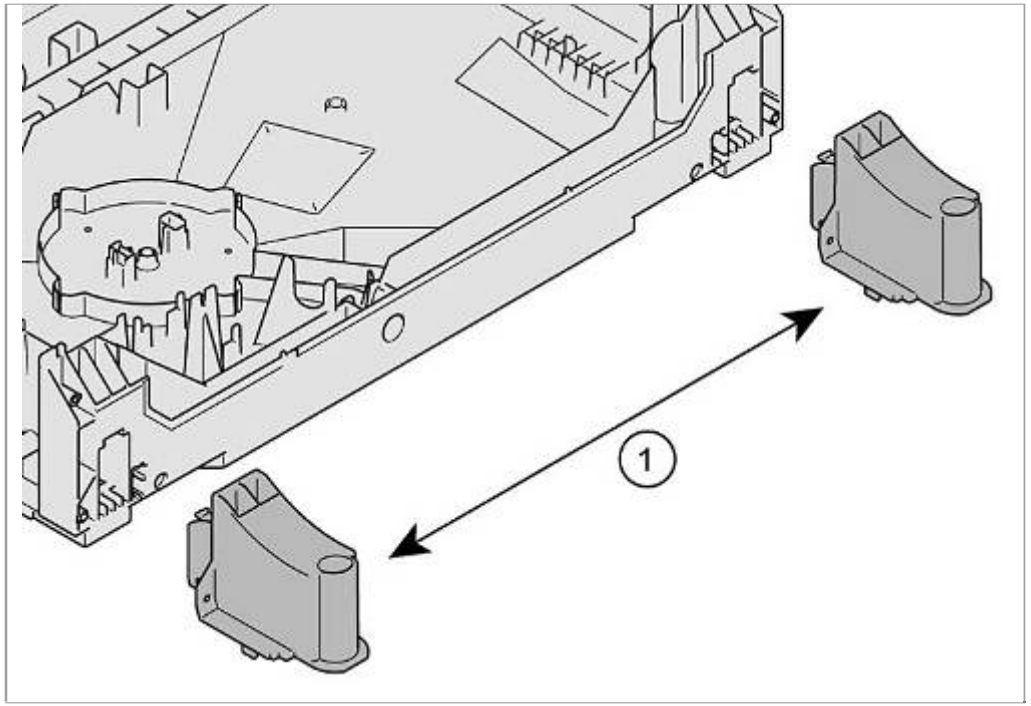
► Cables must always be installed under the cap section with water outlet channel..

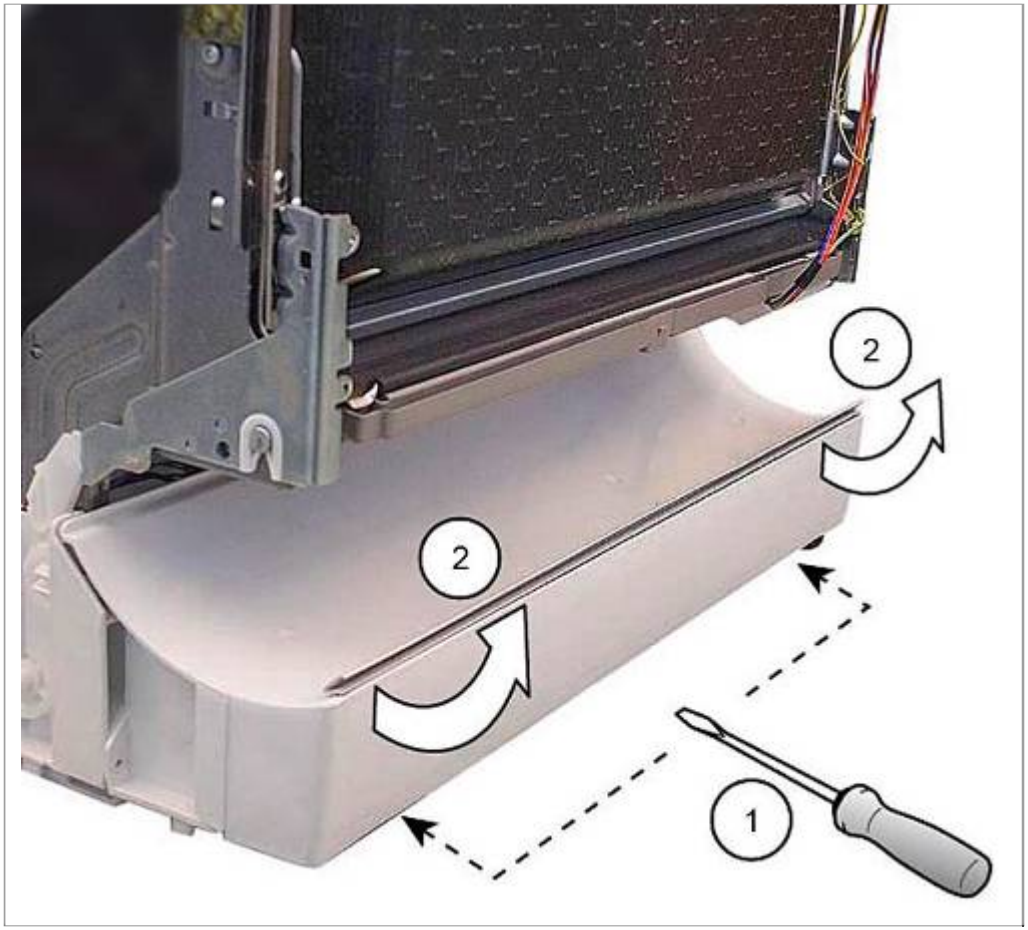
5.31 Replacing base panel and plate

5.31.1 Removal

Incorrect removal

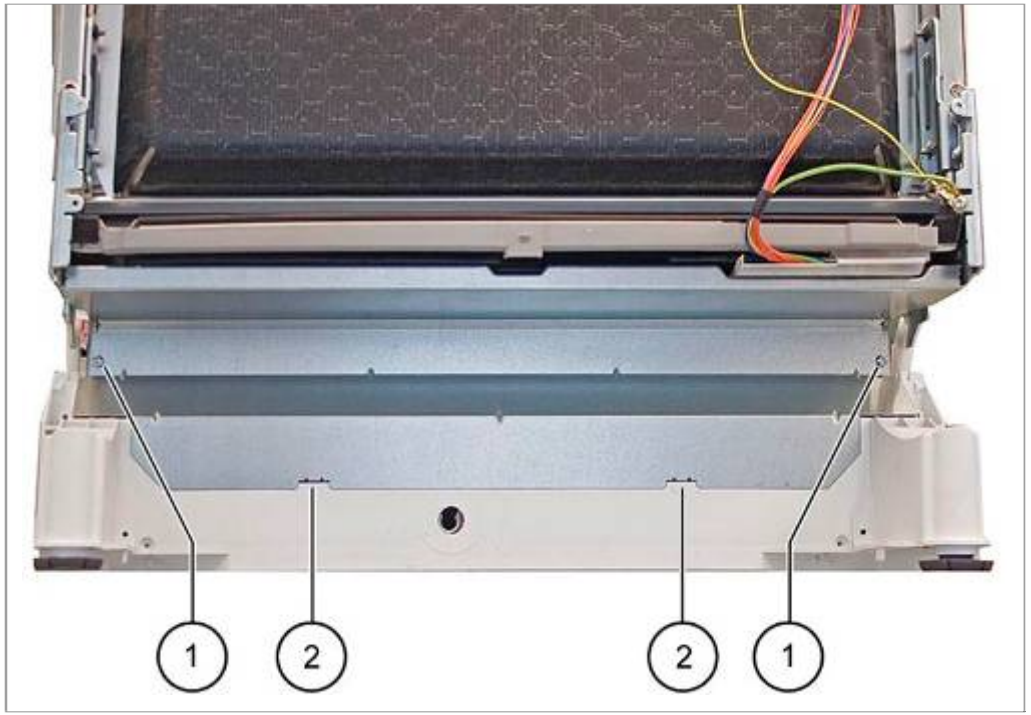
- If the base panel is slackened at the side and removed, the two holders may break off. If only one holder is damaged, the side can be changed, as both holders are the same.
- It is recommended to place your feet under the front of the appliance to relieve the load on the base panel.





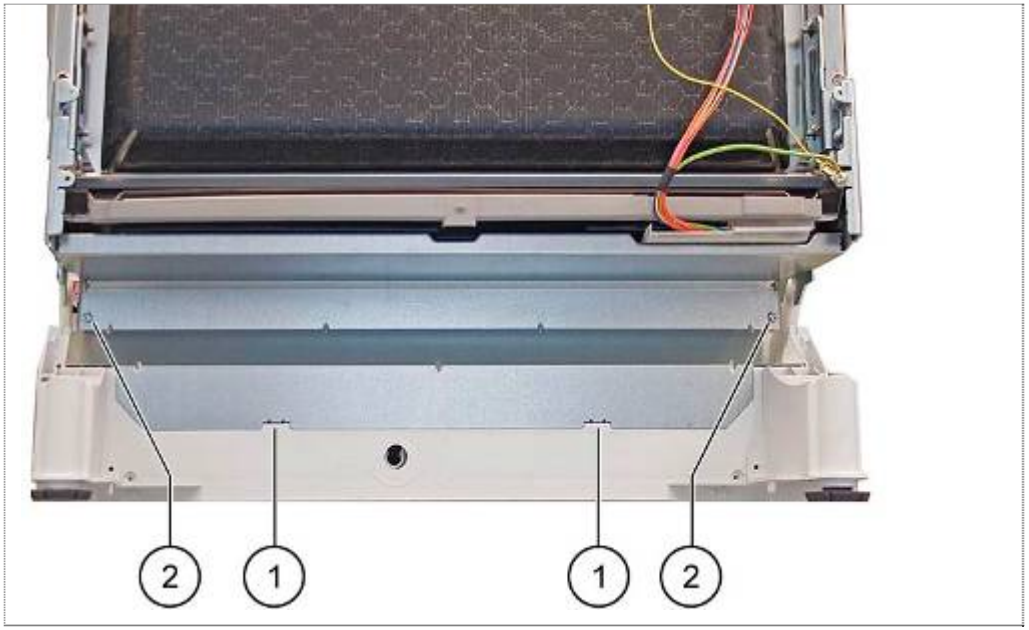
The underside of the base panel is secured with 2 catches.

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

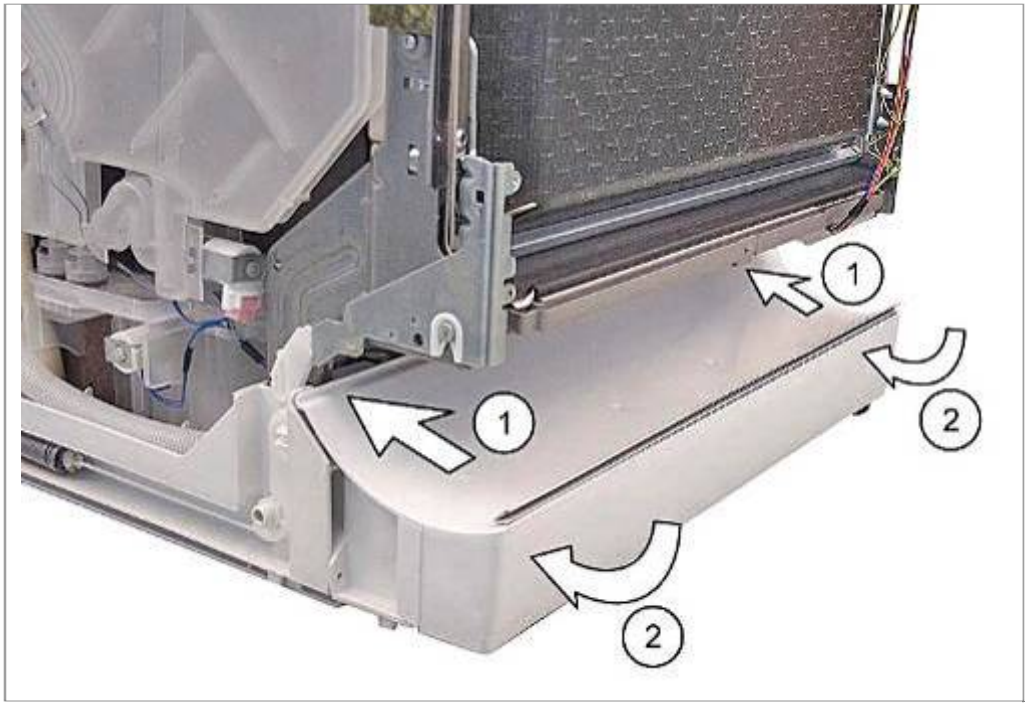


1. Loosen base plate by unscrewing the Torx screws.
2. Lever the plate out of the catches and remove.

5.31.2 Installation



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.

5.32 Replacing non-return valve

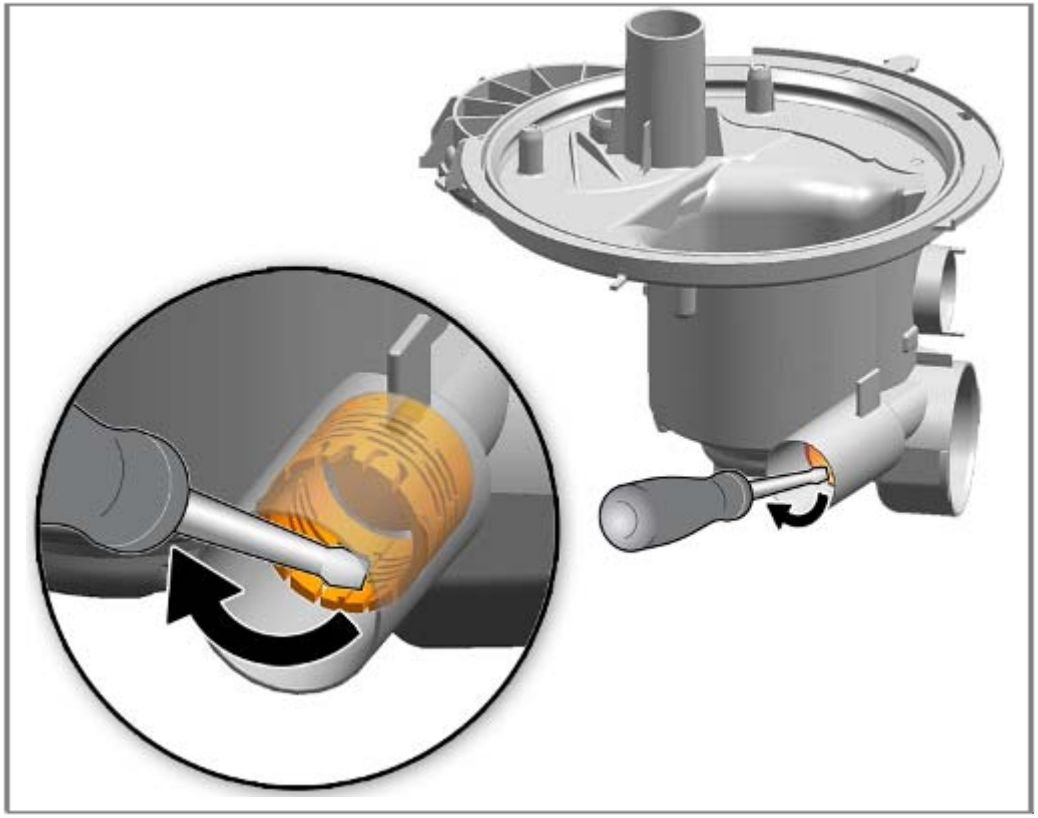
Requirement:

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

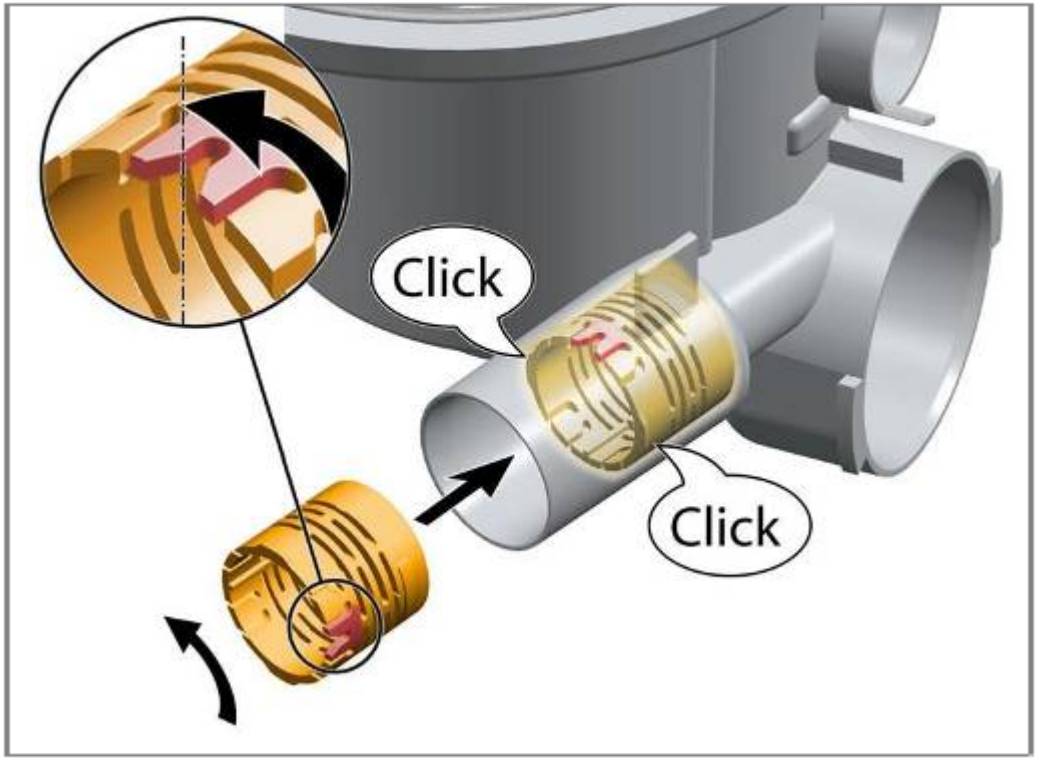
Scratches

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

5.32.1 Removal



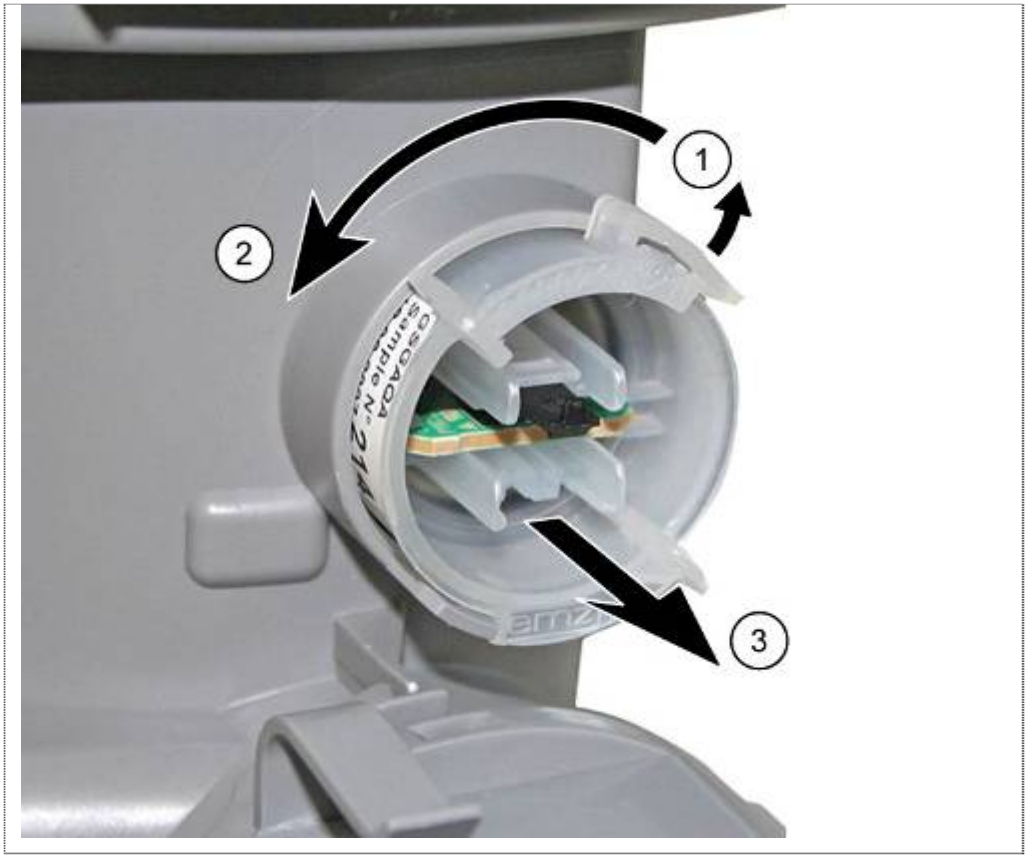
5.32.2 Installation



5.33 Replacing the Aquasensor

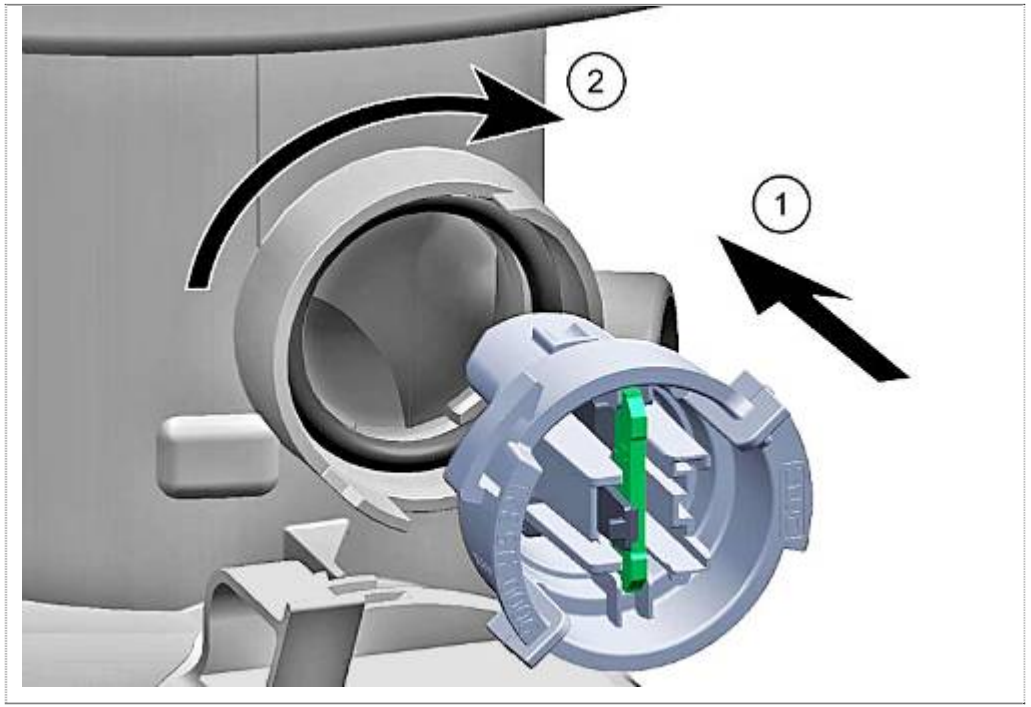
Requirement:

► Base panel and base plate removed.



5.33.1 Removal

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



5.33.2 Installation

Insert and lock board.

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.

5.34 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.

5.34.1 Requirements

Remove overflow channel

Remove drainage hose

Remove float switch safety system

Open supply hose grommet

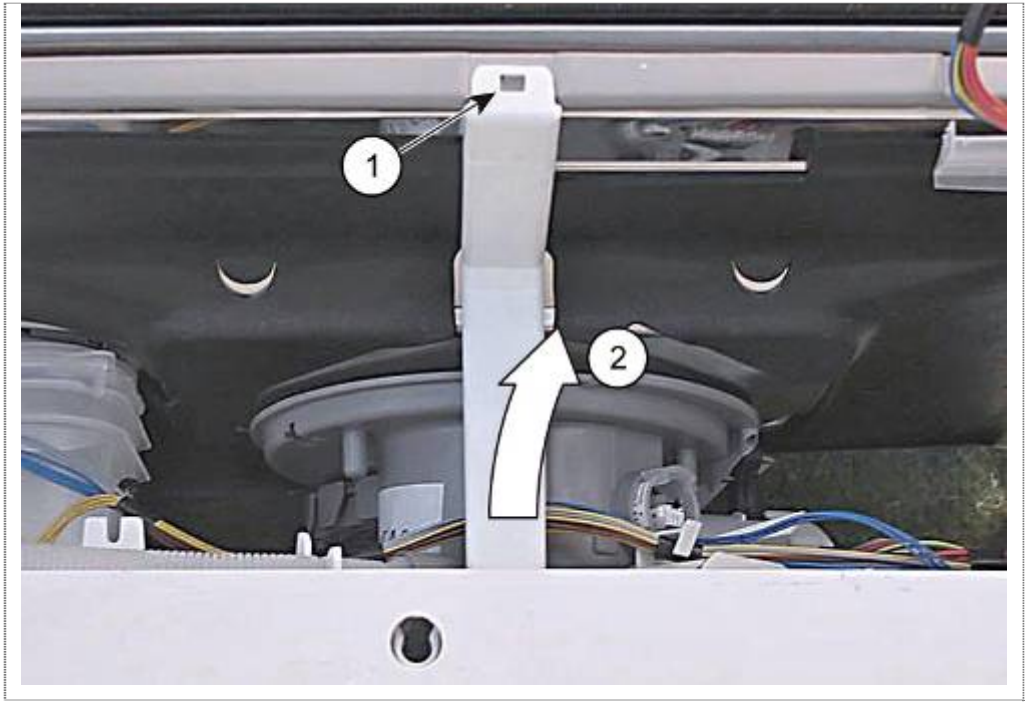
Remove power module

Remove filling hose of water storage tank (optionally)

Disconnect actuator of water storage tank (optionally)

Disconnect emotion light (optionally)

5.34.2 Removing overflow channel

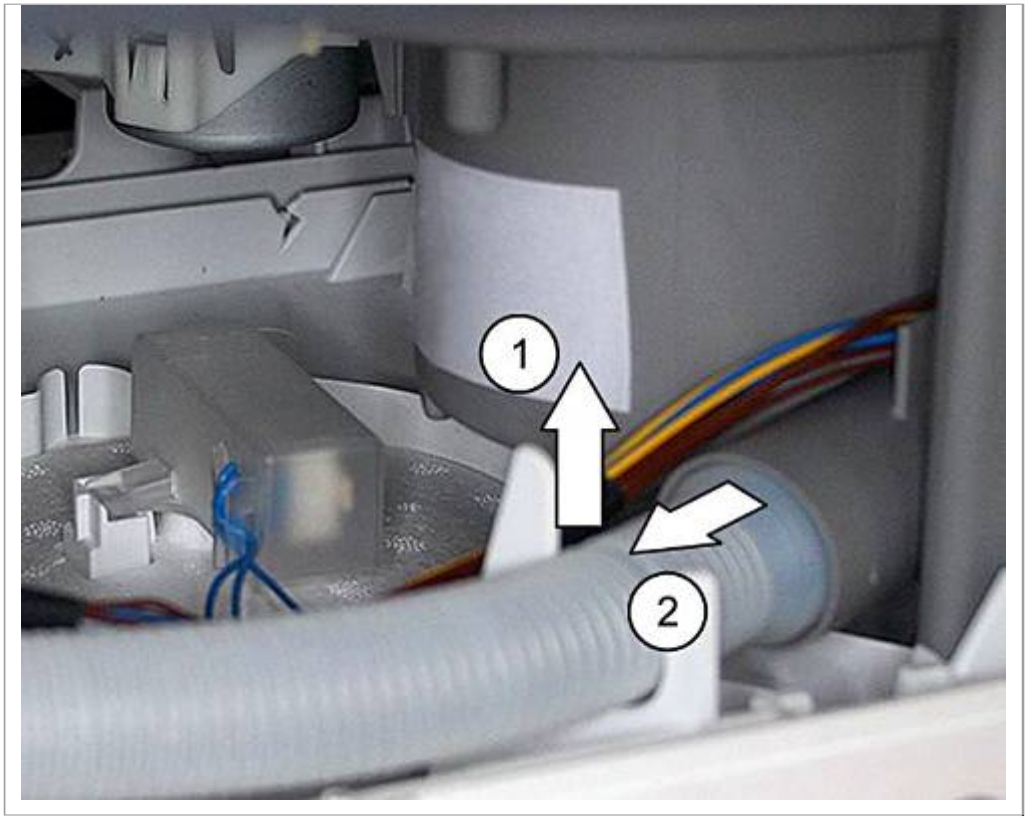


1. Detach from the upper catch mechanism.
2. Take out of the lower guide.

5.34.3 Removing drainage hose

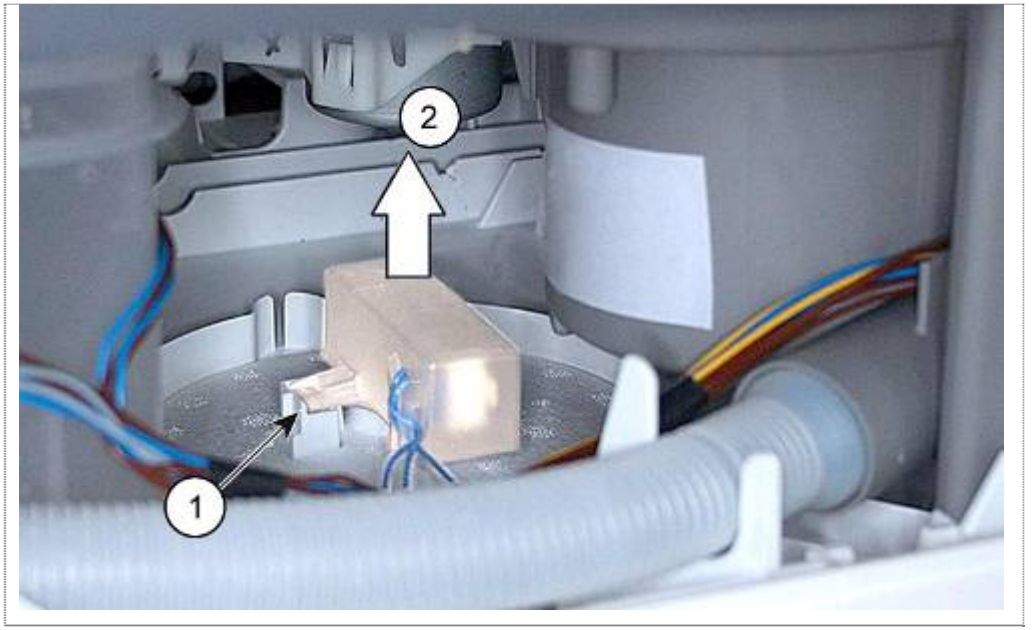
Residual water

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



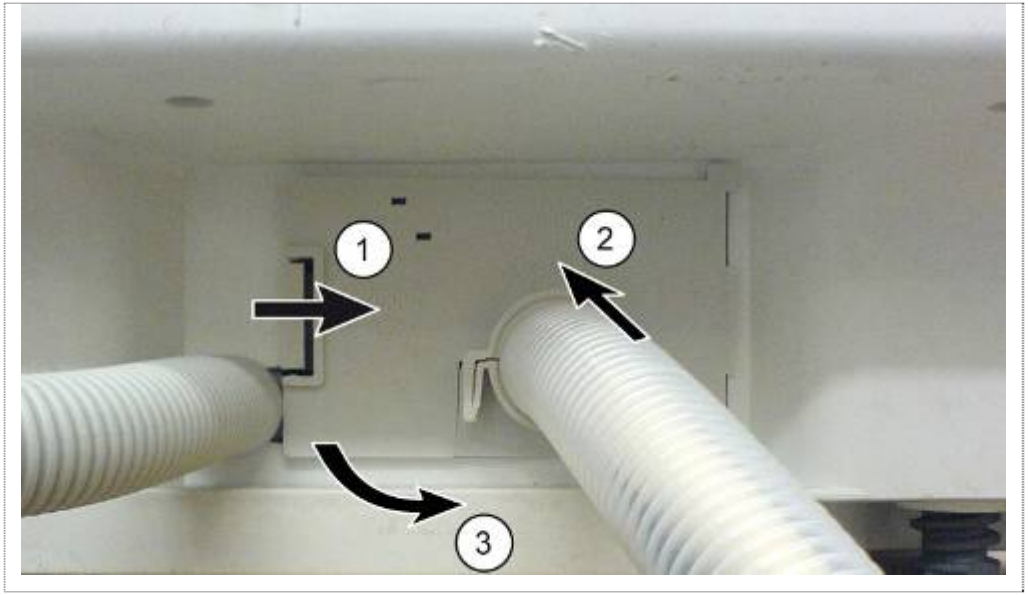
1. Press flexible drainage hose upwards out of the fixing.
2. Remove from pump sump.

5.34.4 Removing float switch safety system



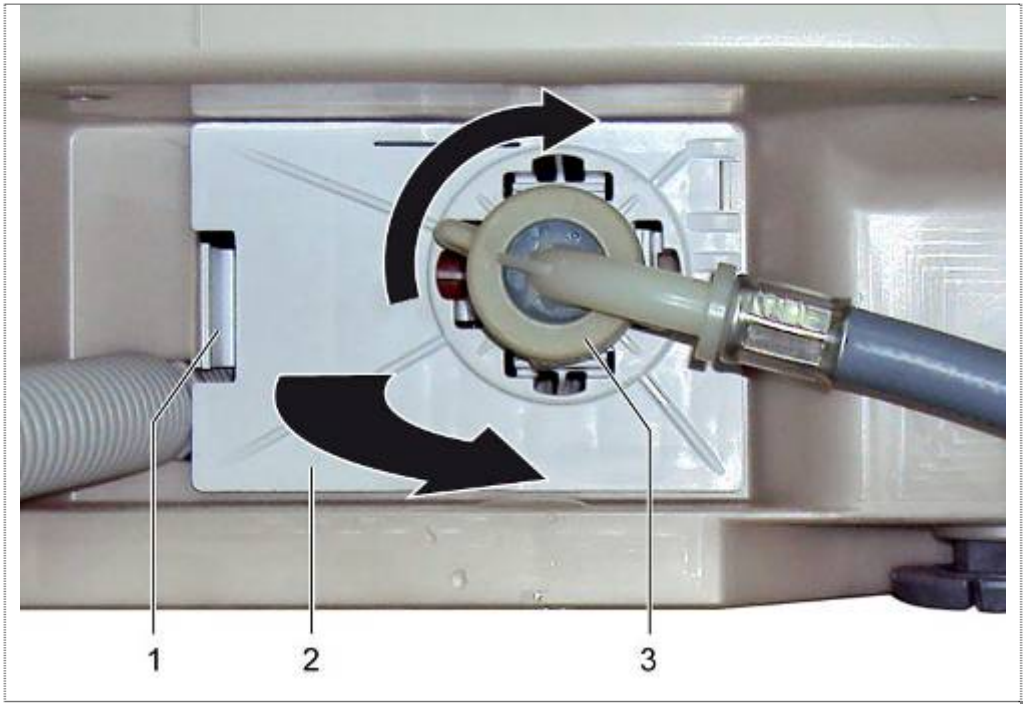
1. Loosen catches.
2. Remove switch upwards.

5.34.5 Opening supply hose grommet (aquasop models)



1. Loosen the panel catch mechanism.
2. Fold out the panel.
3. Press the hose bushing at a slight angle into the base pan to have more clearance to fold down and remove the rinsing tank.

5.34.6 Opening supply hose grommet (water inlet valve models)

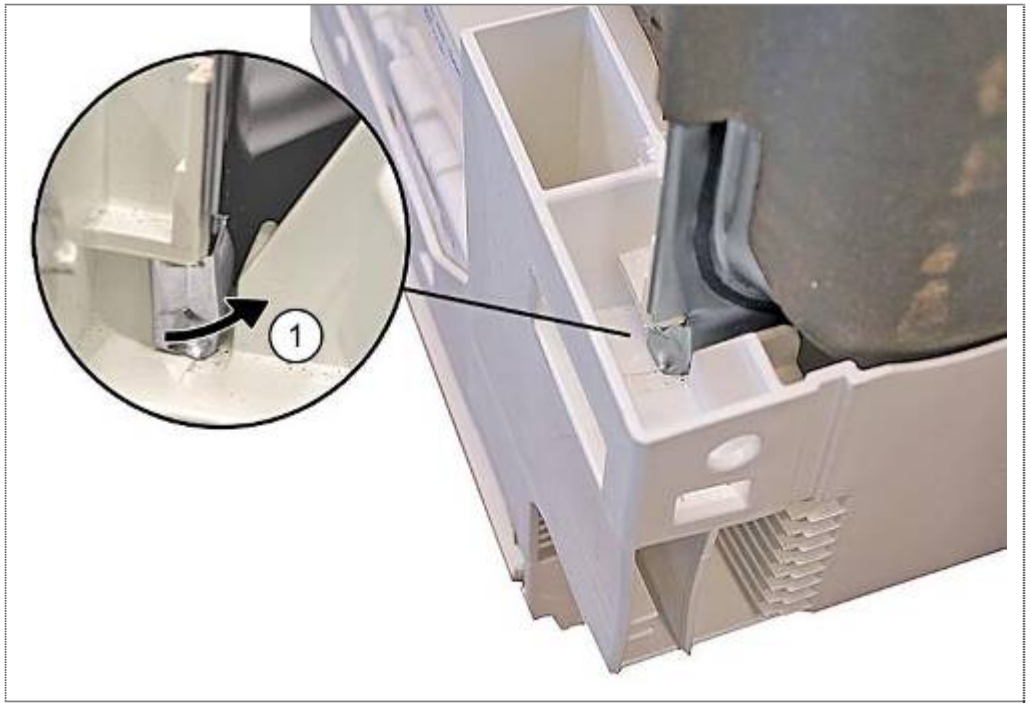


1. Loosen locking lever.
2. Fold the cover with the inlet hose outward.
3. Remove supply hose.

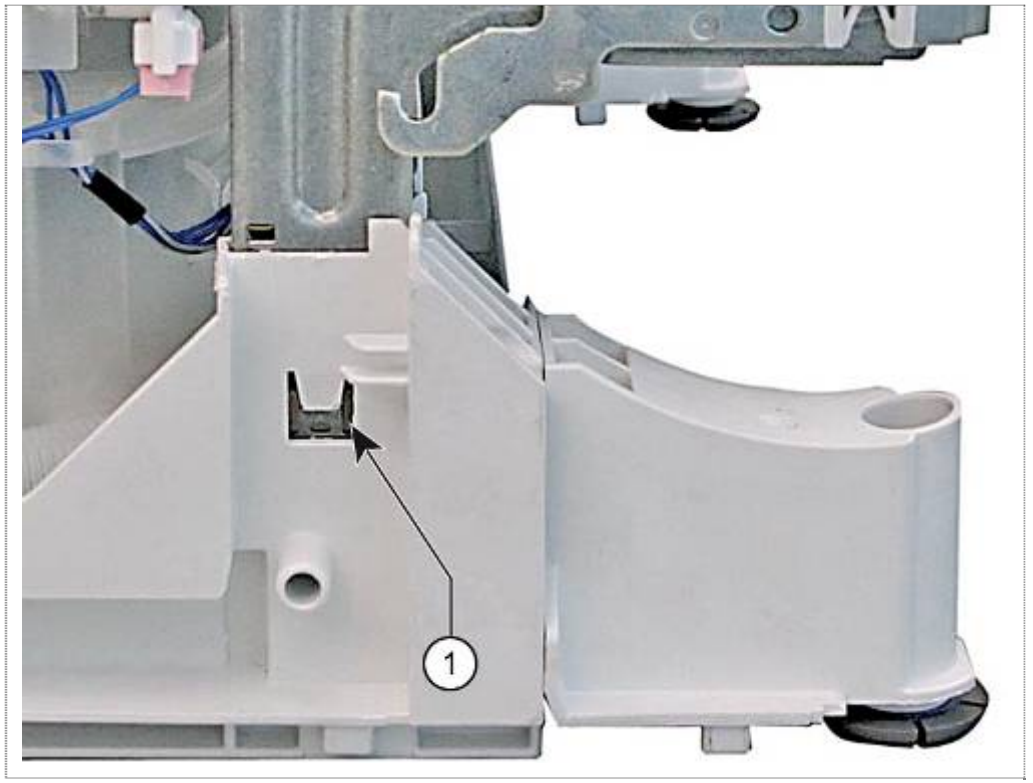
5.34.7 Loosening the tank catch mechanism

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.

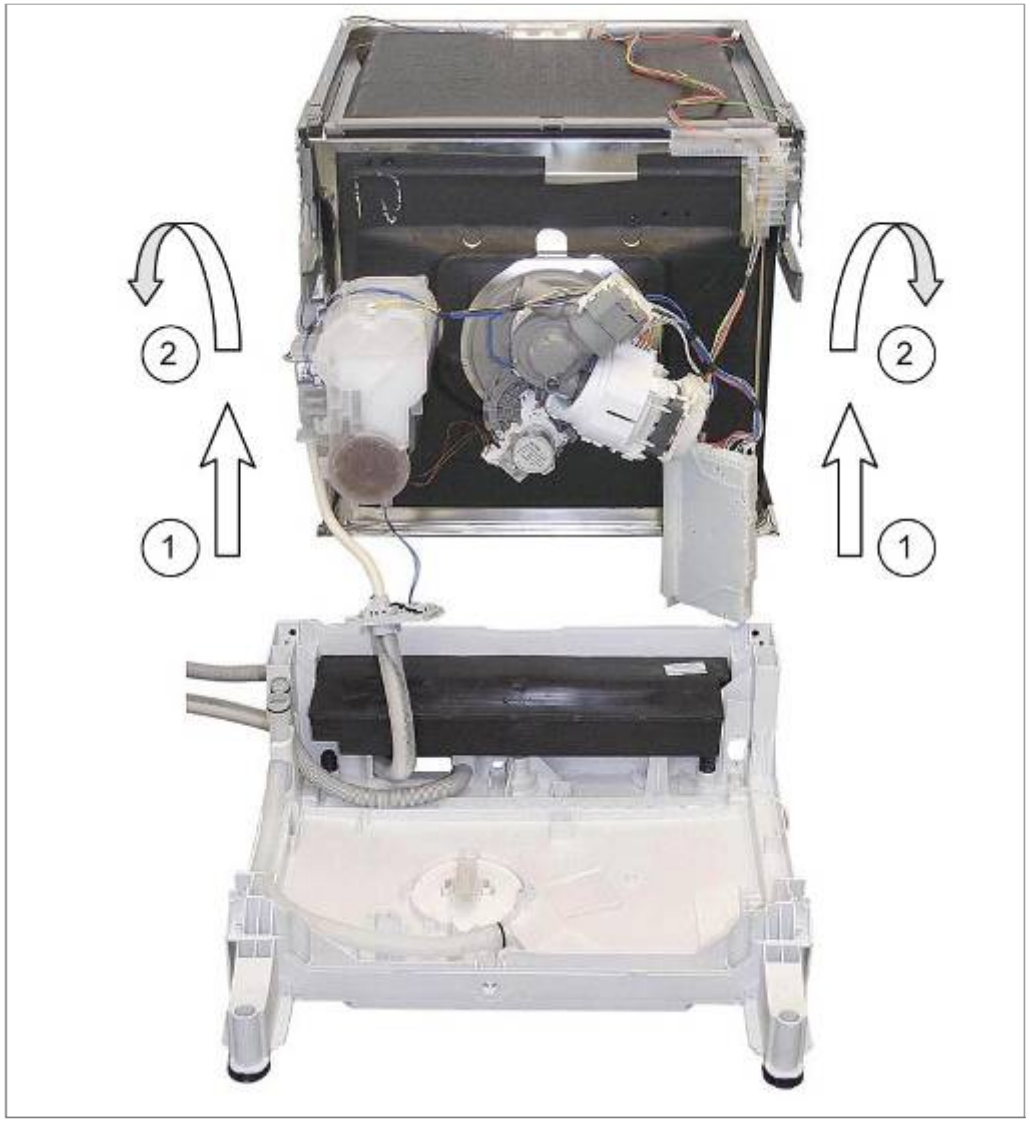


1. Using a screwdriver, detach hinge plates at the front side from the top of the catch mechanism. To do this, bend in the hinge plate catch mechanism.

5.34.8 Folding down the rinsing tank

Close salt dispenser

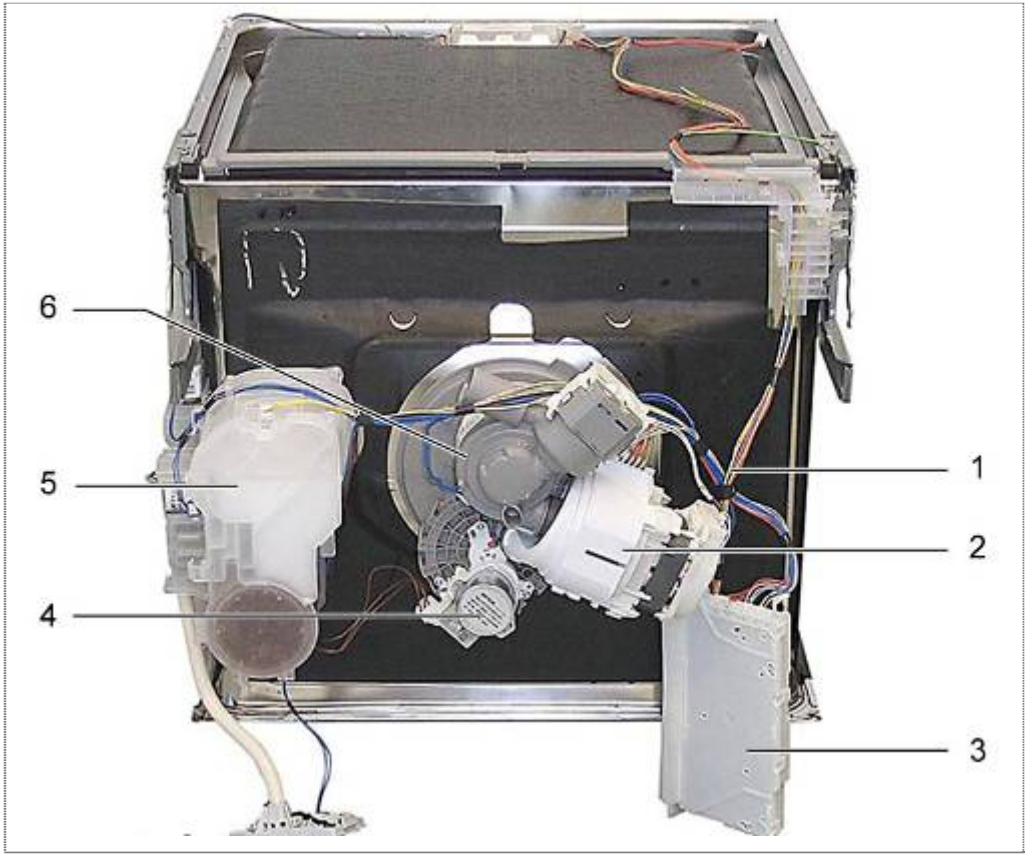
- Always check that the salt dispenser cover is screwed shut to prevent salt solution from running out subsequently when the tank is folded down!
- Protect support surface for the rinsing tank from being scratched.
- Tank is seated firmly in the guides and requires only a little force to lift it out. 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. 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.

5.34.9 Components on the tank



In this state the following components/modules which are attached to the tank can be replaced:

1. Cable harness
2. Heating pump
3. Power module (not fixed to the tank)
4. Water points with motor and pulse transmitter - optionally
5. Water softening system
6. Pump sump

5.35 Replacing pump sump

Requirement:

√ Rinsing tank folded down

√ Heating pump removed

√ Water points removed

√ Drain pump removed

√ Supply pipe removed

5.35.1 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.

5.35.2 Installation

Ensure that the seal is correctly positioned! Brush with a little Promol or rinse aid.

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

Insert and tighten screws in reverse sequence:

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

Sequence of screw connections

► Always observe the sequence of the screw connections. Leaks may occur.

5.36 Replacing heating pump

5.36.1 Removing heating pump

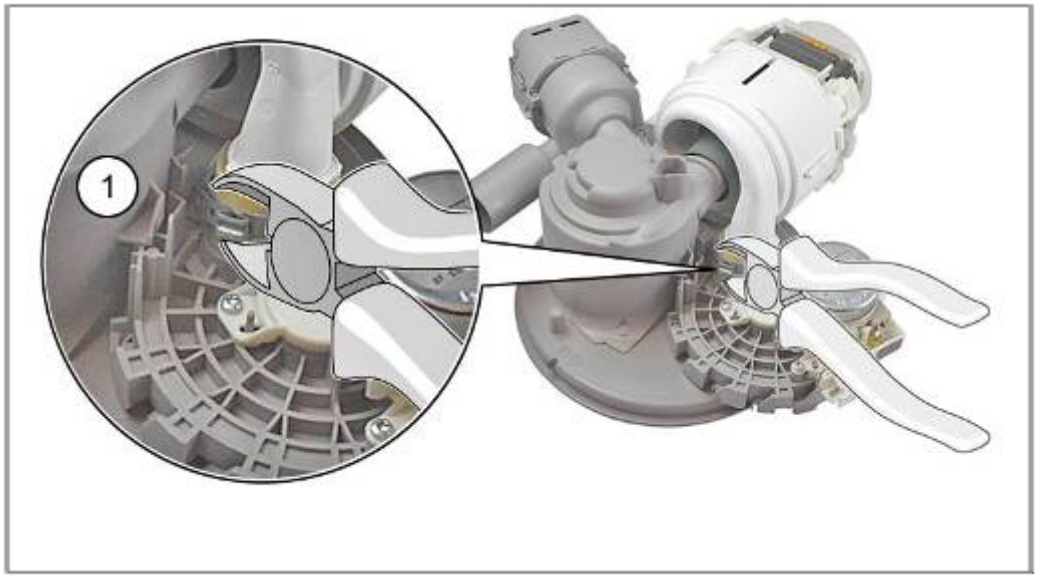
Requirement:

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.

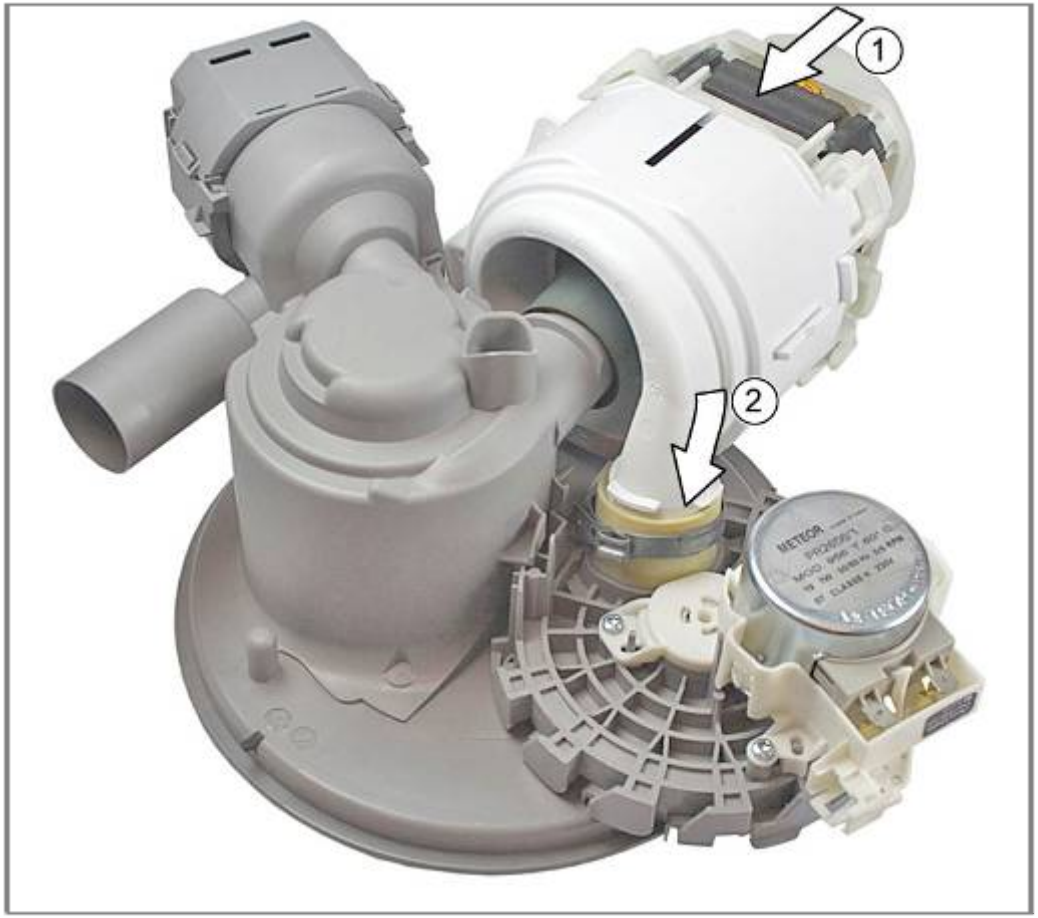
1. Detach rubber holder from between pump unit and pump sump.



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.

5.36.2 Installing the heating pump

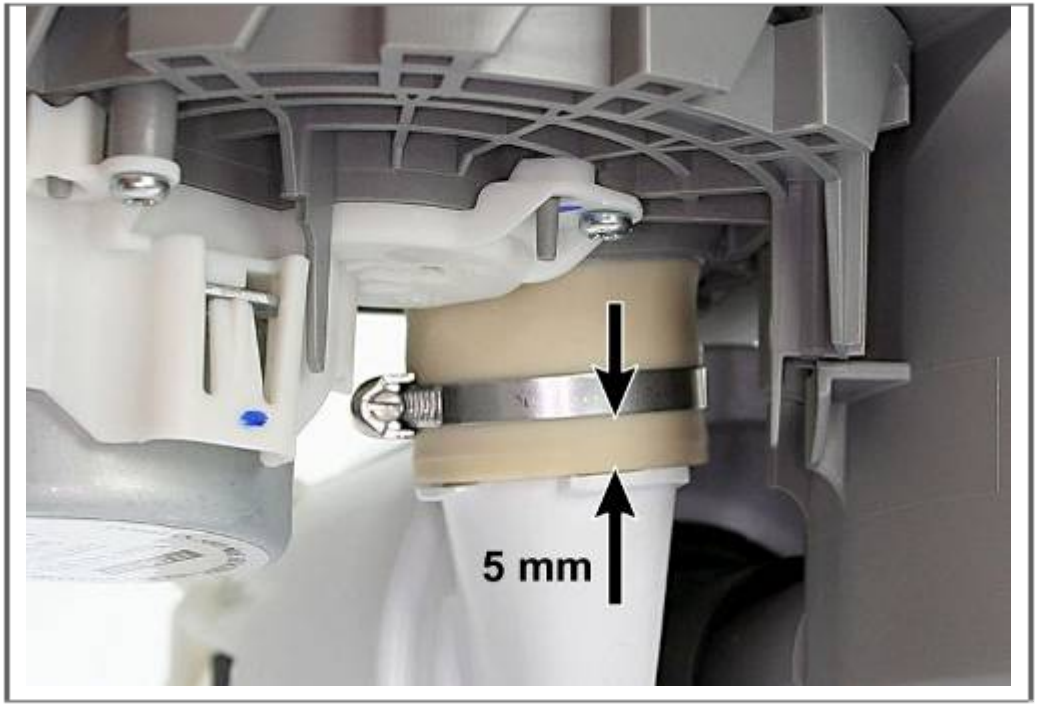


Moisten inside of rubber seal with rinse aid.

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).

5.36.3 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.

5.37 Replacing water points

Requirement:

√ Rinsing tank folded down

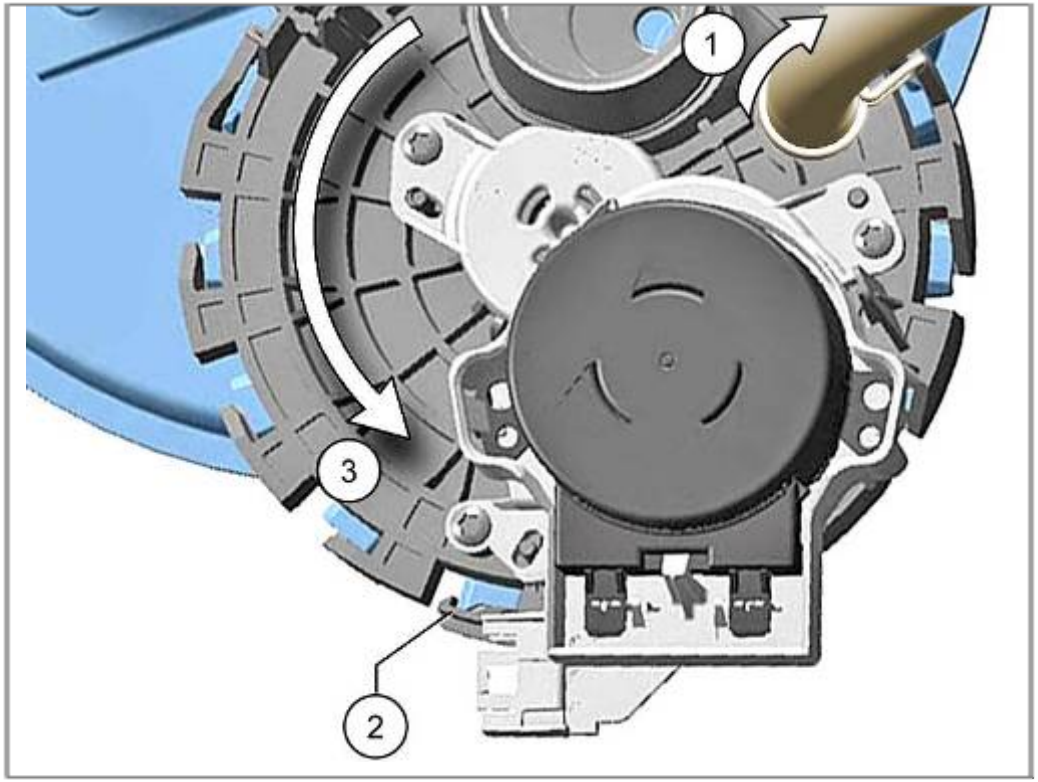
√ Circulation pump removed

5.37.1 Removal

Loosen the water points

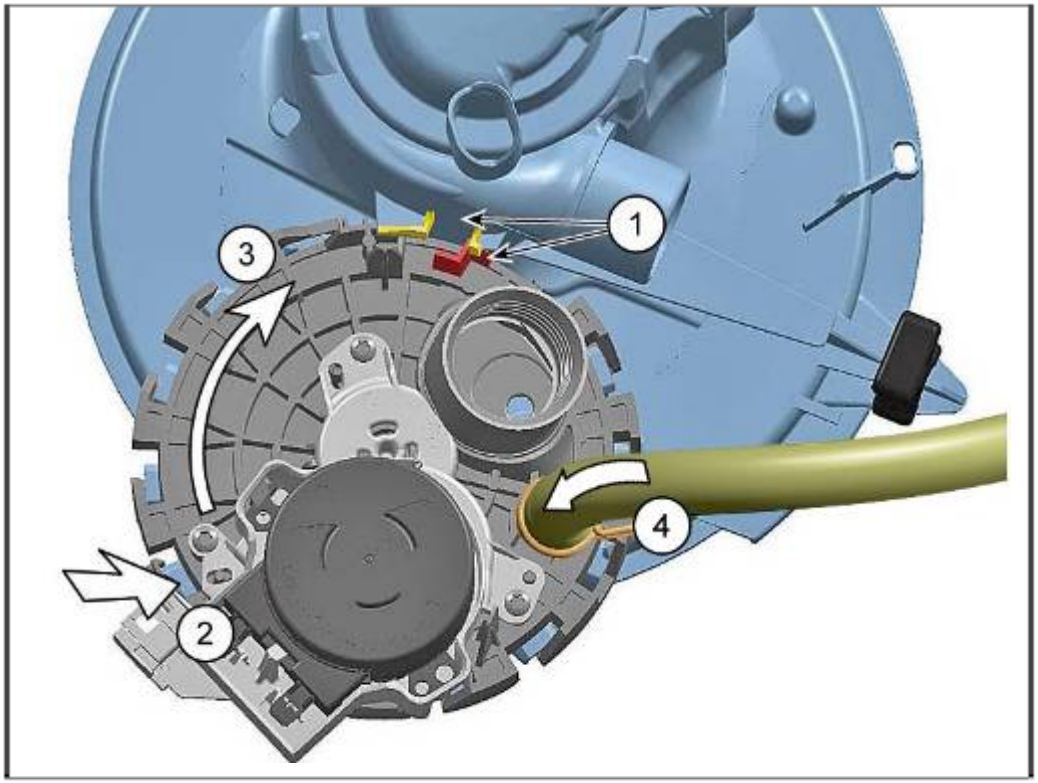
► The water points housing requires effort to turn!

► Wear gloves.



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

5.37.2 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)

5.38 Replacing water softening system

Requirement:

√ Rinsing tank folded down.

CAUTION

Risk of injury!

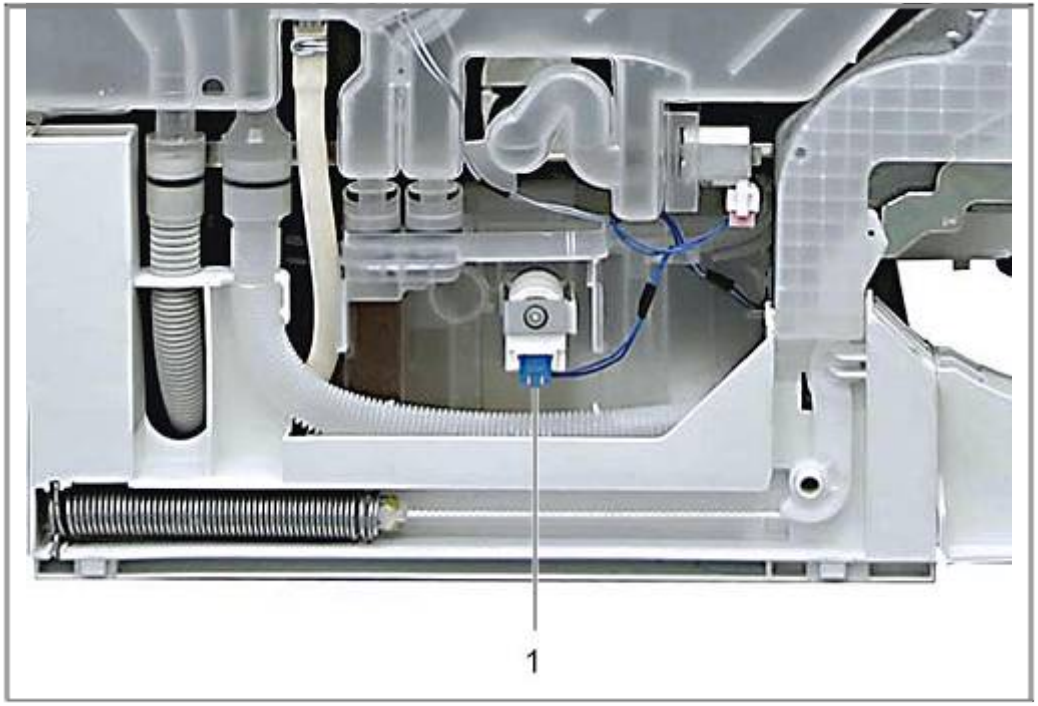
Sharp-edged sheet parts

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

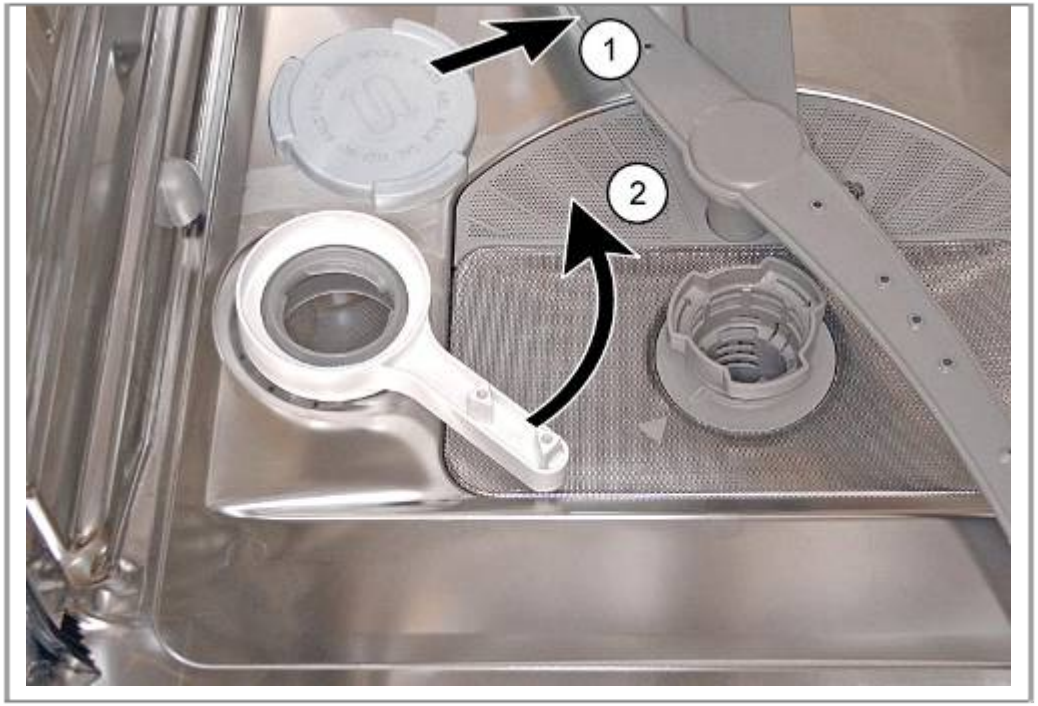
AU-models

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.

5.38.1 Removal



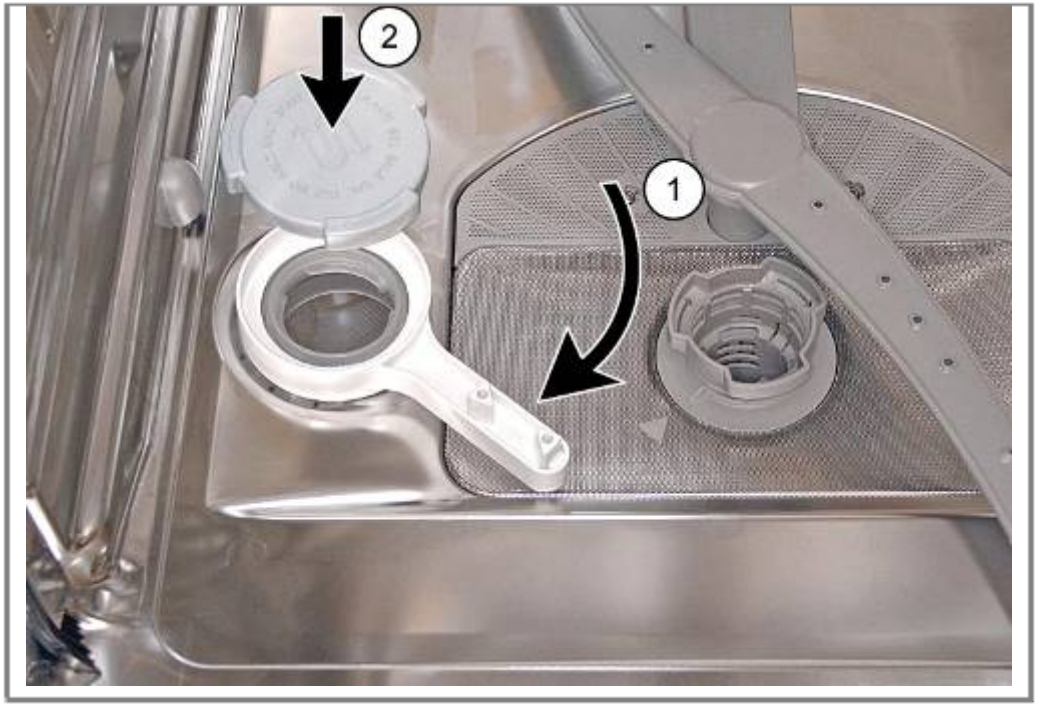
1. Loosen plug-and-socket connection on the regeneration valve.



1. Salt dispenser cover removed.
2. Loosen salt dispenser nut with special tool mat. no.: 341805.

Remove water softening system downwards.

5.38.2 Installation



Push water softening system from below into the rinsing tank.

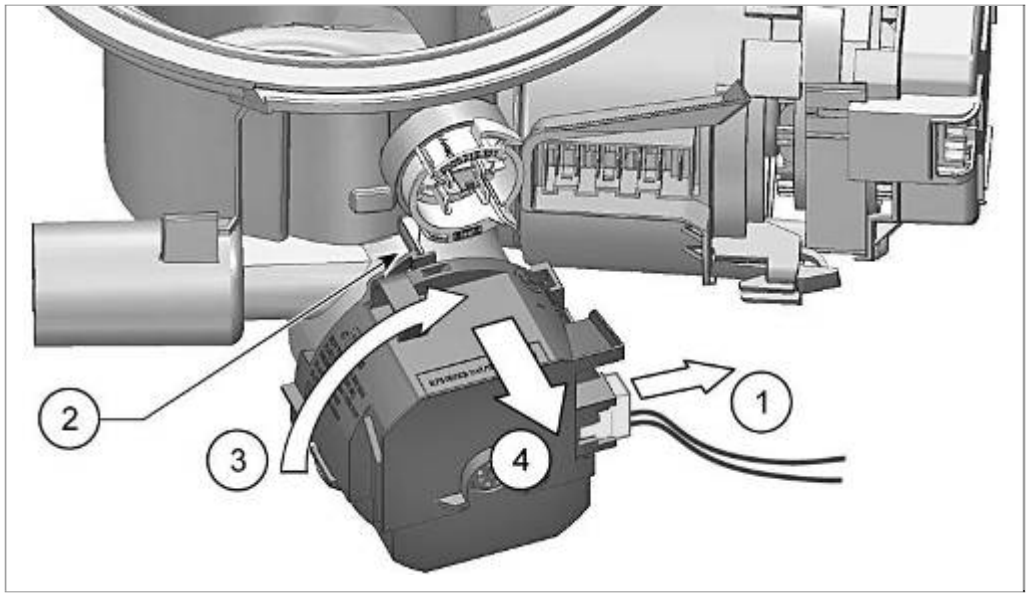
1. Tighten salt dispenser nut with special tool mat. no.: 341313.
2. Screw on cover.

5.39 Replacing the drain pump

Requirement:

√ Base panel and plate removed.

√ Water drained.



5.39.1 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.

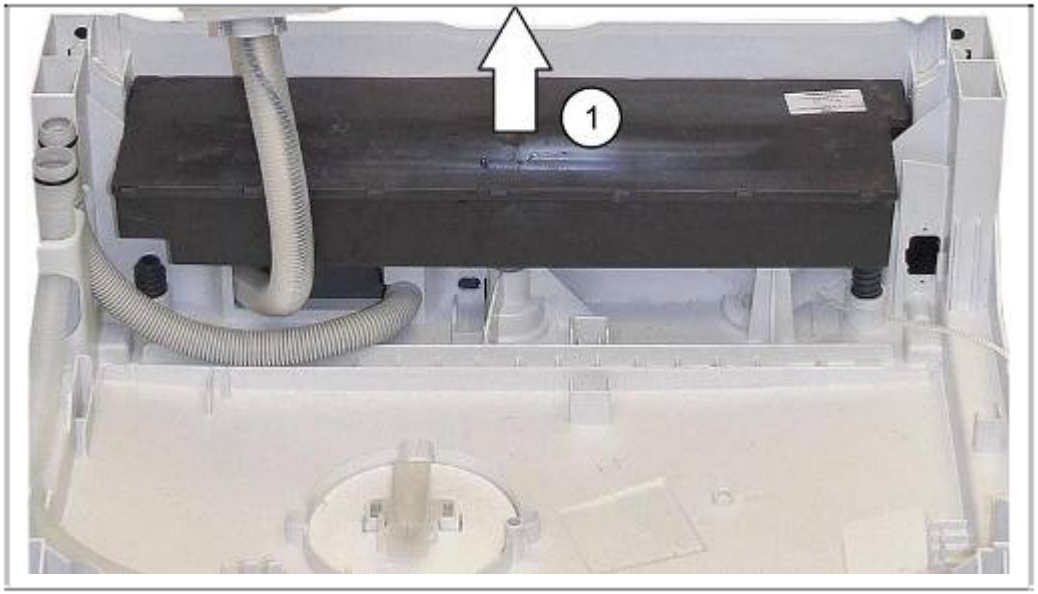
5.39.2 Installation

► Proceed in reverse sequence.

5.40 Counterweight

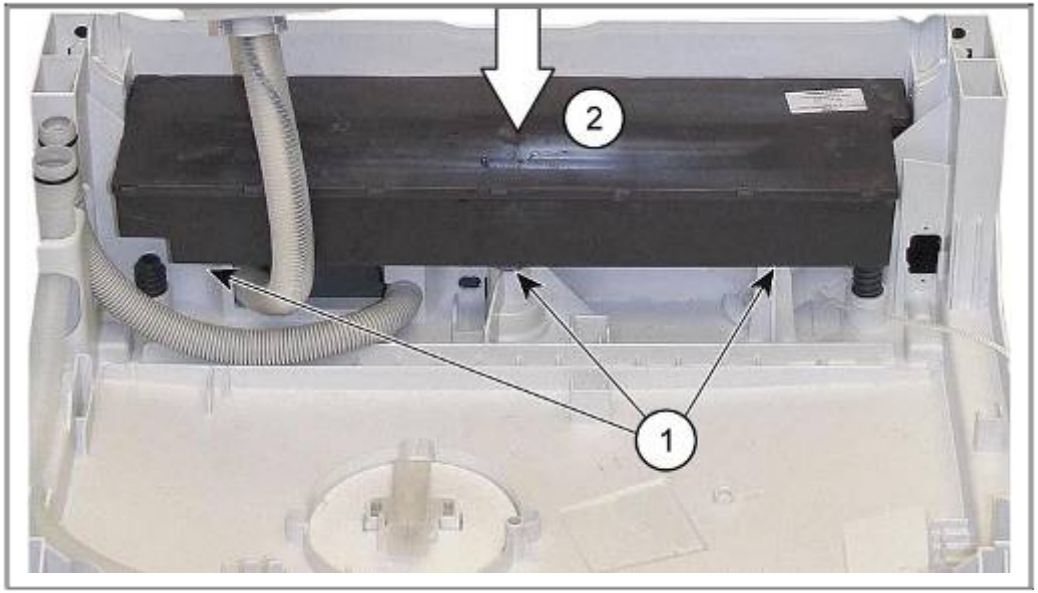
√ Rinsing tank folded down

5.40.1 Removal



1. Remove the weight upwards.

5.40.2 Installation



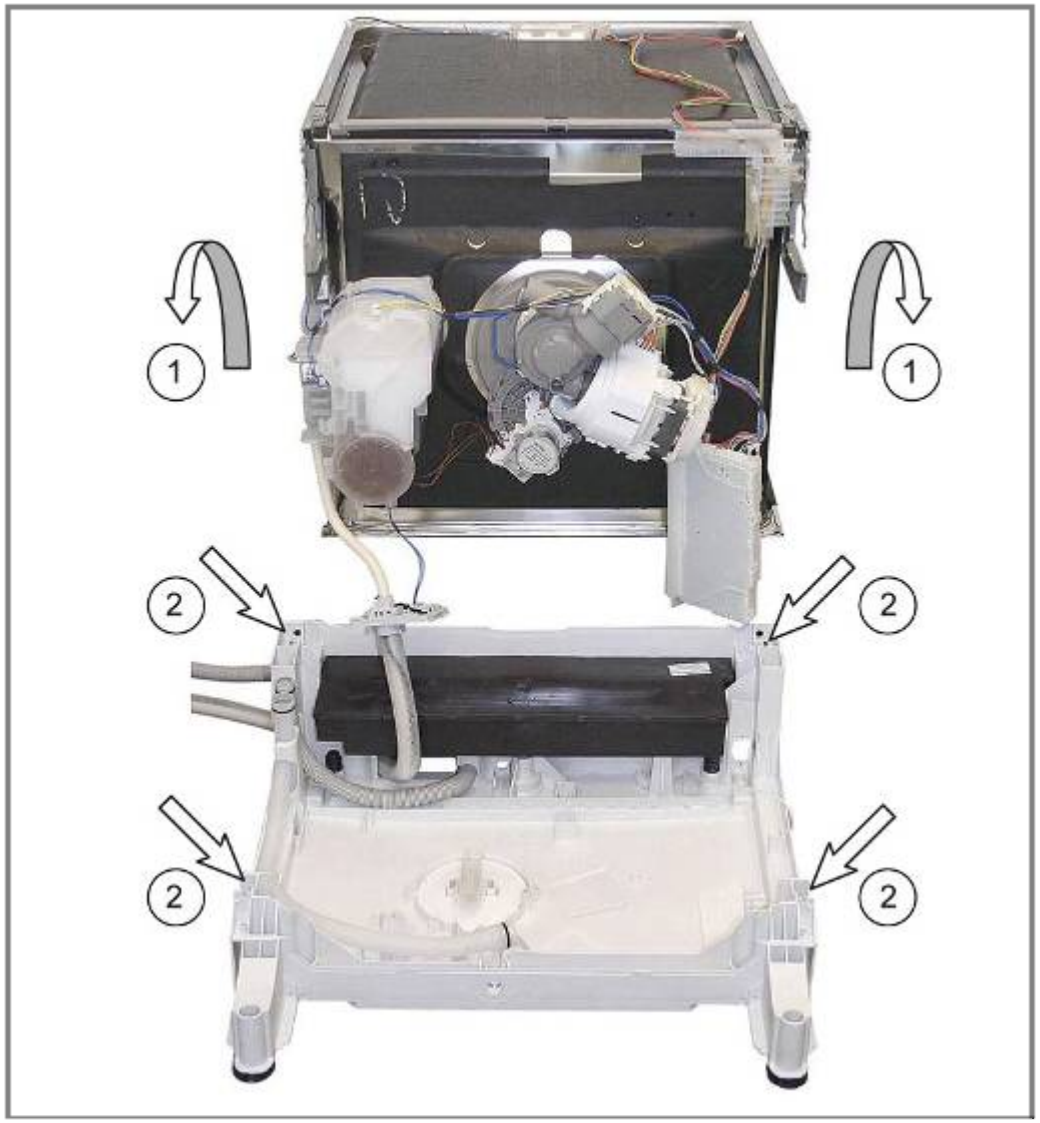
1. Check rubber damper is in correct position.
2. Insert weight into the recesses.

5.41 Attaching the rinsing tank

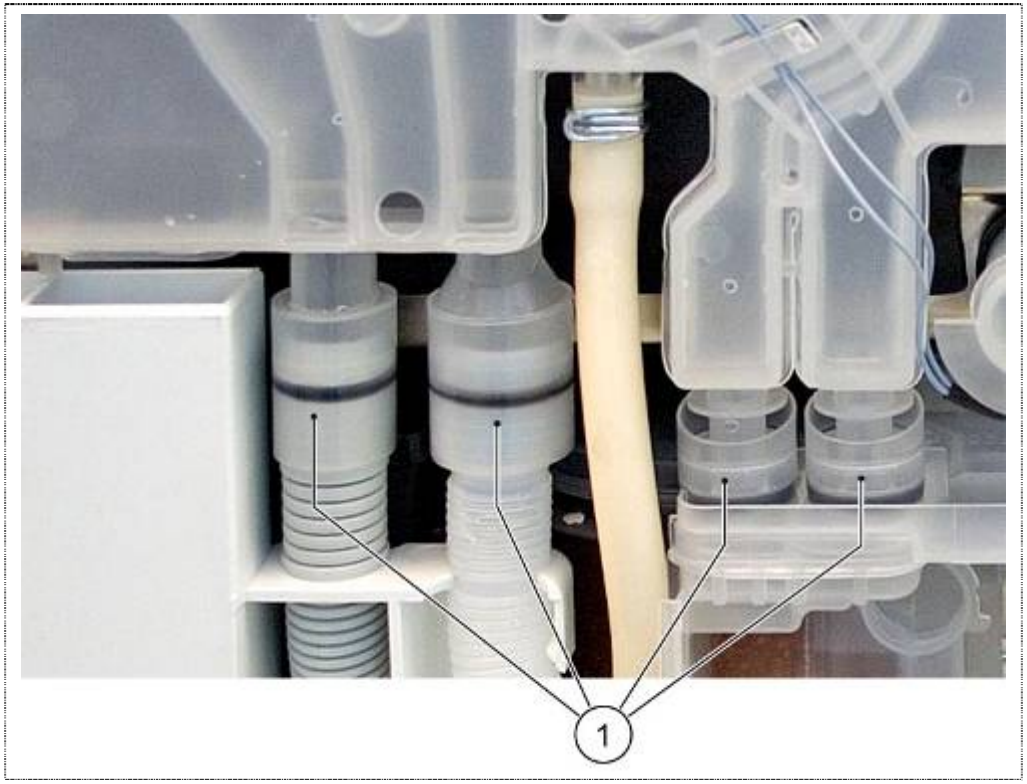
5.41.1 Attaching the rinsing tank

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.

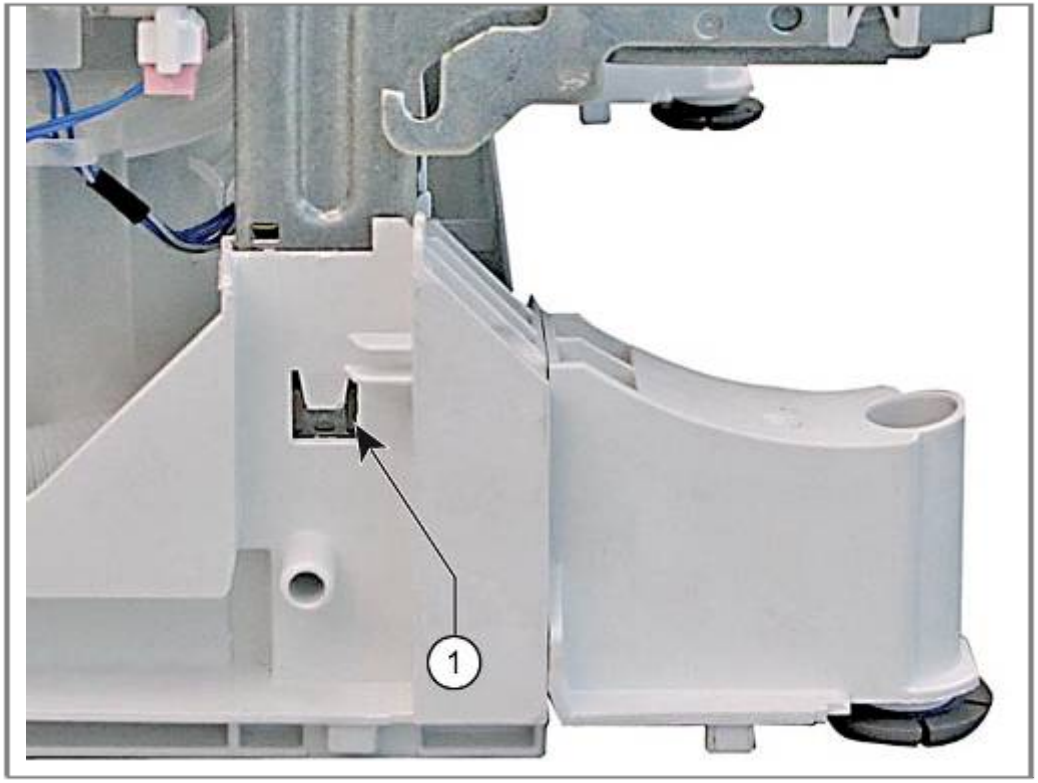


1. Carefully fold the rinsing tank forwards.
2. Insert into the guides.

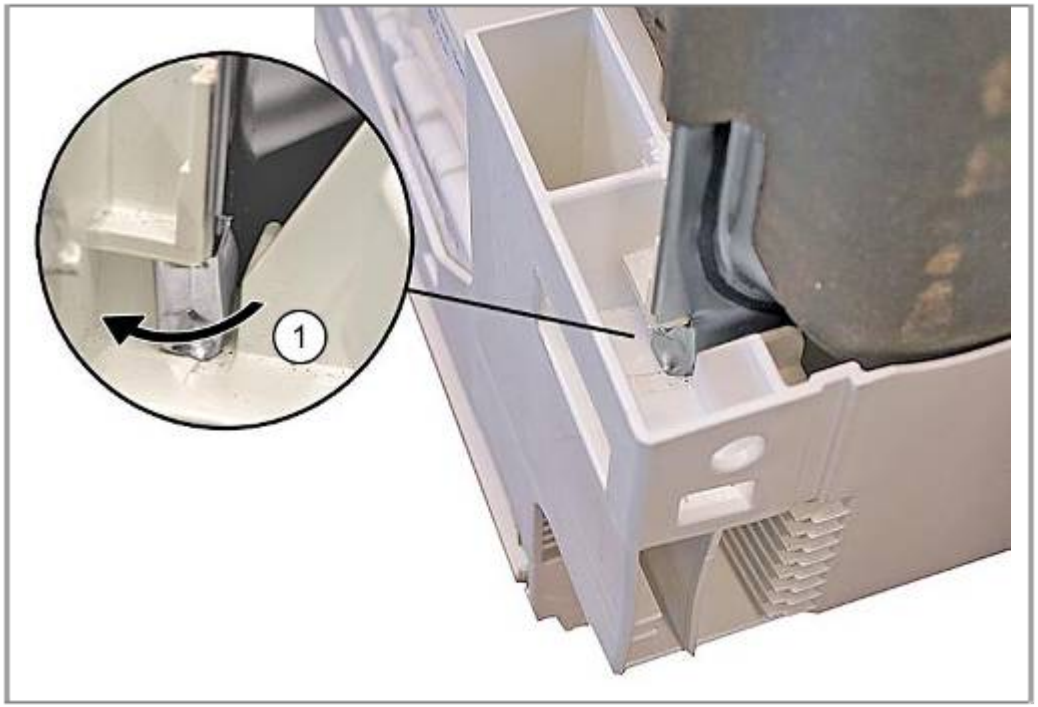


1. Ensure that the connection is faultless without crushing the terminals on the heat exchanger.

5.41.2 Protecting tank catch mechanisms

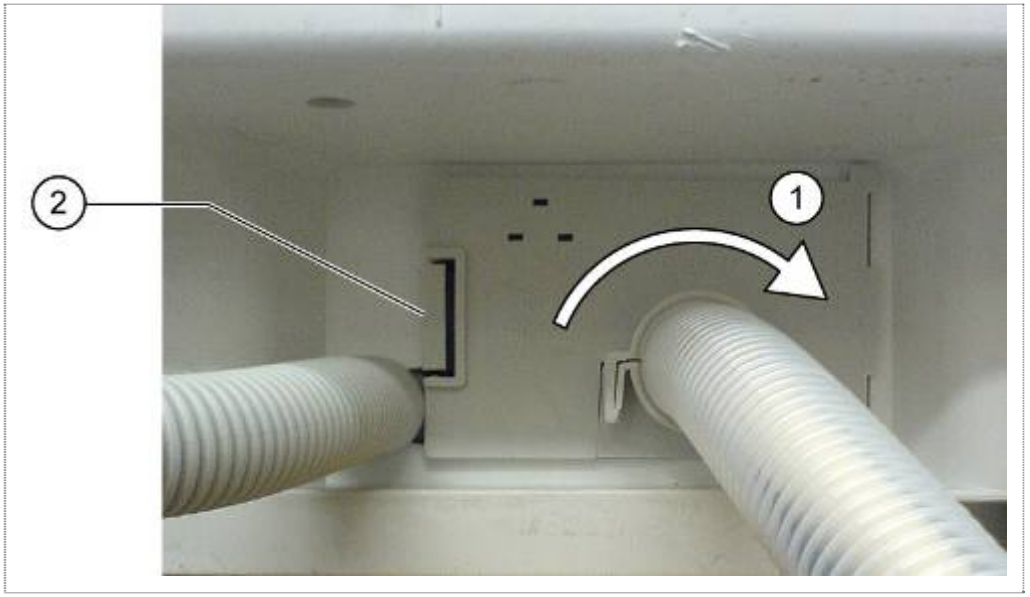


1. Using a screwdriver, bend hinge plate catch mechanism outwards.



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

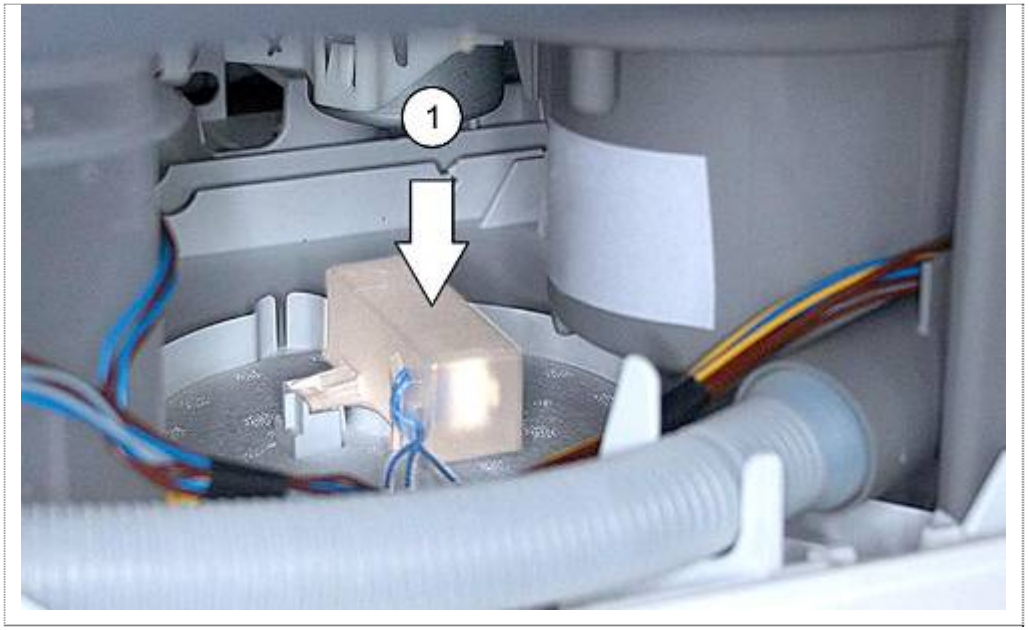
5.41.3 Installing the supply hose



Take the hose bushing out of the base pan.

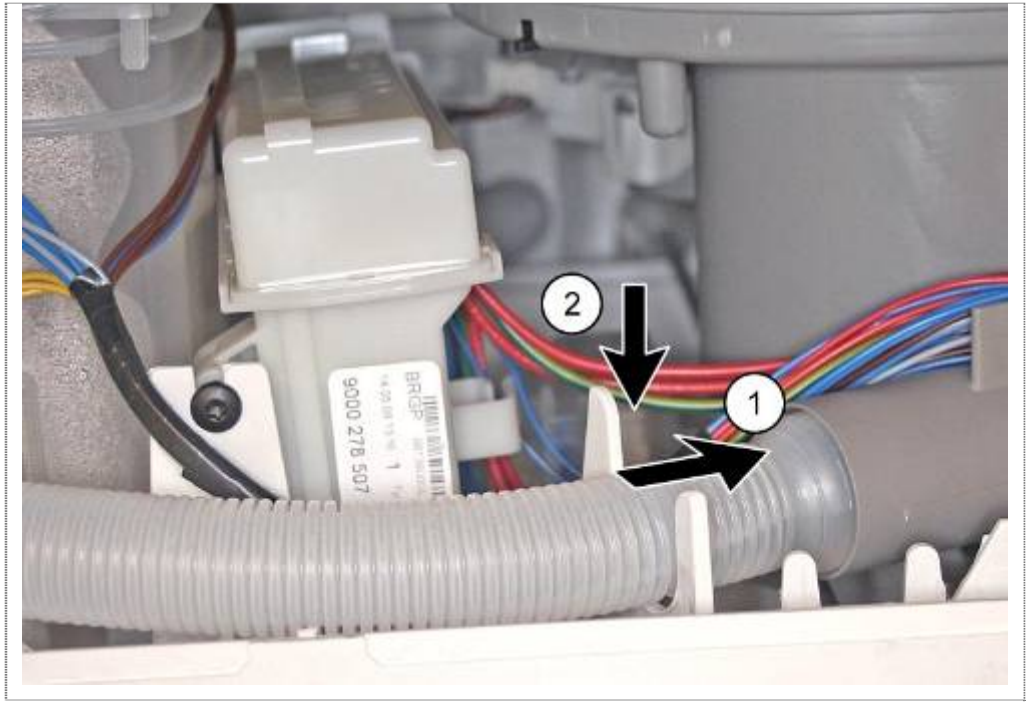
1. Insert panel.
2. Lock panel.

5.41.4 Installing float switch safety system



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

5.41.5 Installing the drainage hose



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

Insert power module and fix it.

Visual inspection

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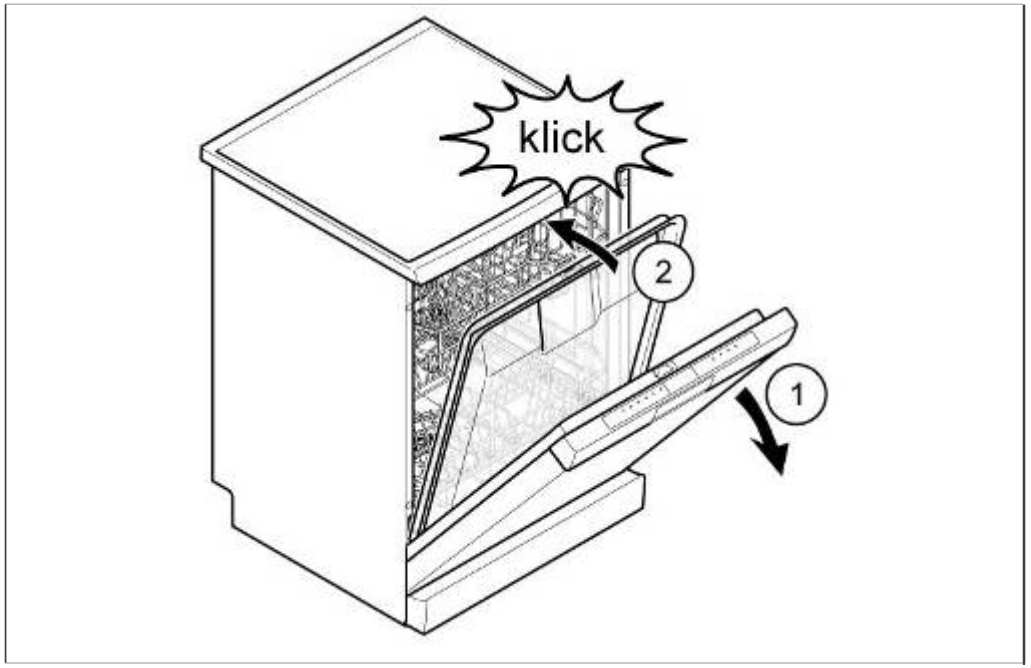
- ► Finally a visual check is on possibly gotten jammed or wrongly engaged construction units to accomplish cables or hoses
- ► Connect emotionlight and check.

5.42 Transparent door



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

Order numbers:

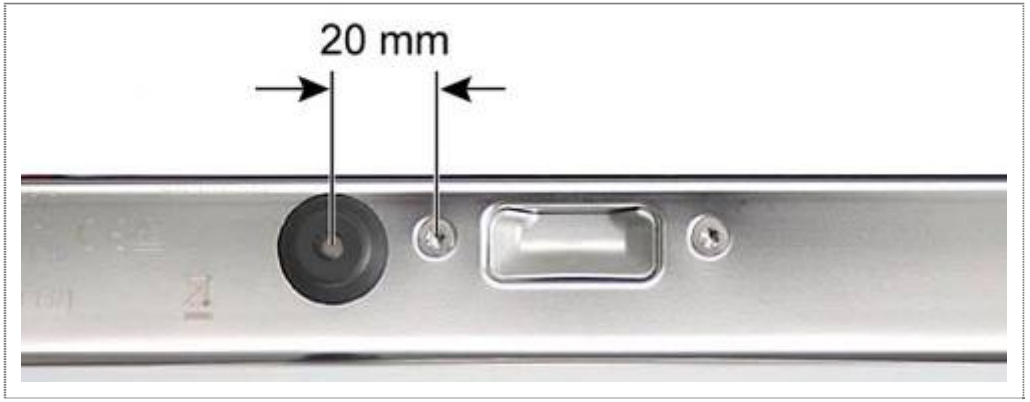
Transparent door 81 cm: 341333

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.

5.43 Loading appliance software

Requirement:

√ UDA with cable and adapters

√ Computer

√ I-Service 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 with the power on.
- ► Ensure that the resistance of the protective conductor does not exceed the standardised values.

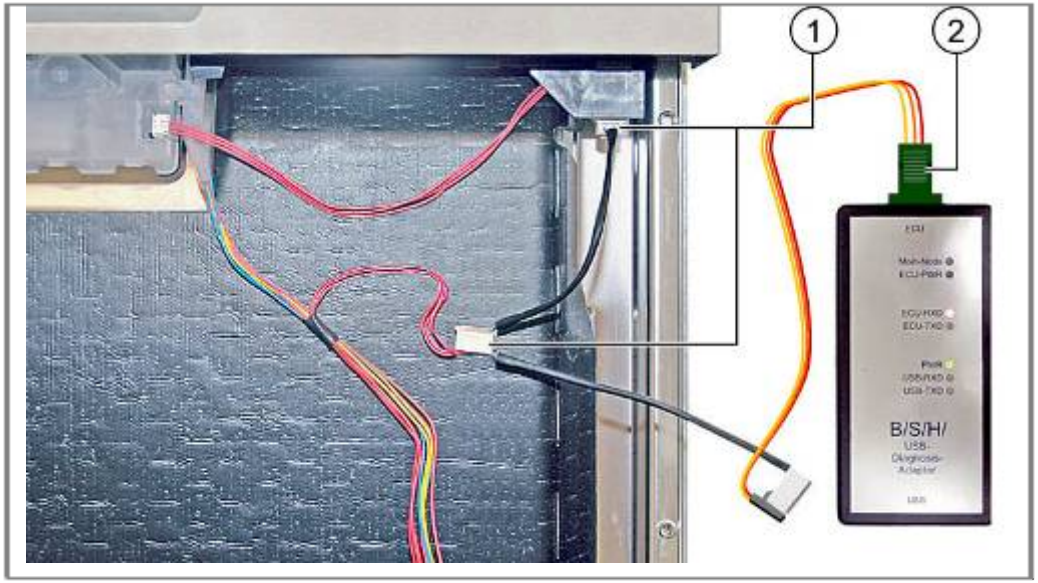
CAUTION

Voltage peaks when disconnecting/connecting the plug-in contacts

The operating module or the Piezo power supply unit (optional) 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.

5.43.1 UDA connection to the operating module in the door



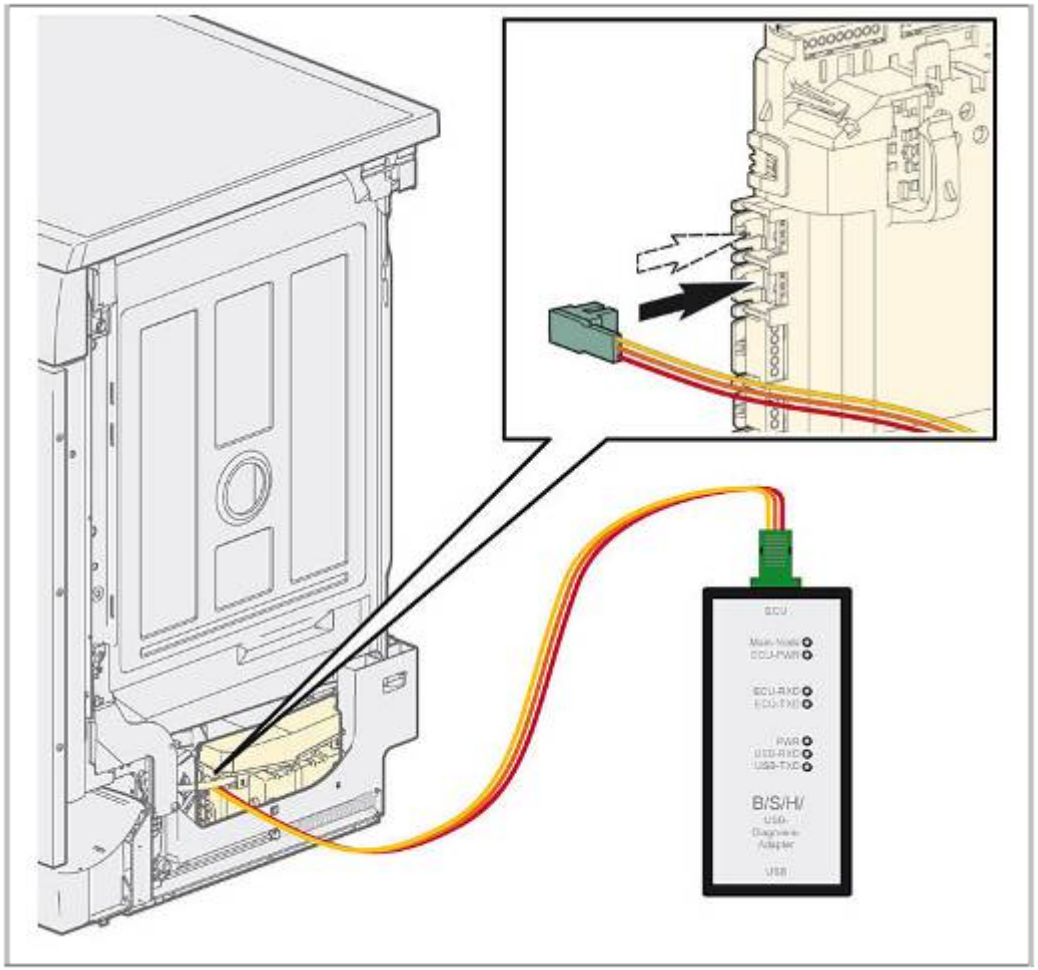
Disconnect the appliance from the power supply.

1. Connect Y-cable to the operating module.
2. Connect to UDA.

Reconnect appliance to the power supply.

5.43.2 UDA connection to the power module

The UDA connection cable can also be connected directly to the power module. The Y-cable must not be used for this connection.



Insert UDA connection cable into the free i-Service/D-Bus² connection. If both slots are occupied, unplug the lower plug and use this slot. The function of the operating module is then retained.

5.43.3 Software

Open iService Software on the computer and load appliance software.

When flashing is complete, switch off the appliance and disconnect from the power supply (reset mains)

After the main reset, a software / programm reset must be done in any case.

5.44 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

ADDENDUM

Service Program (3 pages)

This section provides instructions on how to enter and exit the Service Program, run Service Diagnostics, and access Error Codes for the Jenn-Air Flush Mount Dishwasher.

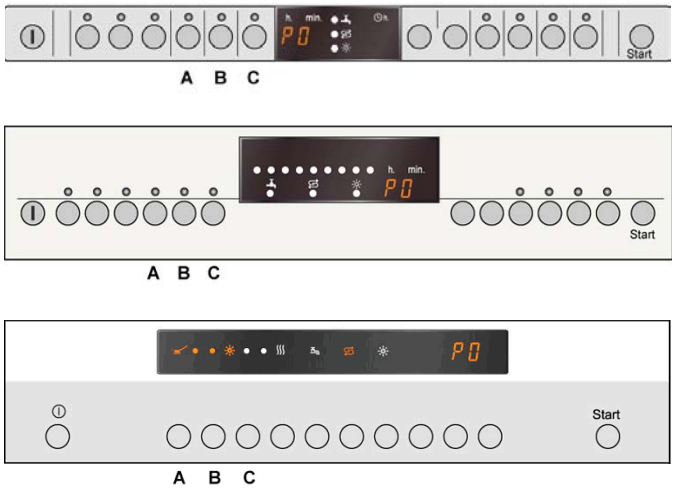
Service Diagnostics (3 pages)

This section provides information on the Service Diagnostic program for the Jenn-Air Flush Mount Dishwasher. Diagnostic tests includes component activation, checks and measurements, anticipated values, and approximate time per tests. NOTE: Some tests cannot be skipped.

Error Codes (5 pages)

This section provides a list of the Error Codes for the Jenn-Air Flush Mount Dishwasher. Additional information includes a description of the codes, appliance behavior, and possible causes.

Service Program

Function	Actuation	Display	Remark
1.1 Operating diagram			
			Button name Panels are by way of example, different designs are possible
1.2 Special programmes			
Precondition			Switch on the appliance: - Appliance is in rinsing program -> in this case carry out "Reset", switch off the appliance and switch it on again. - Appliance is in program selection -> in this case see next step (selection)
Selection			Switch off the appliance
			Press and hold down buttons “B” + “C”
			Press the main switch

Service Program

Function	Actuation	Display	Remark
		P0	Release buttons when P0 is displayed
Select		P0 ... P7	Press button “B” until required programme is selected
		P0 P1 P2 P3 P4 P5 P6 P7	Error memory Customer service test programme Not relevant to customer service Not relevant to customer service Not relevant to customer service Not relevant to customer service Not relevant to customer service Demonstration programme

1.3 Read out error memory

		P0	Activate: Press button “C”
		C:00...C:07 E:00...E:32	Storage space number: Hold down button “C” Storage space contents (fault code): Release button “C”

1.4 Customer service test programme

		P1	Press button “B” until P1 is displayed
		S:00...S:xy	Activate: Press button “C”
Skip test step		S:00...S:xy	Press button “B” Not all test steps can be skipped (see customer service test programme)

Service Program

Function	Actuation	Display	Remark
1.5 Special programme stopped			
In error memory (P0)			Switch off main switch
In customer service test programme (P1)		0:01	Press “Start” button for 3 seconds (Reset)
			Switch off main switch
1.6 Demonstration programme			
Select		P7	Press button “B” until P7 is displayed
		1:23	Activate: Press button “C”
	Door		If operation from front: Open and close door again If operation from above: Close and open door and close again
End	Door		Only if operation from above: When programme is running, open door
		0:01	Press “Start” button for 3 seconds (Reset)
			Hold down buttons “B” + “C”
			Switch off main switch

Service Diagnostics

Function	Display	Remark				
	Display	Can be skipped	Time (s)	Value	Check / Measure	Remark
1.1 Customer Service Program						
Preparation					Remove approx. 0.5 l water from salt dispenser.	Regeneration valve must be checked for leaks at appropriate customer specifications (see also steps with display S:04 + S:17)
CoilCheck	S:00	No	approx 20			Check the drain pump. Activate the drain pump and place the water switch in the top basket position.
Check flow sensor and flow controller	S:01	No	approx . 10-100			Add 50 ml (filling valve, drainage pump and circulation pump are activated in succession).
Pause	S:02	No	10			
Fill + pump	S:03	No	approx 100			Heat exchanger is overfilled, residual quantity in the pump sump is pumped off ==> heat exchanger full (contains 3.1 l water).
Pause	S:04	No	10		Visual inspection: water level in salt dispenser.	No change to water level ==> Regeneration valve leakproof.
Fill	S:05	No	approx 40	1,5 l	Check waterinlet amount	Within of 40s should the filling amount achieved. The heat exchanger will be overfilled.
Pause	S:06	No	10		Visual inspection: water level in appliance.	Water level on upper edge of fine mesh filter (= 1.5 l in pump sump).
Fill	S:07	No	approx 60	2,5 l		Total: 4 l in appliance
Circulate	S:08	No	15			Circulation pump must not “snorkel”.
Dispense (detergent)	S:09	No	10			

Service Diagnostics

Function	Display	Remark				
	Display	Can be skipped	Time (s)	Value	Check / Measure	Remark
Circulate + heat + calibrate AquaSensor	S:10	Nein	110			
Circulate + heat	S:11	Yes		40 °C		Increase of temperature during heating +2.5 °C/min
Pause	S:12	No	5			
Circulate + dispense (rinse aid)	S:13	No	60			Number of impulses = set value of dispensed rinse aid
Circulate + heat + change position of water switch	S:14	Yes	approx 480	65 °C		Increase of temperature during heating +2.5 °C/min. Change every 30 s roof shower head, top basket, bottom basket.
Pump off	S:15	No	45			Tightness test of outlet valve Water-level at heat exchanger is not supposed to falling off
Drain heat exchanger	S:16	No	60			Check outlet valve
Pause	S:17	No	10		Visual inspection: water level in appliance.	Water level must be over handle of coarse filter
Pump off + drain heat exchanger + fill + regenerate	S:18	No	approx 20			Drain the complete appliance
Pause	S:19	No	10		Visual inspection: water level in salt dispenser.	Water level in salt dispenser must be increased by several cm.
Pump off + drain heat exchanger + fill	S:20	No	approx 100	4 l		Rinse the brine solution out of the heat exchanger and pump sump.

Service Diagnostics

Function	Display	Remark				
	Display	Can be skipped	Time (s)	Value	Check / Measure	Remark
Pump off + drain (heat exchanger)	S:21	No	30			Drain the complete appliance
Check whether appliance was drained (activates circulation pump and drain pump	S:22	No	approx 10-120			Self-check whether appliance was drained.
End of test programme	„0“ on display or „End LED“ is lit				Switch off main switch	Test has ended. When the appliance is next switched on, the normal rinse programme is displayed

1.2 Reset program

Reset					Perform reset	Is possible at any time by pressing the button “Start” for longer than 3 seconds

Error Codes

Display CS Program		Display Customer		Description	Appliance behaviour	Results of internal check	Measures
Display	LED Act. Clean Sani End	Display	LED End	○ LED off ● LED on ☼ flashes slow ☼ flashes quick			
E:00	○ ● ☼			No error	- - -		- - -
h:00 – h:24				No error	Appliance does not start	Delay timer is activated!	No appliance fault!
All LED´s are on				Interface error	Appliance without function	Appliance must be disconnected from the power supply after flash process (main switch on/off is not adequate!)	
LED's flashing				Interface error	Stops in current position, Appliance without function	Communication error between the electronics	– Check D-bus plug-and-socket connections (3-pole wire) for electrical connection faults – Disconnect appliance from the power supply (unplug and plug in again) – Run Flash process again – Replace module
E:01		**E:01**	●	Internal fault power module	→ End of programme	Pump control or pump switchover defective	Replace the power module
E:02		**E:02**			Operates without heater	Working relay for heater defective	
E:03		**E:03**			Operates without auxiliary drying system	Working relay for auxiliary heater defective	
E:04	○ ☼	**E:04**			Operates without heater	- Ground fault at zeolite heater - Safety relay heater defective	- Replace zeolite heater - Replace the power module
					Due to manufacture, new appliances until FD9108 may have stored error code E:04 once during the first 8 wash cycles.		No appliance fault!
E:05		**E:05**	●		Water switch is running continuously → programme termination with draining	Triac for water switch motor defective	Replace the power module
E:06	☼	**E:06**		Door Hall sensor fault	Stops in current position, appliance without function	Wire to the Hall sensor interrupted or power module defective	Check wire / plugs Measure supply voltage on the Hall sensor
						Hall sensor defective	→ If voltage on the Hall sensor is o.k., replace Hall sensor

Error Codes

Display CS Program		Display Customer		Description	Appliance behaviour	Results of internal check	Measures
Display	LED Act. Clean Sani End	Display	LED End	LED off LED on flashes slow flashes quick			
E:07				Heating fault	Operates without auxiliary drying system	Fan defective or blocked, module on the fan defective	Check components and connection wires, measure winding. (Only on appliances with Zeolite drying system)
E:08					Operates without heater	Heat pump detects too low water level in pump sump.	Heat exchanger valve leaky Bowls / pans overturned in the appliance?
						Low voltage	no appliance fault!
E:09		**E:09**				Heating circuit interrupted (resistance, supply wires, contacts of the safety relay on power module)	Measure heater resistance Check wires
E:10					Operates without Zeolite - drying system (Applies only to appliances with Zeolite drying system)	Zeolite heater heating circuit interrupted (resistance / supply wires)	Measure heater resistance Check wires
						Fan module defective	Check component
						Wires interrupted	Check wires
E:11		**E:11**			Operates without heater	NTC resistance values outside permitted range	Measure NTCs
						Wire or plug interrupted	Check wires / plugs
E:12					Operates without auxiliary drying system	NTC resistance values outside permitted range	Measure NTCs
E:13					Operates without heater	Water temperature too high (>75 °C)	Protective measure – no appliance fault! Check temperature of water supply

Error Codes

Display CS Program		Display Customer		Description	Appliance behaviour	Results of internal check	Measures
Display	LED Act. Clean Sani End	Display	LED End	LED off LED on flashes slow flashes quick			
E:14		**E:14**	● ●	Filling fault	Programme stops with draining	No impulses from flow sensor, although water is detected by heat pump	Check wires, test flow sensor (reed switch)
E:15		**E:15**	● ✸		Programme stops with intermittent pumping	Base carrier safety switch active. Appliance cannot be switched off	Search for cause of water in the base carrier
E:16	✸ ○ ○	**E:16**	●			Water supply (impulses from flow sensor) without activation of the filling valve	Check filling valve Check actuation of filling valve
E:17		**E:17**	●		Programme stops with draining	Water supply rate too high according to flow sensor	Check flow controller in the filling valve
E:18			●		Wait for supply; programme stops with draining	Water supply rate too low according to flow sensor or no water supply	Check water supply
E:19				Circulation pump fault		Reserved	- - -
E:20	✸ ○ ✸	**E:20**	●		→ End of programme	Resistance values of heat pump wrong	Check wires / plugs Measure resistance values of windings
E:21		**E:21**	●		→ End of programme	Heat pump blocked	Check heat pump for foreign objects, if required replace

Error Codes

Display CS Program		Display Customer		Description	Appliance behaviour	Results of internal check	Measures
Display	LED Act. Clean Sani End	Display	LED End	LED off LED on flashes slow flashes quick			
E:22		**E:22**	● ●	Drain pump fault	→ End of programme	Residual water in the pump sump, as filters dirty	Clean filters
E:23		**E:23**	●		→ End of programme	Resistance values of drain pump wrong	Check wires / plugs Measure resistance values of windings
E:24		**E:24**	● ●		→ End of programme	Non-return valve leaky	Check non-return valve for leaks
						Draining not possible. Drain pump cover missing from pump sump	Check water drainage (hose kinked, blocked, delivery height, pump cover) → Attach drain pump cover
						Drain pump blocked (from FD 9101 till FD 9108)	Check drain pump for foreign objects
E:25		**E:25**	● ●		→ End of programme	Drain pump blocked	Check drain pump for foreign objects
						Drain pump cover missing from pump sump	Attach drain pump cover
E:26				Water switch fault	Permanet activation of water switch	No impulses from water switch despite actuation	Check wires Measure mains voltage on the motor Test switch at water switch
E:27		**E:27**	●	Undervoltage fault	→ End of programme	Continuous undervoltage (<170 V)	No appliance fault!
E:28				AquaSensor fault	Operates without AquaSensor	Appliance without AquaSensor	Appliance equipped with AquaSensor?
						Calibration of AquaSensor not successful	Check wires AquaSensor dirty?

Error Codes

Display CS Program		Display Customer		Description	Appliance behaviour	Results of internal check	Measures
Display	LED Act. Clean Sani End	Display	LED End	 LED off LED on flashes slow flashes quick			
E:29				Internal error codes	Stops in current position, appliance without function, Malfunctions, unsatisfactory rinsing / drying result	Undervoltage (<170 V / 190 V)	No appliance fault!
E:30					Appliance switches off	Overvoltage (>290 V)	No appliance fault!
E:31						Reserved	Not relevant to customer service
E:32						Reserved	Not relevant to customer service

PRODUCT SPECIFICATIONS & WARRANTY INFORMATION SOURCES

IN THE UNITED STATES:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL:

1-800-JENNAIR
(1-800-536-6247)

Website:
www.jennair.com

FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:

THE TECHNICAL ASSISTANCE LINE: 1-800-832-7174

HAVE YOUR STORE NUMBER READY TO IDENTIFY YOU AS AN AUTHORIZED IN-HOME SERVICE PROFESSIONAL

FOR LITERATURE ORDERS (CUSTOMER EXPERIENCE CENTER):

PHONE: 1-800-851-4605

FOR TECHNICAL INFORMATION AND SERVICE POINTERS:

www.servicematters.com

IN CANADA:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL

1-800-JENNAIR
(1-800-536-6247)

Website:
www.jennair.ca

FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:

THE TECHNICAL ASSISTANCE LINE: 1-800-488-4791

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