Electrolux
Spares Operation

SERVICE MANUAL

DISHWASHER

DIVA

\+ EDW 1003

© Electrolux
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Spares Operation

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Dishwasher

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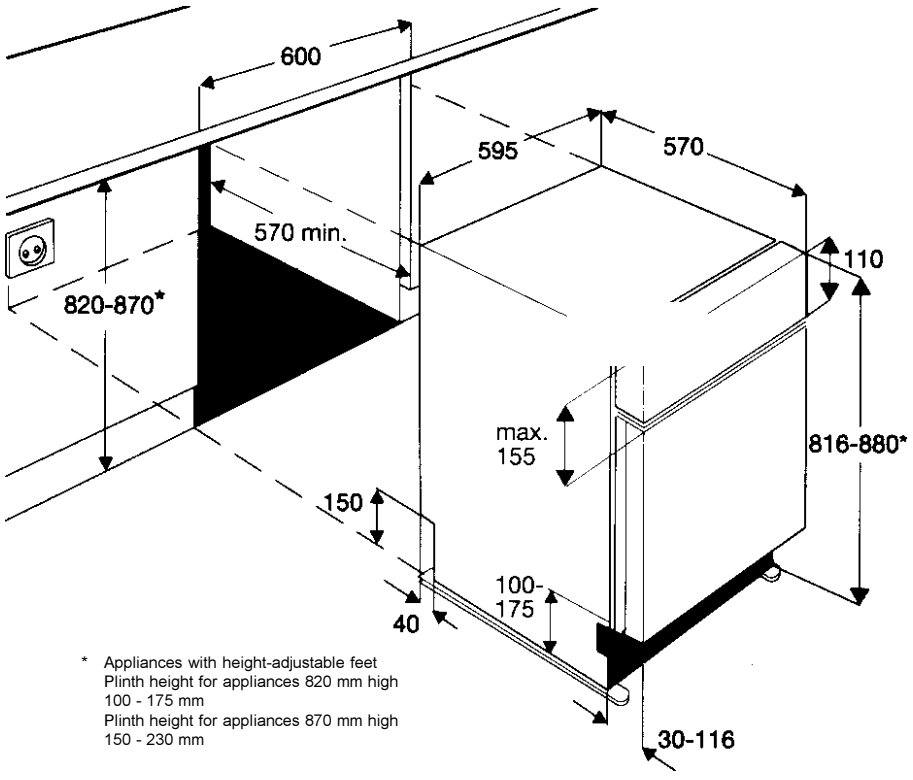
1. Control panel

2. Dimensions

Build-in dimensions for Integrated Dishwashers

ÖKO-FAVORIT



* Appliances with height-adjustable feet
Plinth height for appliances 820 mm high
100 - 175 mm
Plinth height for appliances 870 mm high
150 - 230 mm

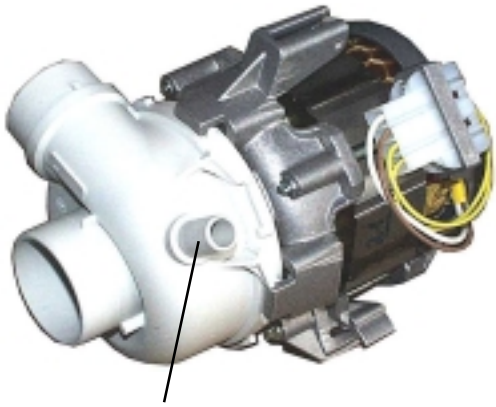
3. Components

3.1 Electronic

On electronic models, a micro processor controls all components, this is done using triacs. The electronic also memorizes all programme data.

The heating is switched by a relay on the electronic board.

3.2 Circulation Pump



The circulation pump is driven by an asynchronous motor with an auxiliary winding. The auxiliary winding ist in circuit with a 3 mF capacitor. A tacho generator is used for speed control.
There are three speeds for rinsing.
2800 1/min, 2200 1/min, 1900 1/min, 1700 1/min, 1600 1/min,
Power output 50 W.

Only for models with ceiling spray arm

3.3 Drain Pump

The drain pump is driven by a synchronous motor.

Power output 26 W.
Pump rate 15 l/min.

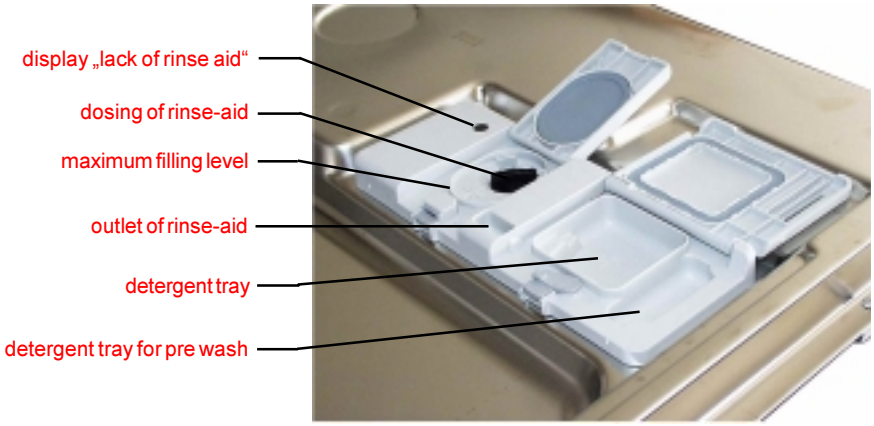
3.4 Flow Heater

The flow heater heats the water to the required temperature. During the wash cycle, water is contantly passing through the flow heater.

Power output	2000 W
Resistor	25 Ω
Protector	98 °C ± 5 K
Thermal fuse	260 °C

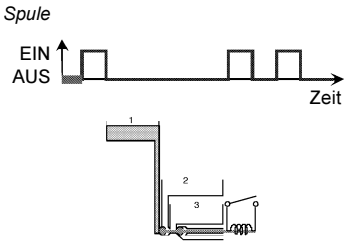
3.5 Detergent dispenser

Dosing of detergent
prewash 10 ml
wash 20 - 30 ml
Dosing of rinse aid
position 1 - 6 2 ml - 7 ml
Capacity
140 ml

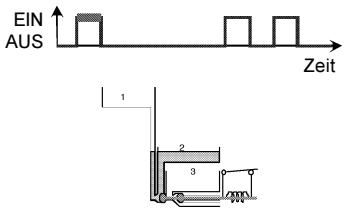


coil

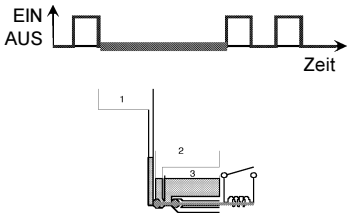
The detergent compartment 1 is filling corresponding to the set dosing quantity when the door is open. Possibly existing rinse-aid in compartments 2 and 3 flows back into the storage tank of the rinse-aid. The detergent trays are filled up. The door will be closed and the detergent for prewash will be rinsed out through the slots in the detergent dispenser cover.



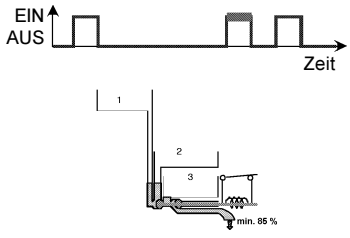
During the washing cycle the coil is switched on and the detergent compartment cover releases the detergent. The rinse-aid flows from compartment 1 into compartment 2.



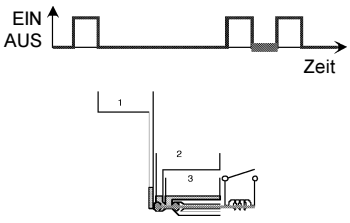
After switching off the coil, the rinse-aid flows from compartment 2 into compartment 3.



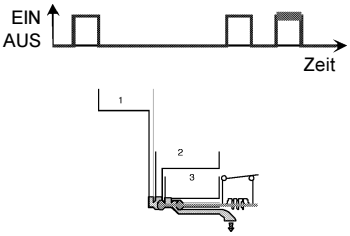
During the rinse cycle, the coil will be switched on when the rinse is warmed and the rinse-aid runs from compartment 3 into the rinse tank. At the same time, the remaining rinse-aid (15 %) runs from compartment 1 into compartment 2.



With the coil switched off, the rinse-aid flows from compartment 2 into compartment 3.



During the rinse cycle, the coil is always switched on twice. When it is switched on the second time, the remaining rinse-aid flows into the rinse tank.



3.6 NTC-Temperature Sensor

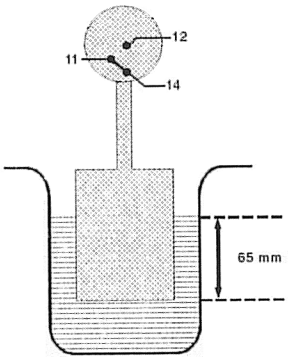
Temp.	Resistor
10°C	9653 Ohm
25°C	4843 Ohm
60°C	1204 Ohm
90°C	445 Ohm

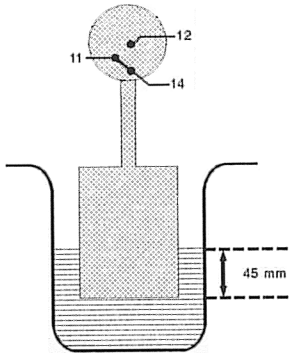
3.7 Pressure Switch

The pressure switch controls the water level.
Without water, contact 11 - 12 is closed.

fN	Switch point with level	65 mm Ws
	Reset point with level	45 mm Ws

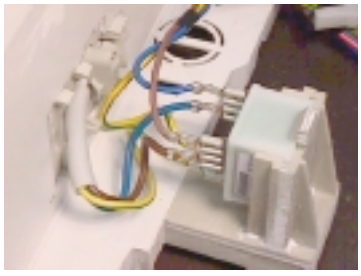
The pressure switch is not adjustable.

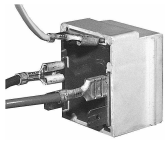


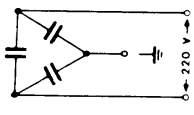


3.8 Interference Filter

The interference filter is connected in the terminal board parallel to the mains feed.







3.9 Spray arms

The new cutlery basket is placed at the upper diswasher basket. The celling sprayarm sprays the water directly onto the cutlery basket and tguarantees an excellent washing result with the cutlery placed in that basket.

Celling spray arm

upper spray arm

lower spray arm

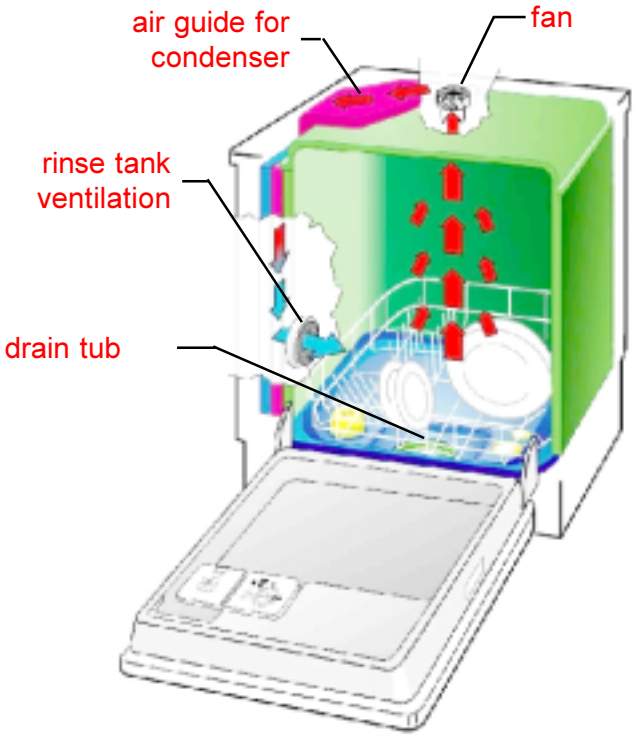
3.10 Drying fan

The new drying fan is located at the top on the rinse tank.

Function mode of the condensing drying

Rinse tank, fan and regenerating dosing with condenser form a closed circuit. The humid air is sucked from the top of the rinse tank and blown through an air guide between rinse tank and regenerating dosing. Thereby the air gets dry and the condensate is guided to the drain tub.

The dry air gets through the rinse tank ventilation into the rinse tank. During the drying phase, the condenser is additionally cooled with 1 liter of water.



3.11 Regenerating dosing with condenser

With every filling step, the condenser cools down due to the cold incoming water. Therefore another 1 liter of water is required during the drying cycle.

1. softener unit
2. regeneration dosage chamber

3.11.1 Water softening/regeneration

The water softening can be adjusted in 10 levels. The incoming water flows until positon 5 to 85 % through the softener which works according to the ion exchange principle. The ion exchanger is filled with small epoxy resin balls. The resins exchange the hardness constituents (calcium and magnesium), for sodium ions.

When all the sodium ions are used up, it is necessary to regenerate the softener. This is done by flushing a brine solution through the softener.

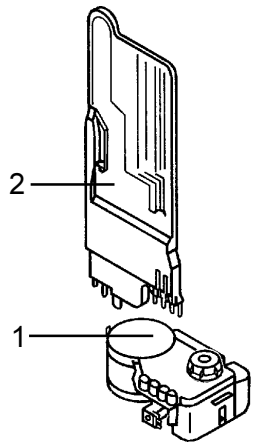
Afterwards the softener is washed out with fresh water and is now fully effective.

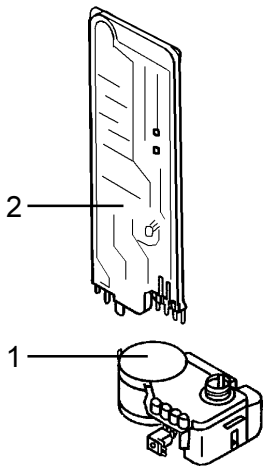
Depending on the water hardness, regeneration is only necessary after several wash cycles.

The remaining 15 % of water flow through the rinse tank ventilation directly into the appliance.

From setting of level 6, the whole water flows through the softener. For this purpose you also have to set mechanically from 0 to 1 with the regenerating dosing.

With the setting of level 9, it is additionally regenerated after the washing in a rinse cycle. With the settings 1 to 8, it is regenerated after the final rinse depending on need. The softening system is designed for a water hardness of up to 70 °dH.

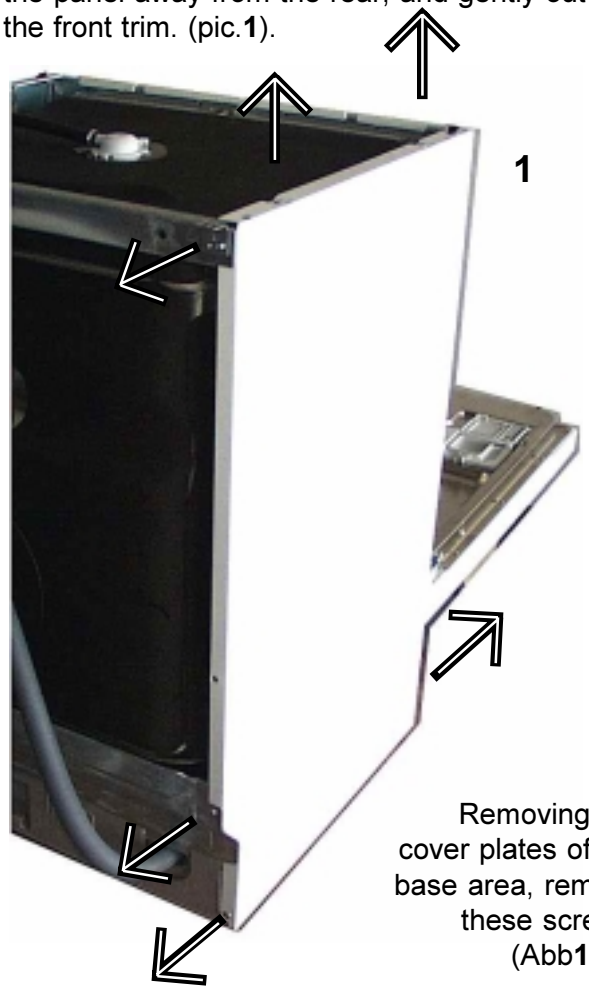




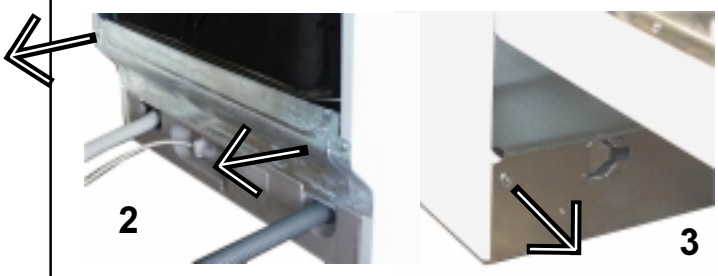
4. Service tips

4.1 Open the housing

To remove side panel remove fixing screws, pull the panel away from the rear, and gently out of the front trim. (pic.**1**).



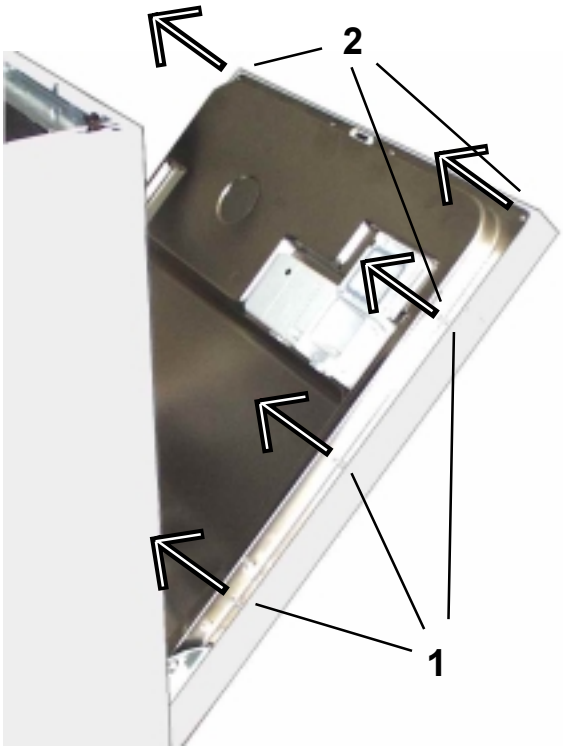
Removing the cover plates of the base area, remove these screwst (Abb**1**+**2**).



You need
Torx epuipment

Remove the screws (**1**) to pull the outer door away.

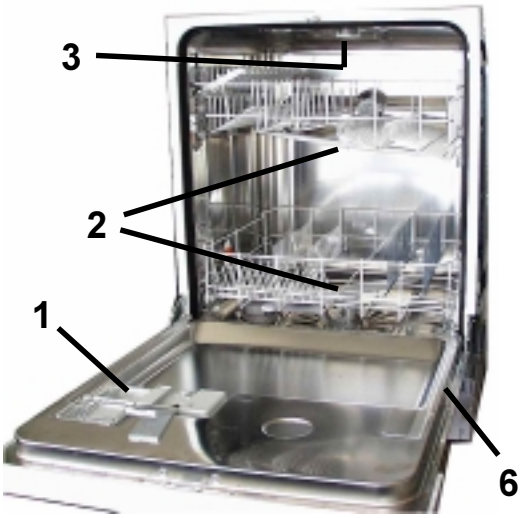
To remove the panel, remove the fixing screws (**2**) .



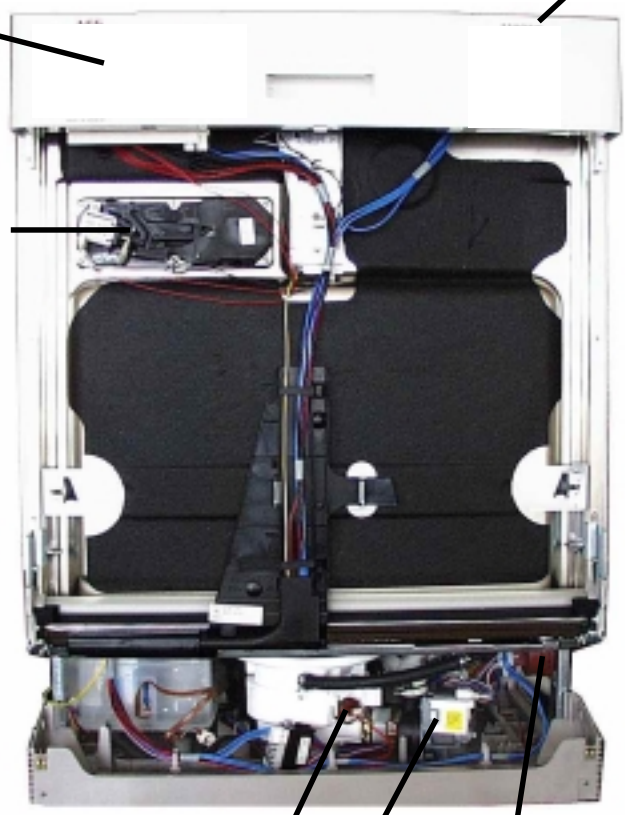
4.2 Position of Components

Detergent dispenser (**1**)
Spray arms (**2**)
Roof-mounted shower (**3**)
Salt container (**4**)
Filter (**5**)

Type plate (**6**)



Electronic EDW 1003 (**1**)
and ON/OFF-switch (**2**)
are clipsed



Detergent dispenser (**3**)

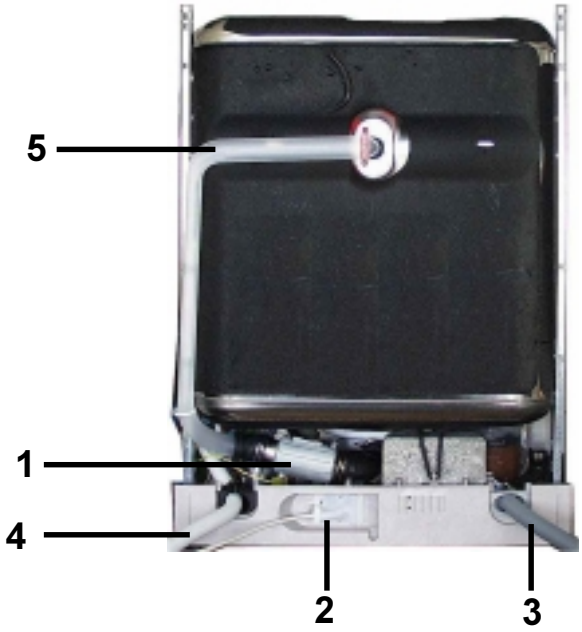
Thermal sensor (**4**)
Drain pump (**5**)
Pressure switch (**6**)

Back side view

- Flow heater (**1**)
- Terminal box (**2**)

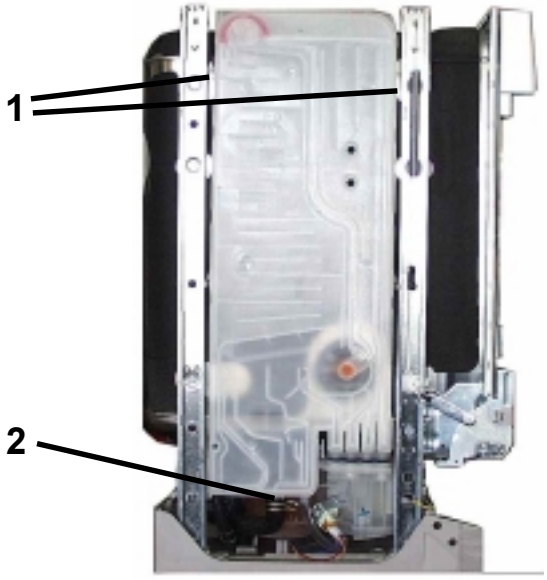
- Inlet hose (**3**)
- Drain hose (**4**)

- Water inlet for above spray arm (**5**)



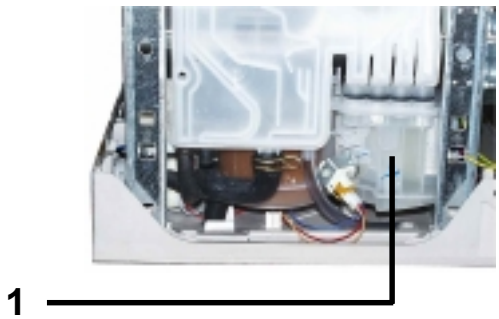
Removing the detergent dosage chamber:

- disengage locking tabs (**1**), disconnect hoses (**2**)
- holding the top of the chamber, pull upwards disengaging it from the softener.



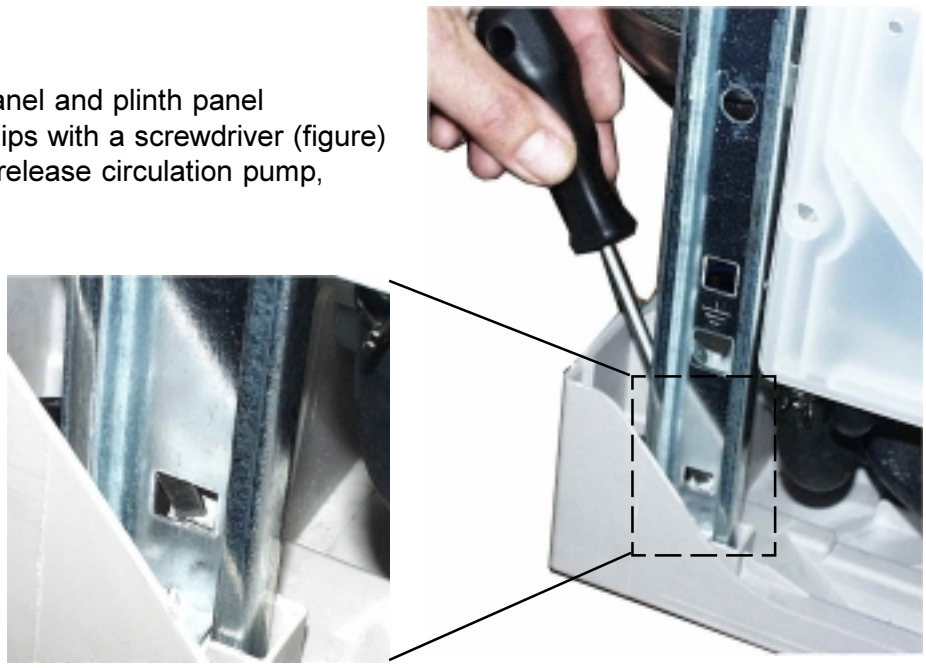
Removing the softener unit :

- remove the securing nut located under the salt cap.
- press softener (**1**) down and remove it through the front from the base area
- CAUTION if accessible release reed switch.



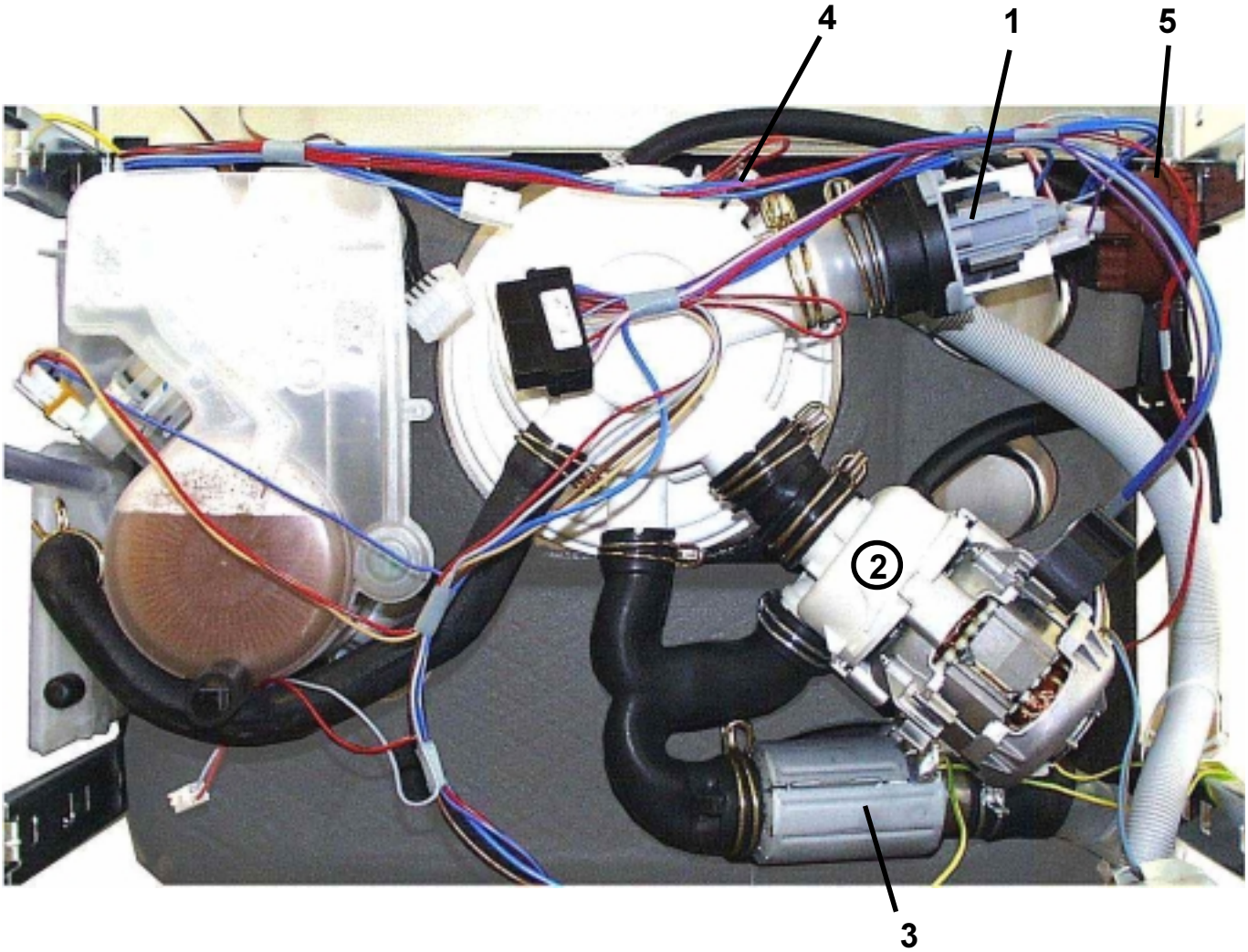
Removing the base :

- remove side panels, rear panel and plinth panel
- gently release base fixing clips with a screwdriver (figure)
- take off base carefully and release circulation pump, electronic and heater relay
- disconnect the float switch

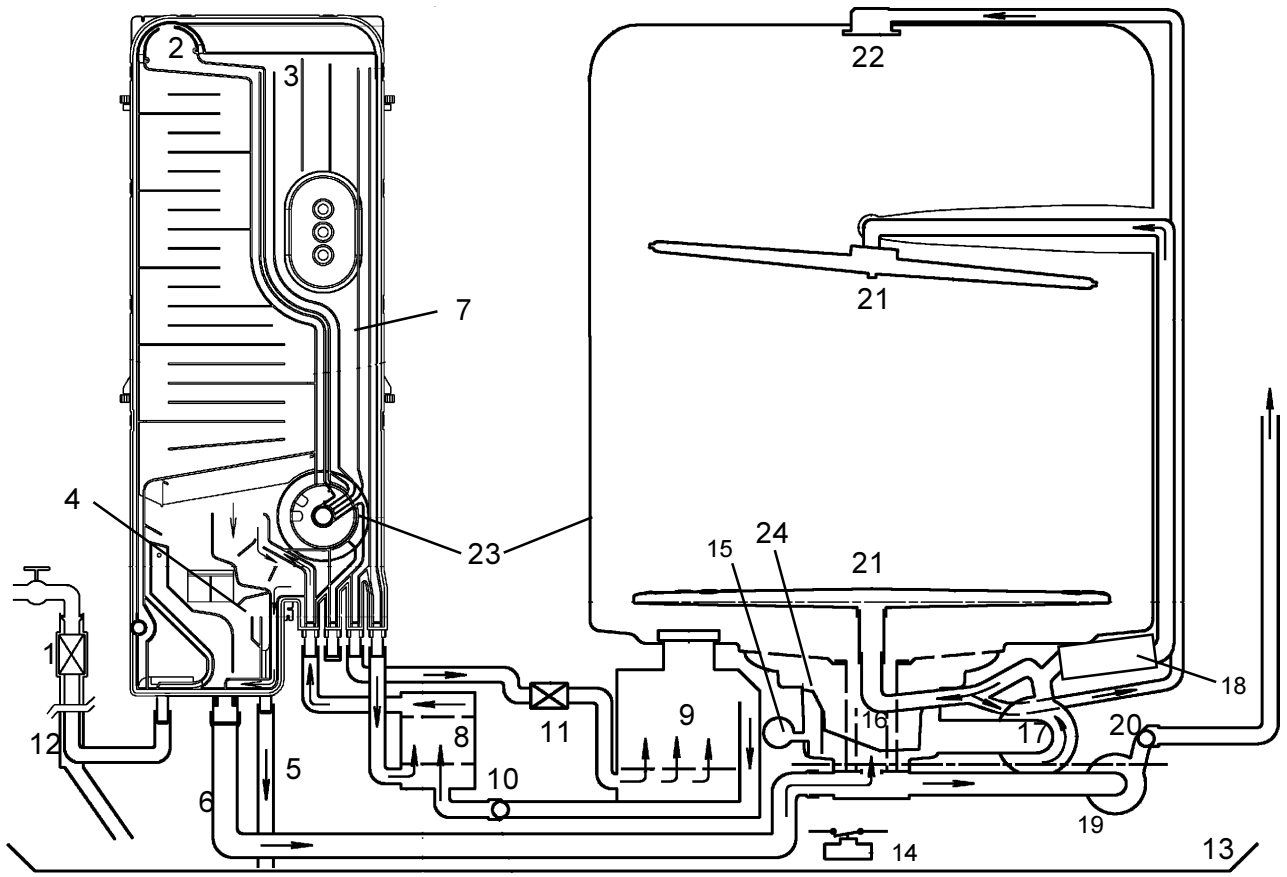


With base removed, following components are accessible:

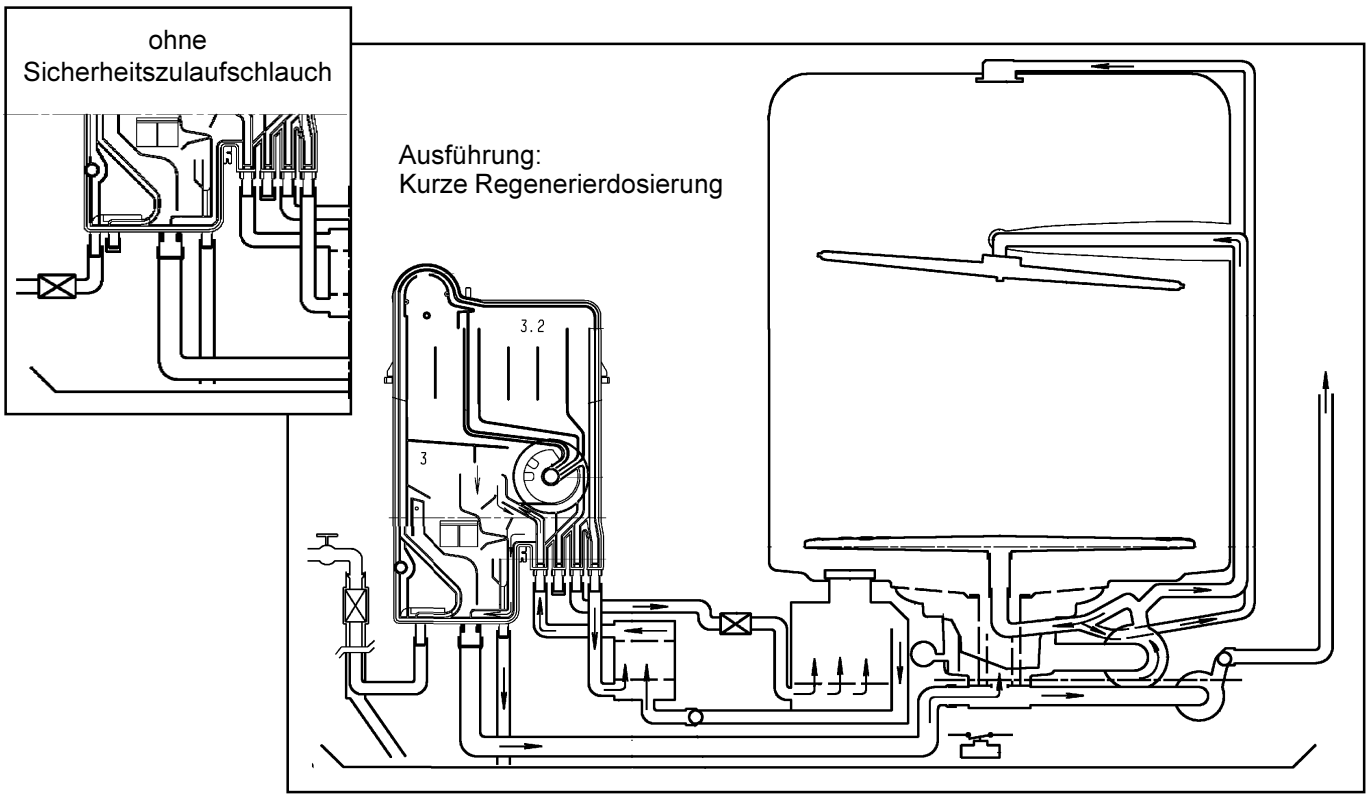
- Drain pump (1)
- Circulation pump (2)
- Flow heater (3)
- Temperature sensor / Turbidity sensor (4)
- Pressure switch (5)



5. Water Course Scheme



1	Inlet valve	10	Non-return valve salt container	18	Flow heater
2	Air break	11	Regeneration valve	19	Drain pump
3	Regeneration water dosage	12	Safety inlet hose	20	Non-return valve
4	Overflow safety level	13	Base tray	21	Spray arms
5	Safety overflow	14	Float switch	22	Roof-mounted shower
6	Inlet to sump from regeneration dosage chamber	15	Pressure switch	23	Tub vent
7	Regeneration dosage chamber	16	Filter	24	Sump assembly
8	Softener	17	Circulation pump		
9	Salt container				



5.1 All-Around Water Protection

Aqua-Control Inlet Hose

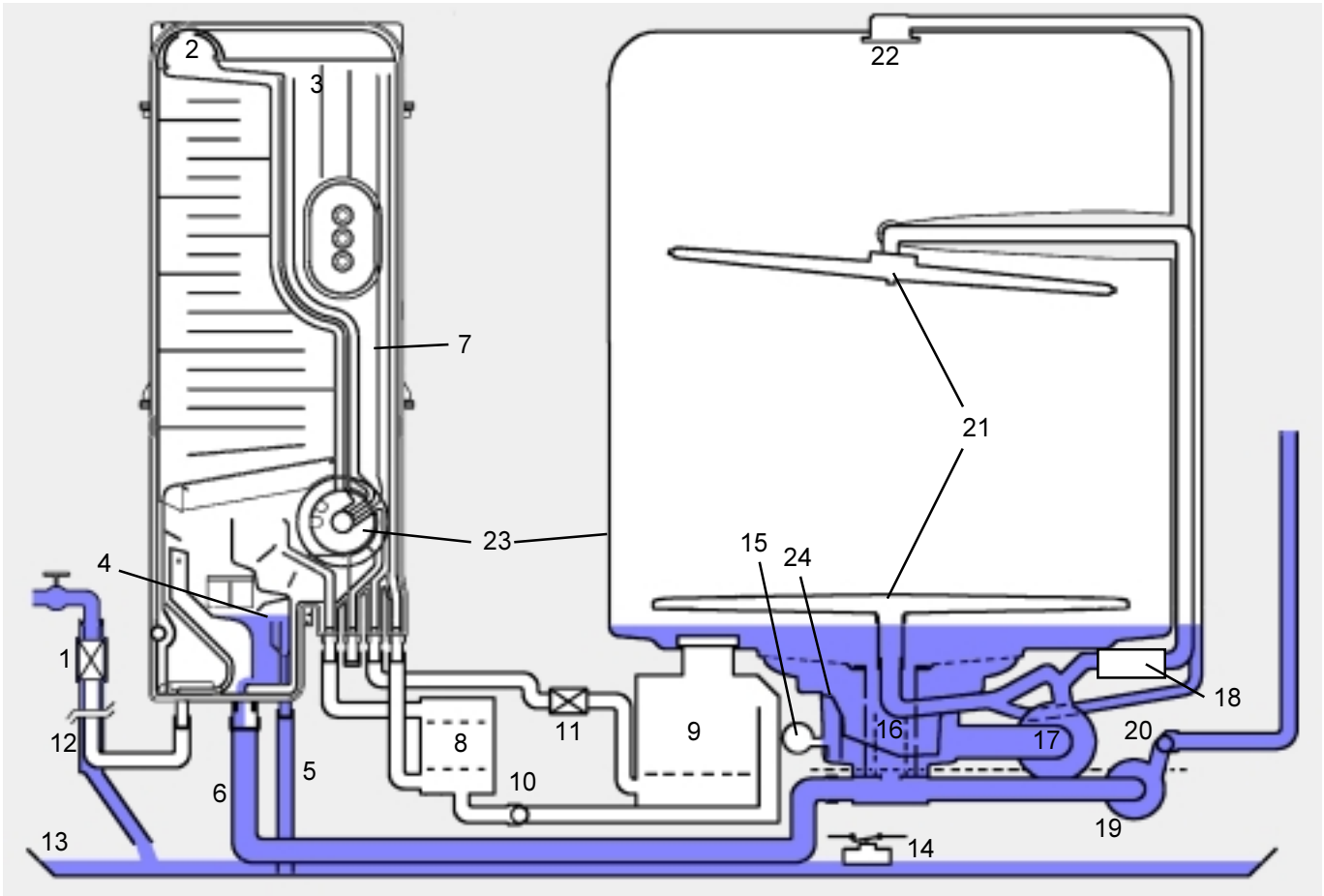
The inlet hose has a double-wall construction. The inner hose is equipped with a flow restrictor built into the tap connection, and has a flow rate of 4 litres per minute. The inlet valve (1) is located in the base of the dishwasher. The safety outer hose (12) is connected to the regeneration chamber. If the inner hose should burst, the water passes into the tub. The safety pressure switch activates the drain pump and decreases the waterlevel down to „normal“ level. An additional overflow protection is a defined overflow through the regeneration chamber. The water flows into the bottom tray and activates the float switch, which energises the drain pump. This drains the dishwasher preventing water damage.

Safety level

If the safety level is reached by over-fillling, the safety pressure switch starts the drain pump. The water is only drained until it has reached the normal level because the reset point of the safety pressure switch is above the switchpoint of the normal pressure switch.

Leakage Protection

The anti-flood switch in the base tray will activate the drain pump and drain the water from the tub in the event of an internal leakage. If the float switch is activated, all electric components are switched off except the electronic and the drain pump.



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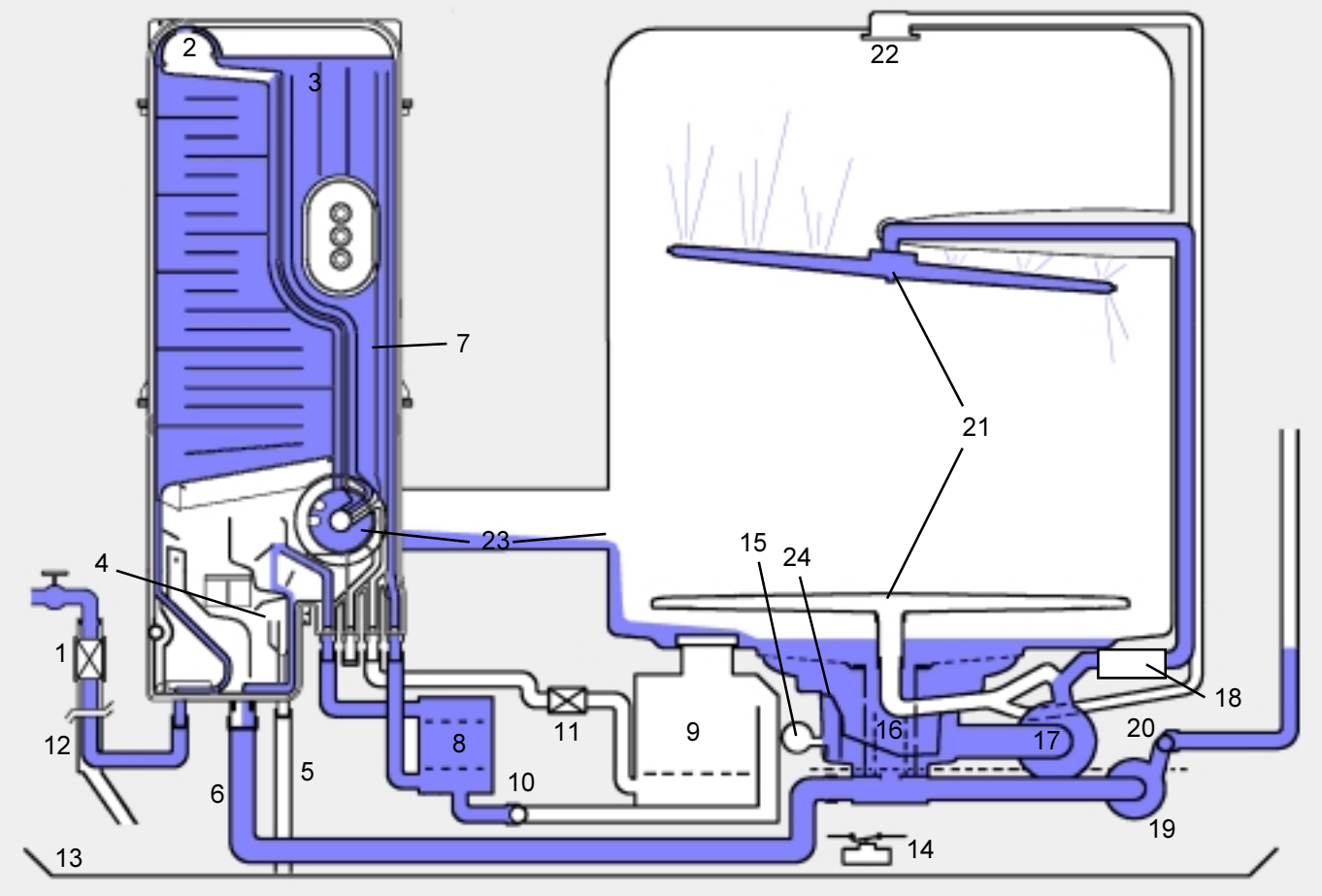
6	Inlet to sump from regeneration dosage chamber	15	Pressure switch	23	Tub vent
7	Regeneration dosage chamber	16	Filter	24	Sump assembly
8	Softener	17	Circulation pump		
9	Salt container				

5.2 Water Inlet

The water flows into the regeneration dosage chamber (7) via inlet valve (1), over air break (2), into regeneration dosage chambers (3) into softener (8). At this point the water divides. 1/4 of the water enters the tub through the vent (23). 3/4 of the water enters the sump (24) through hose (6).

The level control chamber built into the sump operates the pressure switch (15).



1	Inlet valve	10	Non-return valve salt container	18	Flow heater
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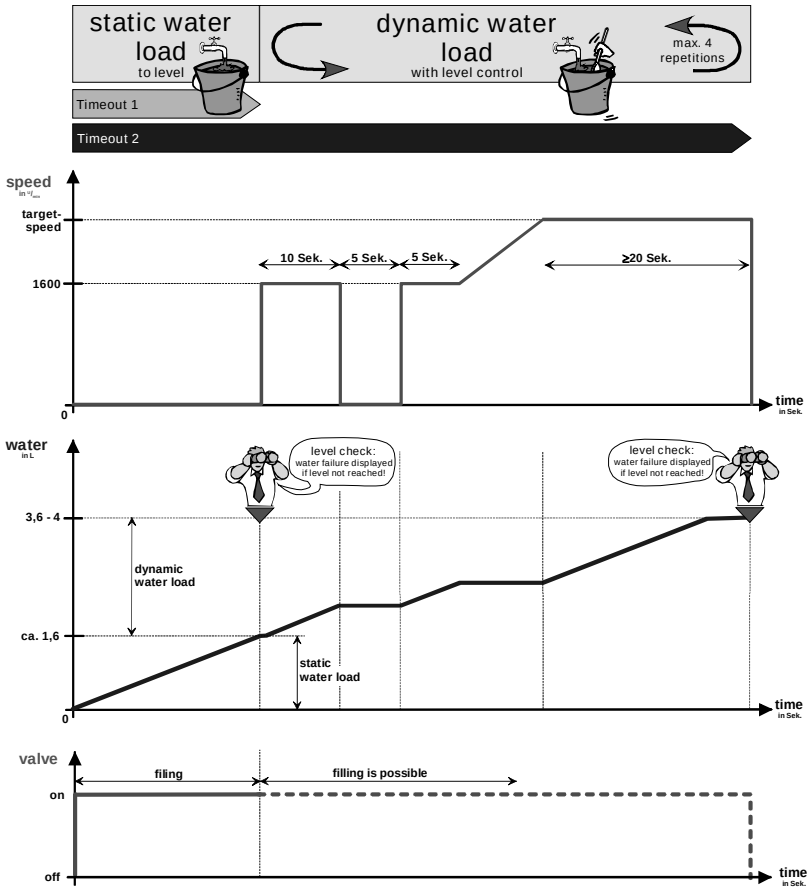
7	Regeneration dosage chamber	16	Filter	24	Sump assembly
8	Softener	17	Circulation pump		
9	Salt container				

5.2.1 Water load steps (Example)



Static filling

- Static filling until pressure switch point.
  failure code:
  If this point isnt reached after max. 2 minutes (Timeout 1), a failure code is displayed and the program is stopped.

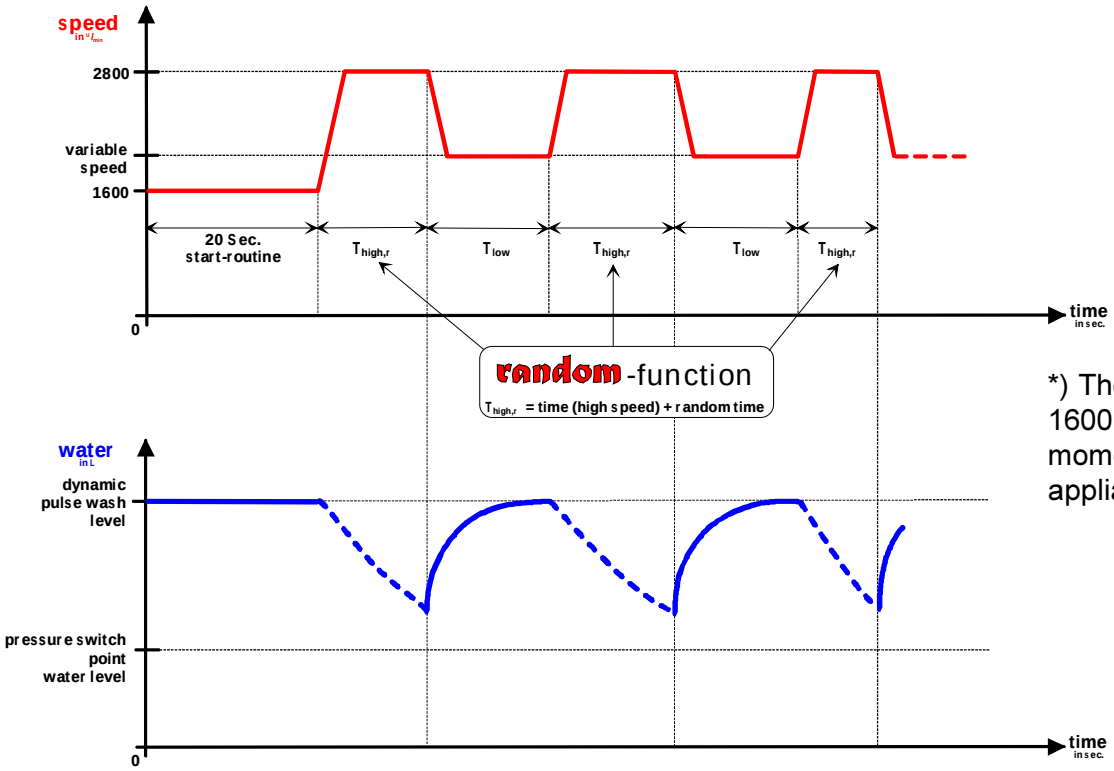
Dynamic filling

- 10 seconds filling at reduced circulation pump speed
- 5 seconds pause
- 10 seconds filling at reduced circulation pump speed
- filling with increasing circulation pump speed. As soon as the target speed has been reached, it is filled up to the pressure switchpoint.
  Failure code:
  If this dynamic switchpoint isn't reached within total 4 minutes (Timeout 2), the dynamic filling can be repeated 3 times. Only after non-successful repeating 3 times, a failure code is displayed and the program is stopped.

*) The target speed is dependent on the subsequent pulse wash.

pulse wash	pulse 2800 1/min	Pause 1600 1/min	target speed in dynamic filling
1	0,9 sec	4,5 sec	2200 1/min
2	0,6 sec	3 sec	1900 1/min
3	0,3 sec	1,5 sec	1700 1/min

New pulse wash with „random“ functionality



*) The variable speed is 1600 1/min at the moment and equal to all appliances.

Random-function

$$T_{high,\,r} = T_{high} + T_r$$

$$T_{low} = T_{high,\,r} + \text{Ratio}$$

$T_{high,r}$ = time for high speed (calculated with random funktion)
T_{high} = time for high speed (cycle definition)
T_r = random time
T_{low} = time for low speed
Ratio = factor for low speed (eeprom definition)

Circulation

The circulation pump (17) pumps the water simultaneously into the ceiling shower (22) and into both spray arms (21). The water is filtered in the sieves (16) and led to the circulation pump.

Function of the new pulse wash with “random” functionality

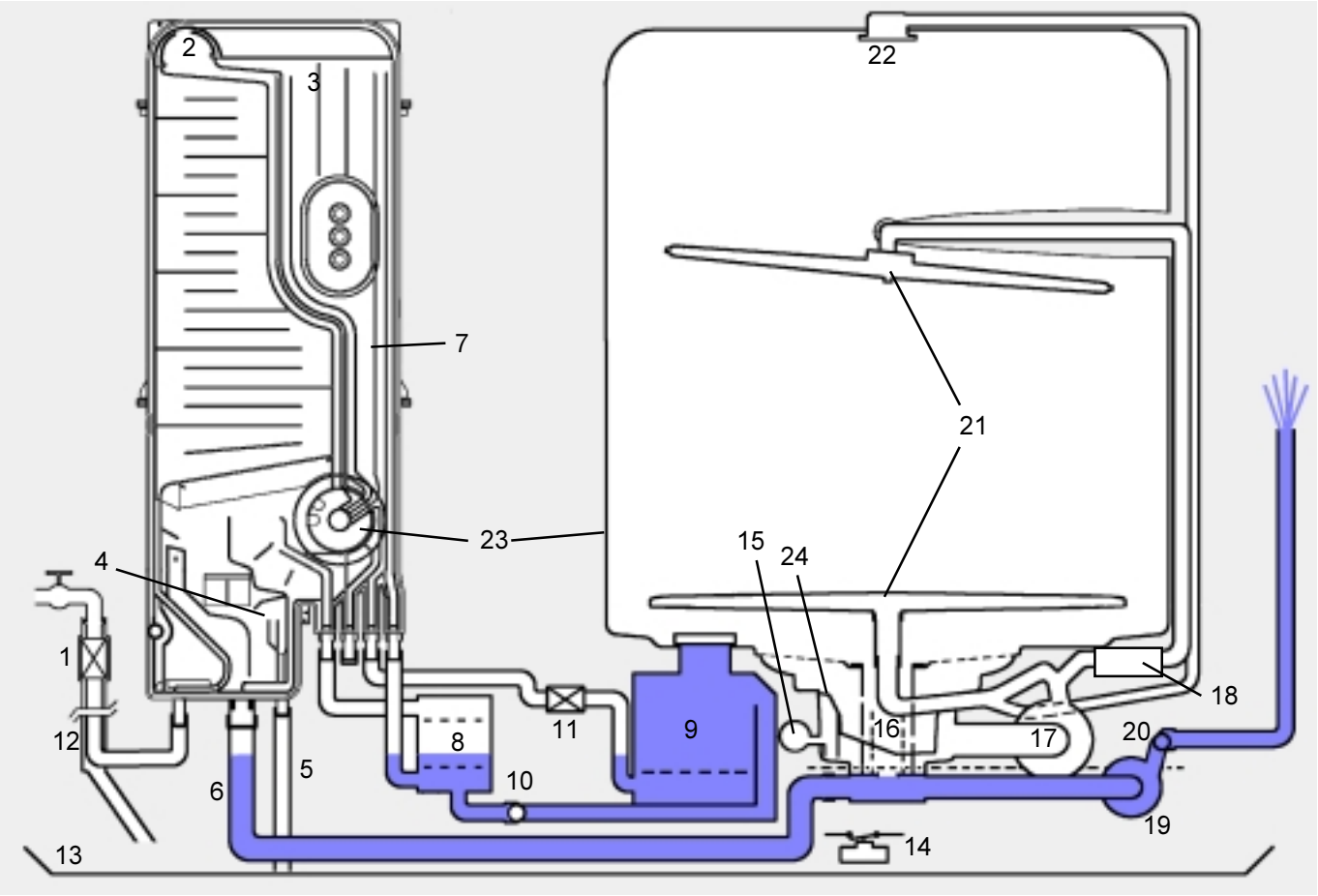
After the filling steps, the circulation pump is running at two rotational speeds.

Pulse Wash	Pulse time 2800 1/min		Pause 1600 1/min		Use with Wash Cycles
	Definitive Time	+ Random Time	Definitive Time	+ Random Time	
1	0.9 sec	0 - 0.3 sec	4.5	0 - 1.5 sec	prewash intensive
					wash intensive
2	0.6 sec	0 - 0.3 sec	3	0 - 1.5 sec	wash and intermediate wash
					prewash normal
3	0.3 sec	0 - 0.3 sec	1.5	0 - 1.5 sec	rinse

The ratio of pulse time and pause is always 1 : 5.

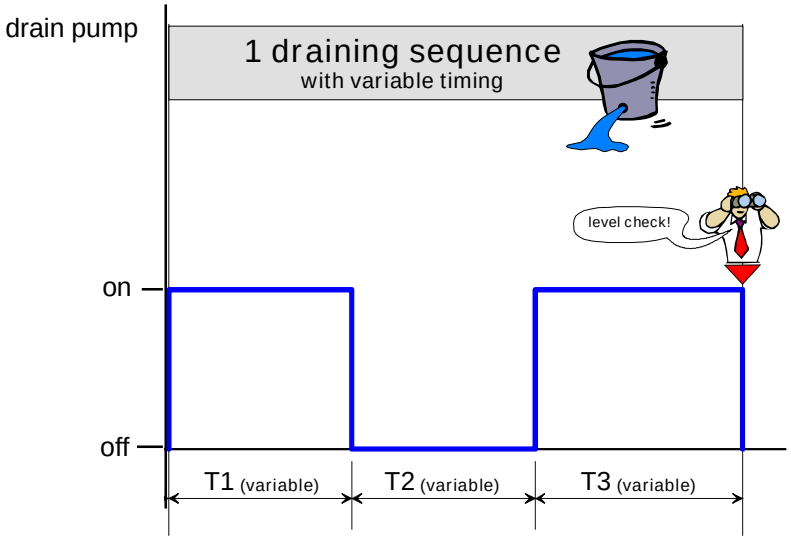
5.3 Draining

During the wash cycle the water is pumped out at various stages. First the draining water cleans the filters (16). The filters are open at the bottom which allows any soilage to be rinsed off sufficiently. There is a non-return valve (20) at the inlet connection to the drain pump (19). This valve prevents the water



1	Inlet valve	10	Non-return valve salt container	18	Flow heater
2	Air break	11	Regeneration valve	19	Drain pump
3	Regeneration water dosage	12	Safety inlet hose	20	Non-return valve
4	Overflow safety level	13	Base tray	21	Spray arms
5	Safety overflow	14	Float switch	22	Roof-mounted shower
6	Inlet to sump from regeneration dosage chamber	15	Pressure switch	23	Tub vent
7	Regeneration dosage chamber	16	Filter	24	Sump assembly
8	Softener	17	Circulation pump		
9	Salt container				

Sequence draining with pressure switch level check



Drain Cycle	T1	T2	T3
First draining before every wash cycle	45 sec	15 sec	20 sec
Draining after the wash cycles	30 sec	20 sec	10 sec

New draining with sequence draining

- The draining step contains of 3 time sequences.
  In the middle sequence, during time T2 the drain pump is stopped.

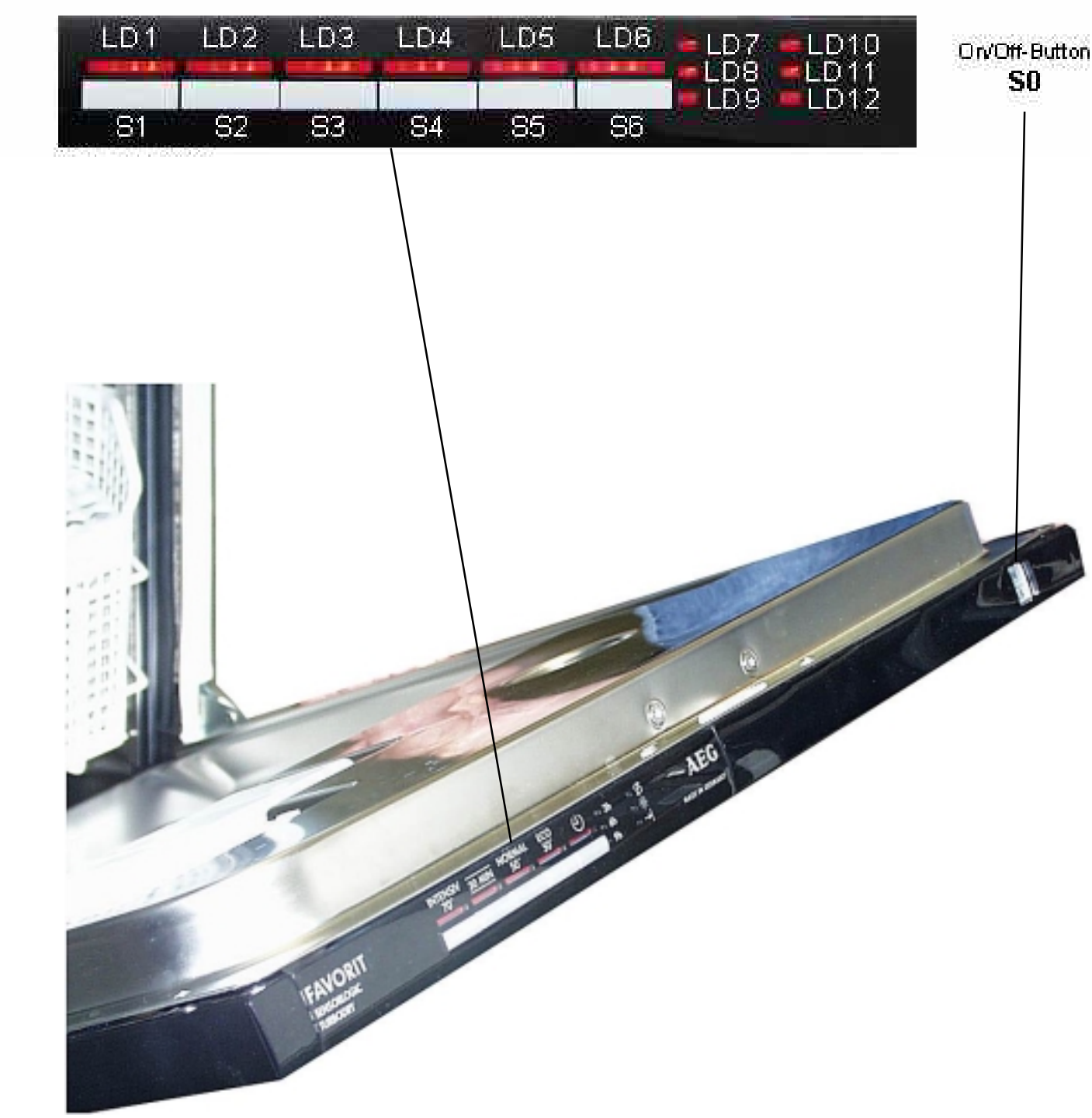
- At the end of the drain step, the water level is checked.

- If the switch back is reached, the drain step is terminated.
  If the switch back isn't reached, the drain step is repeated.

- A failure code is displayed, if after 2 drain steps, the switch back couldn't be reached.
  In this case, the program is stopped.

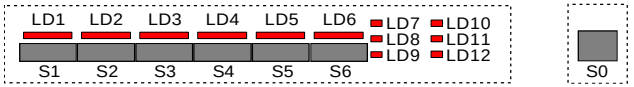
6. Electronic EDW 1003

6.1 In- and output elements



6.2. General information

EDW 1003 / VGA



- **Equipment in the panel area**
  (see description page B1)

  Possible equipment:
  - Separate ON/OFF switch S0 without optical confirmation.
  - 6 keys S1 to S6 to select programs or options with the corresponding LEDs
    All keys are free and can be programmed without any restriction by the programming of the appliance variant.
  - 6 LEDs (LD7 to LD12) for SZV, PAA etc.

  ⚠ **Absolutely necessary minimum equipment:**
  Keys S0 (ON/OFF) and the first 3 keys S1 to S3 with the corresponding LEDs and the "END" LED.
  The keys S1 to S3 are absolutely necessary to select all customer respectively service functions, such as setting of hardness!

- **Variant-depending existing equipment:**
  - 3-step start-time preselection with display by LEDs LD7 to LD9
    The time steps are 3h - 6h - 9h
  - LED display for salt
  - LED display for rinse-aid
  - LED display for END

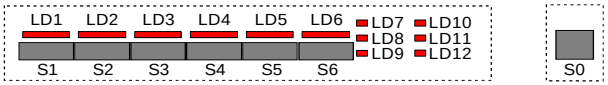
- **Functions which can be adjusted variably by the customer via the control panel:**
  (see description page B 11-13)
  - display and alteration of water hardness by coded flashing of "END" LED
  - Switching on/off of rinse-aid addition. Display by coded flashing of the "END" LED
  - Switching on/off of signal sound "END". Display by coded flashing of the "END" LED

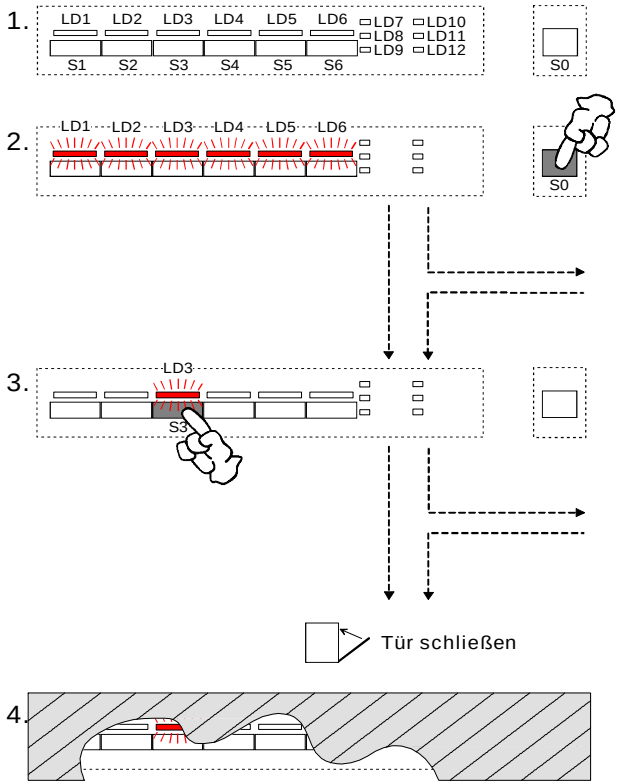
- **Miscellaneous:**
  - regeneration depending on need
  - manufacturing test routine
  - several service functions (fault memory, single actuator selection, ...)
  - alternatively with or without fan drying
  - aqua control system in different versions
    depending on electr. and mech. components and the corresponding variant programming

- **Possible selectable program options:**
  - start-time preselection
  - half load "small quantity" as automatic system or with key
  - additional washing cycle
  - 3 in 1 (special tablet program)
  - senitize

6.3. Input philosophy: Program selection

EDW 1003 / VGA





1. Appliance in switched-off condition

2. Switch on appliance with ON/OFF key S0 -- "prestart" mode
   - Appliance is in the prestart mode
   - All LEDs of the program keys and the "SZV" (start-time preselection) key are lit, the keys can be selected.

Selection of a start time possible

(see description page B 4 / "Input philosophy start-time preselection")

3. Select program by pressing the corresponding key.
   - Corresponding program LED is lit.
     Within 3 seconds it is possible to alter or additionally select an option.

Selection of a start time possible

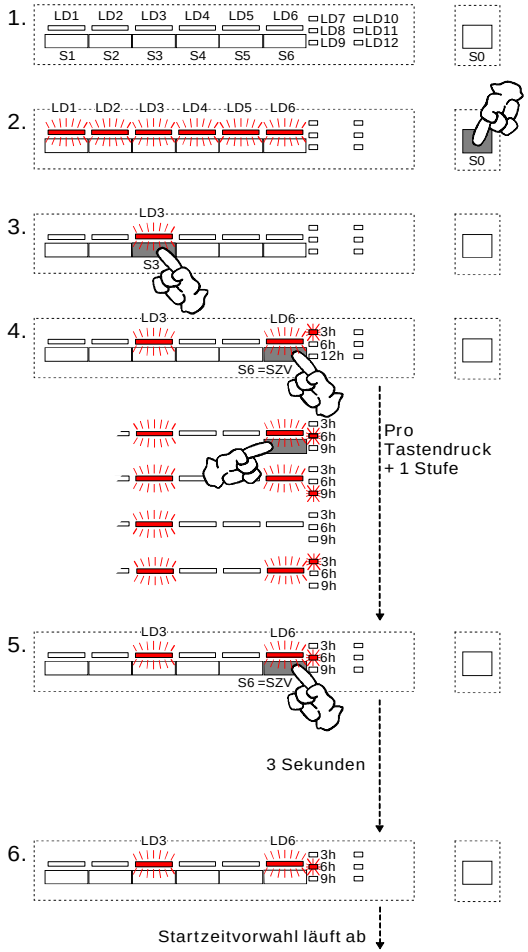
(see description page B 4 / "Input philosophy start-time preselection")

4. Program starts only when the door has been closed.
   Up to this moment it is possible to alter or additionally select an option at any time.

   When the door has been closed, the program will start automatically.
   - Corresponding program LED is lit.

6.4. Input philosophy: select start time

Variant A
time preselection after program selection



🡸 Variant A

1. Appliance in switched-off condition
2. Switch on appliance by ON/OFF key S0
   - Appliance in "prestart" mode
   - All LEDs of program and option keys are lit, the keys can be selected.
3. Select program by pressing the corresponding key.
   - Corresponding program LED is lit.

4./5. Actuate start-time preselection key within 3 seconds
   - Key LEDs of program and "SZV" are lit
   - The "SZV" is indicated by the first lighting time LED.

   Any additional key pressure causes the start time scrolling by
   1 step 3h - 6h - 9h - "SZV" LEDs off (SZV=0h) - 3h - 6h - ...

6. 3 seconds after the last actuation of the "SZV" key the adjusted start time gets active and runs down after the door has been closed.
   - The key LEDs of program and "SZV" are lit
   - The adjusted "SZV" is indicated by the lighting time LED.

Variant B 🡺

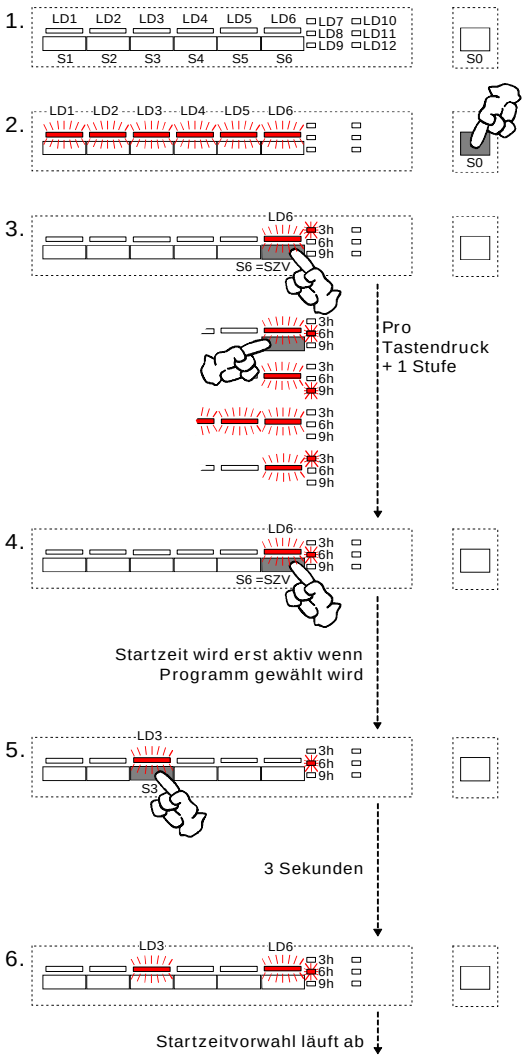
1./2. like variant A

3. Actuate start-time preselection key.
   - LED of "SZV" key is lit.
   - The "SZV" is indicated by the first lighting time LED.

   Any additional key pressure causes the start time scrolling by
   1 step 3h - 6h - 9h - "SZV" LEDs off (SZV=0h) - 3h - 6h - ...
   (With the setting 0h all LEDs of program and option keys are lit)

4. As long as no washing cycle is selected, the display remains as is. The selected start time is not active!
5. Select program by pressing the corresponding key.
   - Program LED and time LED are lit.
   - The LED of the start-time preselection key goes out
6. 3 seconds after the last actuation of a key the adjusted start time gets active and runs down after the door has been closed.
   - The key LEDs of program and "SZV" are lit
   - The set "SZV" is displayed by the lighting time LED.

Variante B
time preselection before program selection



6.5. Input philosophy: program sequence

⚠ A special feature with the fully integrated appliances is the condition that there are no control and display elements visible when the door has been closed. That is why important information for the customer, such as the cycle end or information on faults is indicated acoustically in addition..
This result in a few differences for the start, run and end of a cycle in comparison with normal upright, substructure resp. integrated variants of appliances.

- **Cycle start**
  - The cycle starts finally only when the door has been closed!
  - After the door has been closed and the cycle has started successfully it is no more possible to make any alterations etc.
    But to make changes in the program setting in exceptional cases, you have to open the door during the running cycle.
    - ☞ *interrupt resp.delete cycle*
      (see description page B 6 / Delete cycle")
    - ☞ *change resp. alter cycle*
      (see description page B 7.2 / "Reselect cycle")

- **Cycle run**

  ⚠ As already described above there are no displays visible with VGA appliances caused by the type of construction. The optical displays are selected but hidden by the worktop.

  - The LEDs of the selected washing cycle are lit during the whole cycle run.
  - There are no displays which indicate the cycle state.

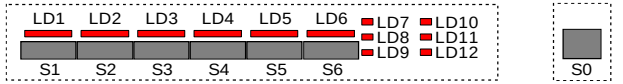
- **Cycle end**

  ⚠ As already described above there are no displays visible with VGA appliances caused by the type of construction. The optical displays are selected but hidden by the worktop.

  - When the cycle has ended, an acoustic signal will sound.
    The acoustic "end" signal is a whistling sound with the following interval:
    15 seconds on - 3 minutes off - 15 seconds on - 3 minutes off - 15 seconds on - completely off
    The "end" signal is cleared immediately by opening the door.
  - The confirmation LED of the program key of the run-down cycle and the "END" LED are lit, but are cleared immediately by opening the door.
  - When the cycle end has been reached, it is possible to delete the run-down cycle by opening and closing the door. After closing the door, the appliance is automatically again in the "prestart" mode, i.e. a new program could be selected again at once.
  - In order to switch off the appliance completely you have to actuate the ON/OFF key S0.
    Even in this case, the run-down cycle is deleted. All displays go out.

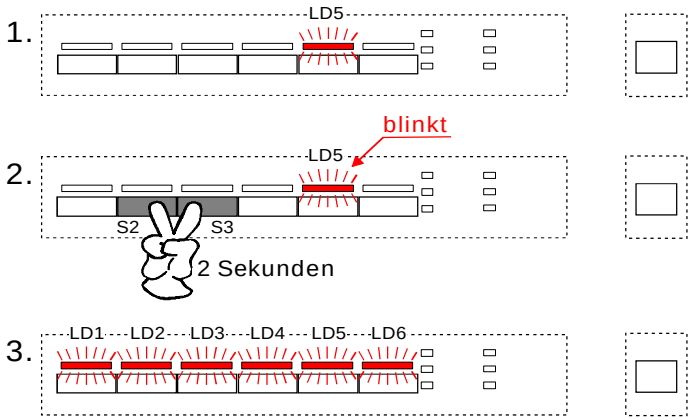
6.6. Input philosophy: delete program

EDW 1003 / VGA



A selected or already started washing cycle can be delted at any time during normal operation

- **Delete program (using the reset function)**



⚠ **Remaining function always with key S2 and S3**

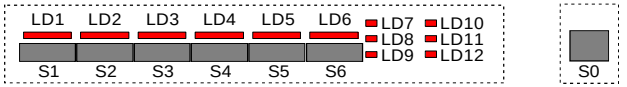
1. Cycle is running

2. Actuate reset keys S2 and S3 for about 2 seconds
   ↳ LED of the running cycle starts flashing

3. After about 2 seconds all LEDs of program and option keys are lit. The program is deleted.
   The appliance is in the "prestart" mode.

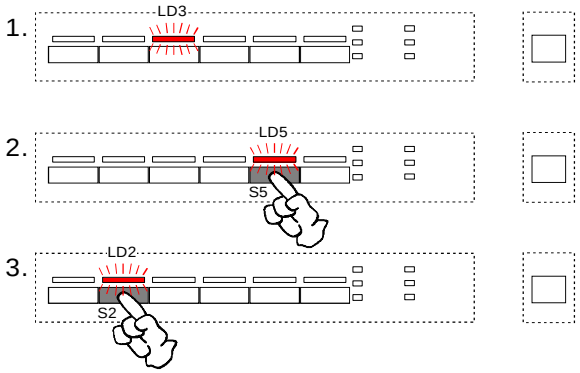
6.7.1. Input philosophy: alter program

EDW 1003 / VGA



- **Alter program during the prestart phase**

⚠ The door is still open at that moment!



1. Program has been selected but did not yet start.
   ↳ Corresponding program LED is lit.

2. By pressing the new desired program key shortly it is possible to alter directly.
   Options already selected before are cleared and have to be selected anew.
   ↳ New selected program LED is lit.

3. Before the door has been closed it can be altered as many times as one wants.

   Only when the door has been closed, the program will start automatically.

⚠ **Special feature when a start time was selected before!**

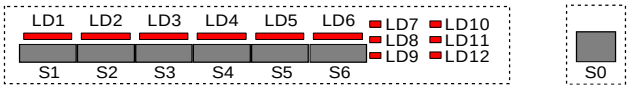
1. Program and start time have been selected but did not yet start.
   ↳ Cycle LED and "SZV" LED are lit.

2. By pressing the new desired program key shortly it is possible to alter directly.
   The already selected start-time preselection keeps to be after the alteration! Cycle options selected before however are deleted and have to be selected anew.
   ↳ New cycle LED and "SZV" LED are lit.

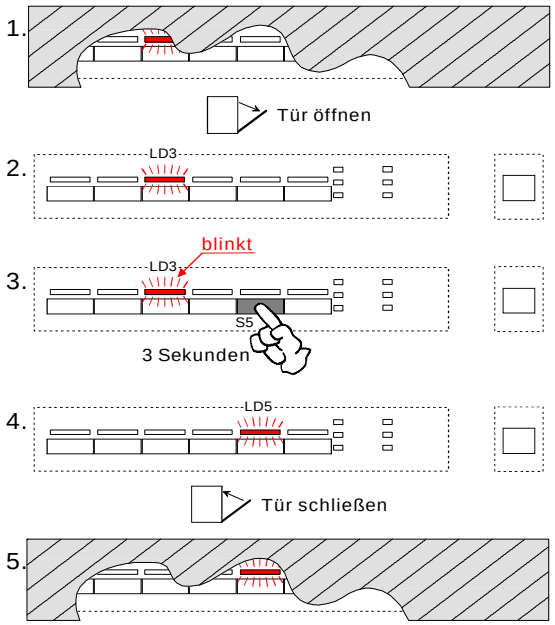
   If the selected start time is already running down (the time in the display is lit permanently) you have to press the new desired cycle key a longer time (about 6 seconds).

6.7.2. Input philosophy: alter program

EDW 1003 / VGA



- **Alter program after successful cycle start**



1. Open the door for altering the program!

2. Opening the door stops the cycle.
   ↳ Corresponding cycle LED is lit.

3. Press key of the new desired program (in our example S5) for aprox. 6 seconds.
   ↳ Display LED of the running cycle starts flashing.

4. After this time the previous cycle LED goes out and the cycle LED of the new desired program is lit.

5. The program will start automatically when the door has been closed.

⚠ If a program is altered after an already started cycle the new cycle starts generally from the beginning! This is also indicated in the display by the running time. Options already selected before are deleted and have to be selected anew.

6.8. Input philosophy - interrupt program

Interrupt program

- Using the ON/OFF key S0 it is possible to interrupt the program as long as one wants.
  The same is valid for an interruption by opening the door.
- There is no deleting function integrated in the ON/OFF key S0!
- If the cycle is interrupted using the ON/OFF key, all displays go out.
- The cycle run is continued after switching on again using the ON/OFF key S0 resp.
  by closing the door, without that another key actuation becomes necessary.
  Information: The cycle is continued with a short time delay.
- All displays and confirmations appear in the same condition as before the interruption.

What happens when opening and closing the door?

- **Appliance is switched on and in the "prestart" mode**
  - After opening the door all indications keep to be displayed on the panel. The power supply of the electronic is fully guaranteed as long as the appliance remains switched on.
- **The door is open during the running cycle**
  - After opening the door all indications keep to be displayed on the panel as long as the appliancekeeps to be switched on using the ON/OFF switch S0.
  - When the door has been closed, the appliance will start automatically and the cycle run will be continued.

⚠ Attention:

- When the 1. regeneration has been reached in the program part "drying" it is valid:
  - When the door is open longer than 30 seconds, the program is cleared.
    When the door has been closed, the appliance is automatically again in the "prestart" mode.
    A new program could be selected again immediately.
  - Switching off the appliance by pressing the ON/OFF key S0 also deletes the current program from that moment.

(see description page B 3 / "Input philosophy: program selectionl")

What happens in case of resp. after a power failure?

- In case of a power failure the appliance behaves as when it would be switched off using the ON/OFF key.
  (see description above / under "interrupt program")
- After the mains have returned the appliance behaves as after being switched on using the ON/OFF key S0.
- The cycle continues after a power failure without necessary key actuations.

6.9. Input philosophy - displays

All displays are designed as LED displays and exist depending on variant.
⚠ A special feature with the fully integrated appliances is that there are no control and display elements visible when the door has been closed.

- **Displays for program selection and option**
  - Above resp. next to a program or option key there is generally a corresponding LED to confirm the selected function.
  - They is lit pernanently during the whole cycle run.

- **Display for start-time preselection (SZV)**
  - The start-time preselection is indicated by 3 LED displays.
  - The start time is counted down to 0h in the steps predetermined by the LED graduation.
  - The start-time setting is displayed scrolling.
    3h - 6h - 9h - 0h ("SZV" LED off) - 3h - 6h - 9h - ....
  - When the start time has run down all "SZV" LEDs are off.

- **Run time display (RLA)**
  - With EDW1300 appliances this does generally not exist

- **Information displays**
  - The LED position is depending on the programming of the variant.
    They can be programmed to any LED which is not programmed with a program or option key.
  - Th

  - The information LEDs go out during the whole cycle run!

  - **LED display "salt"**
    - LED is lit in case of a lack of salt
    - LED goes out when salt has been refilled
      (Depending on the salt dissolution it can take some time until the LED goes out).
      Information: LED display "salt" goes out with hardness setting 1
      (no regeneration necessary)

  - **LED display rinse-aid**
    - LED is lit in case of a lack of rinse-aid
    - LED goes out after rinse-aid has been refilled
      Information: The rinse-aid display can be deactivated completely by the customer, depending on variant. This also deactivates the LED display "rinse-aid".

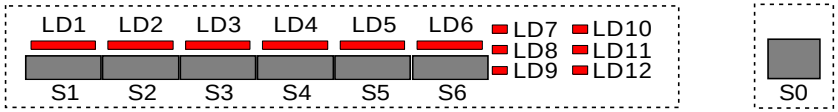
      (see description page B 12 / "Deactivation of rinse-aid addition")

  ⚠ If the option "3 in 1" is selected (special tablet option), neither the "salt" nor the "rinse-aid" LED is selected.

  - **LED display "water"**
    - LED is lit, when there is no or too less water filling into the appliance.
      A reason for that could be, for example, a closed water tap.
    - The program is stopped and can be continued when the fault has been eliminated by actuating the program key.
      (see also description page B 19 / "Survey of fault displays - fault 10")

6.10. Short survey of all customer, service and aftersales service functions

EDW 1003 / VGA



Who?	Which function?	Selection of special mode customer or service	Confirmation of the special mode	Call of special function	Detailled description
Customer	setting of water hardness	→ switch on appliance with ON/OFF S0 → press S2 and S3 simultaneously and keep them pressed until ...	... LEDs of keys S1 - S3 are flashing →	press key S1	see page B 11
	deactivation rinse-aid addition	→	→	press key S2	see page B 12
	deactivation signal sound	→ Bei Aufruf der Kunden-Funktionen darf generell kein Spülprogramm gewählt sein!	→	press key S3	see page B 13
manufacturing / service	readout of fault memory single actuator selection	→ press S1 and S3 simultaneously and switch on appliance with ON/OFF S0. Keey keys S1 and S3 pressed for another aprox. 4 seconds until ...	... LEDs of keys S1 - S3 are flashing →	press key S1	see page B 14
	LED test with integrated deletion of fault memory	→	→	press key S2	see page B 15
	manufacturing test routine	→	→	press key S3	see page B 16
	deactivation Pulse Wash	→	→	press keys S2 + S3	see page B 17
	additional washing cycle	→	→	press keys S1 + S2	see page B 18

6.11. Customer function / setting of water hardness

General information

- Setting and changing the water hardness area is executed in all designs resp. key arrangements analogously.
- For that you always have to use the keys S0, S1, S2 and S3 independent of their variant-depending program load.
- **Key S1 is ALWAYS the "water hardness area key"**
- Water hardness area 4 is preset by the manufacturer.
  With setting "1L" it is generally not regenerated.
  A salt addition is not necessary.
- A possible existing "salt" LED is not selected.

Electronic and mechanical setting with the appliance:

- Next to the "electronic" setting on the control panel described at the right you also have to pay attention to the mechanical setting in the appliance by the 2-step blending switch.
  (see for that the table for hardness area values)

EDW 1003 / VGA

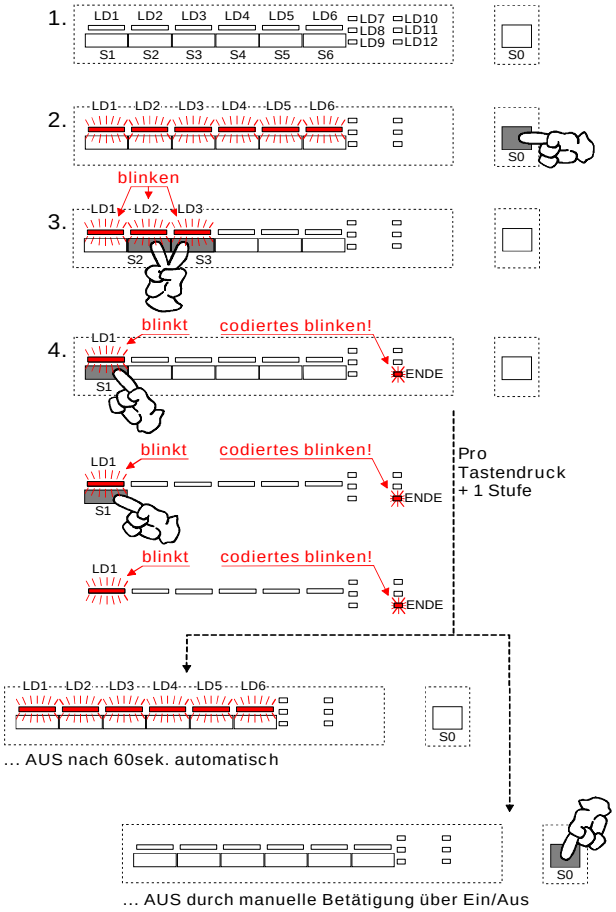
Verschneide-schalter

Table for hardness area values:

Anzeige Ende-LED	Einstellung der Härtestufe		Wasserhärte							Bemerkung
Anzahl blinken akustisch	elektronisch	mechanisch	in dH			in mmol/L			Bereich	
1 mal	**1**			bis	4		bis	0,7	I	kein Regenerieren
2 mal	**2**		4	bis	10	0,7	bis	1,8	I / II	
3 mal	**3**	**0**	11	bis	14	1,9	bis	2,5	II	
4 mal	**4**		15	bis	18	2,6	bis	3,2	III	
5 mal	**5**		19	bis	22	3,3	bis	3,9		
6 mal	**6**		23	bis	28	4,0	bis	5,0		
7 mal	**7**		29	bis	36	5,1	bis	6,4		
8 mal	**8**	**1**	37	bis	42	6,5	bis	7,5	IV	
9 mal	**9**		43	bis	50	7,6	bis	8,9		
10 mal	**10**		51	bis	70	9,0	bis	12,5		doppelt Regenerieren

a

Calling / changing / saving the "electronic" hardness area value



Calling the function "set water hardness"

1. Appliance in switched-off condition

2. Switch on appliance by ON/OFF key S0 -- "prestart" mode
   ↳ All LEDs of program and option keys are lit.

3. Press keys S2 and S3 simultaneously until the confirmation LEDs LD1, LD2 and LD3 are flashing

4. By actuating the function key S1 you now can call the water hardness function. The confirmation LED LD1 continues flashing, LEDs LD2 and LD3 go out.
   The set hardness area is indicated optically by the coded flashing of the "END" LED and in addition acoustically.
   (see for that the table on the left side of this page!)

Changing the set hardness

Any further actuation of the function key S1 changes the hardness area. This increases the value scrolling.

Leaving the function

After pressing the function key S1 last you can leave the special program as follows.
After 60 seconds all LEDs of program and option keys will be lit automatically. The indication in the display goes out.
Now the appliance is again in the "prestart" mode
or
the appliance is switched off by the ON/OFF key S0.

Saving the set water hardness

The selected hardness area is saved directly after every entry.

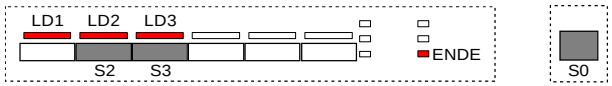
6.12. Customer function / deactivation of rinse-aid addition

General information

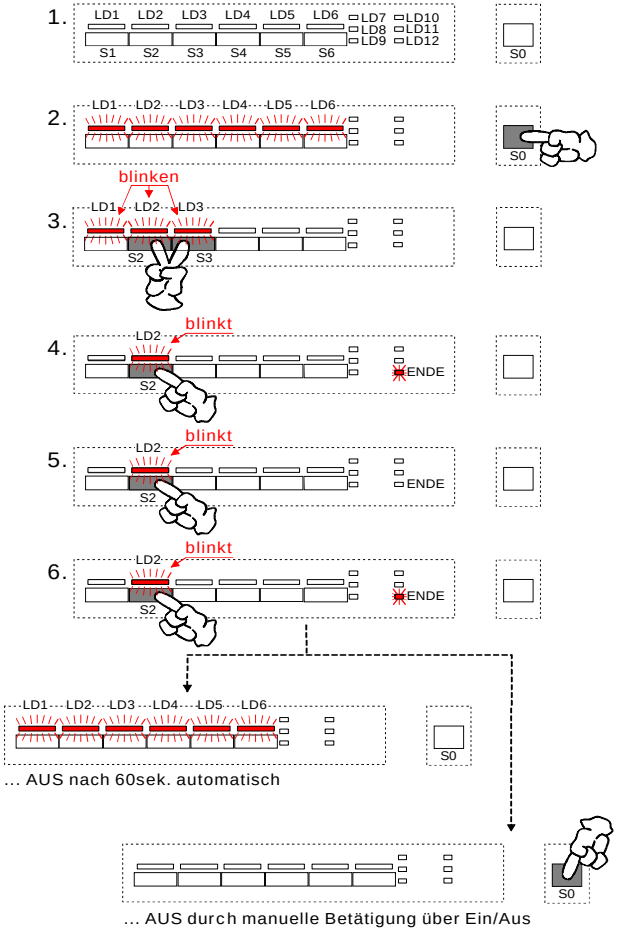
The function rinse-aid deactivation does not exist generally and must be programmed in the software variant.

- The deactivation resp. activation of the rinse-aid addition is executed in all designs resp. key arrangements analogously.
- For that you always have to use keys S0, S1, S2 and S3 independent of their variant-depending program load.
- **Key S2 is ALWAYS the "rinse-aid disactivation key"**
- The rinse-aid addition is always set active by the manufacturer.
- If the rinse-aid addition is deactivated, it means that no more rinse-aid is added via the detergent dispenser. Along with the deactivation a variant-depending existing rinse-aid LED is also deactivated generally:

EDW 1003 / VGA



Calling / changing / saving the rinse-aid addition deactivation



Calling the function "deactivate rinse-aid addition"

1. Appliance in switched-off condition

2. Switch on appliance with ON/OFF key S0 -- "prestart" mode
↳ All LEDs of program and option keys are lit.

3. Press keys S2 and S3 simultaneously until the confirmation LEDs LD1, LD2 and LD3 are flashing

4. By actuating the function key S2 you now can call the function rinse-aid addition. The confirmation LED LD2 continues flashing, LEDs LD1 and LD3 go out.
The current condition whether the rinse-aid addition is active or not is signalled by the "END" LED.
"END" LED on = rinse-aid addition on
"END" LED off = rinse-aid addition off

Deactivation resp. activation of rinse-aid addition

5. / 6. By any further actuation of the function key S2 you activate resp. deactivate the addition alternating.

Leaving the function

After pressing the function key S1 last you can leave the special function as follows.
After 60 seconds all LEDs of program and option keys are lit automatically.
Now the appliance is again in the "prestart" mode
or
the appliance is switched off by ON/OFF key S0.

Saving the set condition

The currently valid condition is saved directly after any entry.

6.13. Customer function / deactivation of signal sound

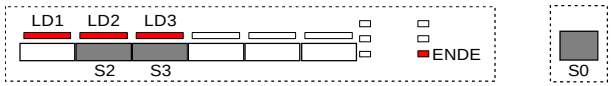
When calling the customer function a washing cycle must not be selected generally!

General information

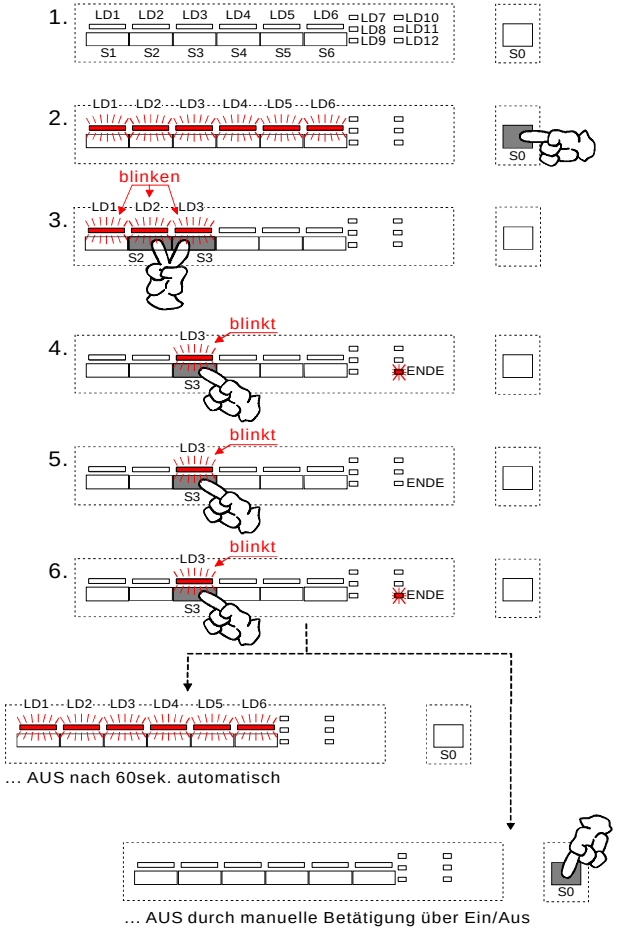
The function deactivation of the signal sound at the cycle end does not exist generally and must be programmed in the software variant.

- The deactivation resp. activation of the signal sound is executed in all designs resp. key arrangements analogously.
- For that you always have to use keys S0, S1, S2 and S3 independent of their variant-depending program load.
- **Key S3 is ALWAYS the "signal sound deactivation key"**
- The signal sound is always set active by the manufacturer.
- If the signal sound is deactivated, it means that in general no acoustic end signal will sound any more. Even the acoustic fault signals cannot be heard any more!

EDW 1003 / VGA



Calling / changing / saving the signal sound deactivation



Calling the function "signal sound deactivation"

1. Appliance in switched-off condition

2. Switch on appliance with ON/OFF key S0 -- "prestart" mode
↳ All LEDs of program and option keys are lit.

3. Press keys S2 and S3 simultaneously until the confirmation LEDs LD1, LD2 and LD3 are flashing.

4. By actuating the function key S3 you now can call the function. The confirmation LED LD3 continues flashing, LEDs LD1 and LD2 go out.
The current condition whether the signal sound is active or not is signalled by the "END" LED.
"END" LED on = signal sound on
"END" LED off = signal sound off

Deactivation resp. activation of the signal sound

5. / 6. By any further actuation of the function key S3 you activate resp. deactivate the signal sound alternating.

Leaving the function

After pressing the function key S1 last you can leave the special program as follows.
After 60 seconds all LEDs of program and option keys are lit automatically.
Now the appliance is again in the "prestart" mode
or
the appliance is switched off by ON/OFF key S0.

Saving the set condition

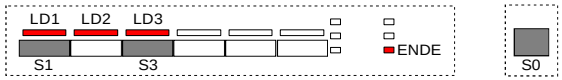
The currently valid condition is saved directly after any entry.

6.14. Service function / readout of fault memory and single actuator selection:

General information

- Calling the service functions is executed in all designs resp. key arrangements analogously.
- For that you always have to use keys S0, S1, S2 and S3 independent of their variant-depending program load.
- In the service function mode, the key S1 is ALWAYS responsible for the function "readout of fault memory" and "single actuator selection".

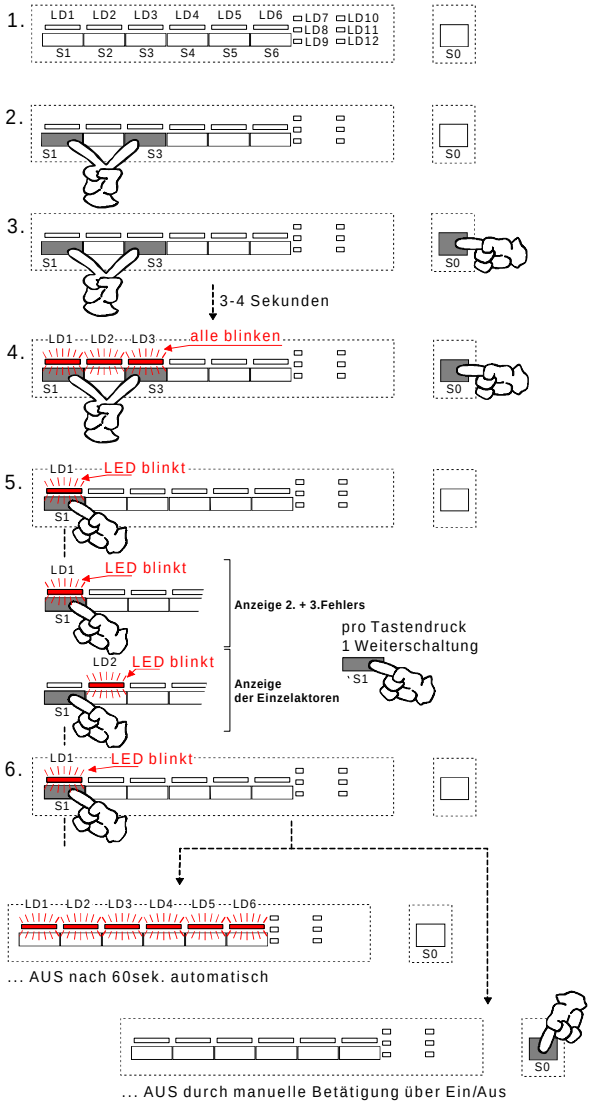
EDW 1003 / VGA



It is generally valid:

For calling all service functions you always have first to actuate function keys S1 and S3 before switching on the appliance by ON/OFF switch S0!
The keys have to remain pressed aprox. 4 seconds to activate the function.
This procedure is intentionally different to that for the customer functions.

Calling above-mentioned service function



Calling the functions
"readout of fault memory" and "single actuator selection"

1. Appliance in switched-off condition
2. Press keys S1 and S3 simultaneously and
3. / 4. ... and switch on the appliance by ON/OFF switch S0.
For that keep pressed keys S1 and S3 until the 3 confirmation LEDs LD1, LD2 and LD3 are flashing.
(A temporary flashing up of LEDs is possible and is no fault!)

5. / 6. By actuating the function key S1 you now can call the function.
The confirmation LED LD1 continues flashing, the LEDs LD2 and LD3 go out.
By pressing key S1 the first time the 1. fault is displayed in a coded way via the "END" LED.
By pressing key S1 a second and third time it is possible to read out the second and third value of the fault memory.
(see description page B 19 / "Survey of fault displays")
From pressing the key S1 the fourth time onward the LED LD1 goes out and LD2 starts flashing.
Now you can call the single actuators one after the other.
4. Actuation: Selection of regeneration valve
5. Actuation: Selection of drain pump
6. Actuation: Selection of valve
(filling to level - if level already existing, no filling)
7. Actuation: Selection of heating
(only when level detected)
8. Actuation: Selection of circulation pump
9. Actuation: Selection of detergent dispenser
10.Actuation: Selection of drying fan
All positions can be called scrolling as many times as one wants.

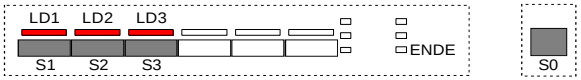
The single steps are switched onward manually by pressing a key. If the function key S1 is not pressed within 60 seconds, the service function is left automatically. All LEDs of program and option keys are lit. The appliance is in the "prestart" mode again. It is also possible to leave the function by switching off the appliance by ON/OFF key S0.

6.15. Service function / LED test with integrated deletion of the fault memory:

General information

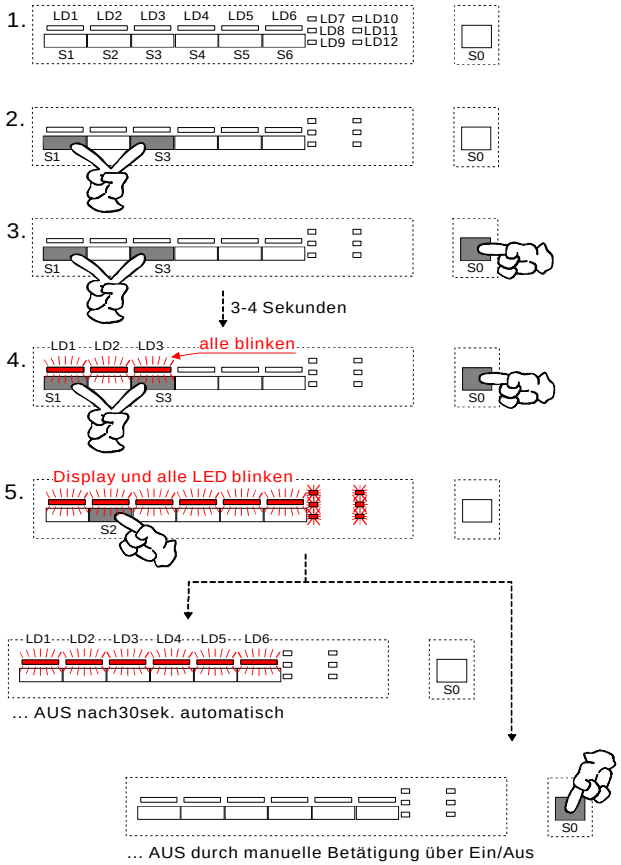
- Calling the service functions is executed in all designs resp. key arrangements analogously.
- For that you always have to use keys S0, S1, S2 and S3 independent of their variant-depending program load.
- In the service function mode the key S2 is ALWAYS responsible for the function "LED test with integrated deletion of the fault memory".

EDW 1003 / VGA



It is generally valid:
For calling all function keys you always have to actuate first the function keys S1 and S3 before switching on the appliance by ON/OFF switch S0!
The keys have to remain pressed aprox. 4 seconds to activate the functionl.
This procedure is intentionally different to that for the customer functions.

Calling above-mentioned service function



Calling the functions
"LED test with integrated deletion of the fault memory"

1. Appliance in switched-off condition

2. Press keys S1 and S3 simultaneously and ...

3. / 4. ... and switch on the appliance by ON/OFF switch S0.
For that keep the keys S1 and S3 pressed simultaneously until the 3 acceptance LEDs LD1, LD2 and LD3 are flashing.
(A temporary flashing up of LEDs is possible and is no fault!)

5. By actuating the function key S2 you now can call the function.
All LEDs are flashing aprox. 30 seconds.

Leaving the function / deletion of the fault memory

After all above-mentioned LEDs resp. the display have been flashing for aprox. 30 seconds the function is left automatically.
All LEDs of the program and option keys are lit.
Now the appliance is in the "prestart" mode again.
It is also possible to leave the function by switching off the appliance by ON/OFF key S0.

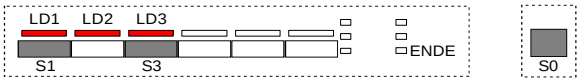
In any case, the service fault memory is deleted.

6.16. Service function / manufacturing test routine:

General information

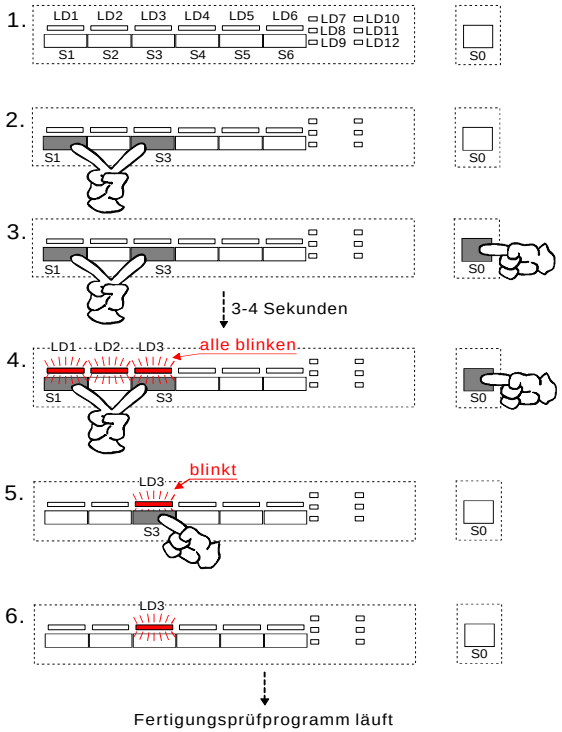
- Calling the service functions is executed in all designs resp. key arrangements analogously.
- For that you always have to use keys S0, S1, S2 and S3 independent of their variant-depending program load.
- In the service function mode the key S3 is ALWAYS responsible for calling the "manufacturing test routine".

EDW 1003 / VGA



Generally it is valid:
For calling all service functions you always have to actuate function keys S1 and S3 before switching on the appliance by ON/OFF switch S0!
The keys have to remain pressed aprox. 4 seconds to activate the function.
This procedure is intentionally different to that for the customer functions.

Calling above-mentioned function



Calling the function "manufacturing test routine"

1. Appliance in switched-off condition

2. Press keys S1 and S3 simultaneously and ...

3. / 4. ... and switch on the appliance by ON/OFF switch S0.
For that keep the keys S1 and S3 pressed until the 3 acceptance LEDs LD1, LD2 and LD3 are flashing.
(A temporary flashing up of LEDs is possible and is no fault!)

5. By actuating the function key S3 you can call the manufacturing test routine.
The key LED LD3 continues flashing, the LEDs LD1 and LD2 go out.

6. The test routine starts automatically.
The key LED LD3 continues flashing.

From that moment the same input philosophy is valid for the manufacturing test routine as for normal washing cycles

- ☞ *cycle run and cycle end*
  (see description page B 5)
- ☞ *clear cycle in advance*
  (see description page B 6)
- ☞ *interrupt program*
  (see description page B 8)

Overview Errors Displayed

Applicable for EDW1500 / 1503 (VGA) -- EDW1100 / 1003 (VGA) -- EDW2000

Error Name	Display on Screen EDW 1500	Display by END LED 2Hz / 5sec. Pause EDW1100	Acoustic Indication No.of Beeps 2Hz / 5sec. Pause If available for this model	Error Display visible for Customer** Display PAA	 AK	Call Error Memory (Service) Display PAA	 AK	Output via Indicator Lamp If available for this model	Short Explanation	What happens?
Water tap closed	E10	1 x flashing	1 x	☺	☺	☺	☺	LED Water	Switchpoint of pressostat is not reached after max. 60 secs. (only in programme steps incl. Filling up to level!)	Programme stops and can be continued after error remedy by pressing the programme key. If fault is not corrected and programme key is pressed, the machine runs dry until next subprogramme.
Drain pump	E20	2 x flashing	2 x	☺	☺	☺	☺	---	Reset point of pressostat is not reached after max. 120secs. Programme stop.	Programme stops and can be continued after error remedy by pressing the programme key.
Aqua-Control	E30	3 x flashing	3 x	☺	☺	☺	☺	---	Aqua-Control System switches off solenoid directly.	Programme stops and restarts automatically when error has terminated.
Recycling pump Triac short-circuit	E50	5 x flashing	5 x	☺		☺	☺	---	Tacho signals are recognized although rec. pump is not selected.	Programme stops and water is filled up until reset point of pressostat
Heating	E60	6 x flashing	6 x			☺	☺	---	During heating, temperature rise by min. 1.5K is not detected within 3min.	Programme is continued until its end without heating function!
NTC Sensor	E70	7 x flashing	7 x			☺	☺	---	NTC short-circuit or break.	Programme is continued until its end without heating function!
EEPROM	E80	8 x flashing	8 x	☺ ?				---	Communication error with ext. EEPROM	
Check sum MCF / CCF	E90	9 x flashing	9 x			☺	☺	---	Check sum (model programming) MCF or Check sum CCF not OK. Only recognized after switching on!	Programme selection not possible. On/Off LED is on
Sprayarm blocked	EA0	10 x flashing	10 x		☺	☺	☺	LED Spray arm	At programme start and each subprogramme start, also after door open/close or mains failure, spray arm rotation is checked and evaluated.	Error display until sprayarm speed is recognized, or if no control.
Turpidity sensor	Eb0	11 x flashing	11 x			☺	☺	---	The turbidity signal required for calibration is not reached with 15secs.	Always recognition of turbidity. Programme sequence is adapted accordingly.
Communication error	EC0	12 x flashing	12 x			☺	☺	---	Communication failure with User Interface.	Machine stops, waiting until communication is cleared.
Tacho	Ed0	13 x flashing	13 x			☺	☺	---	Recycling pump selected, but no tacho signal recognized for 5 + 20 secs	Recycling pump without control, heating off. This function is checked again on each step.
Filling time error	EF0	15 x flashing	15 x			☺	☺	---	Time limit during filling exceeded	Programme is completed until next subprogramme without level. No further filling up of water top up. Error is reset after one complete drain cycle.

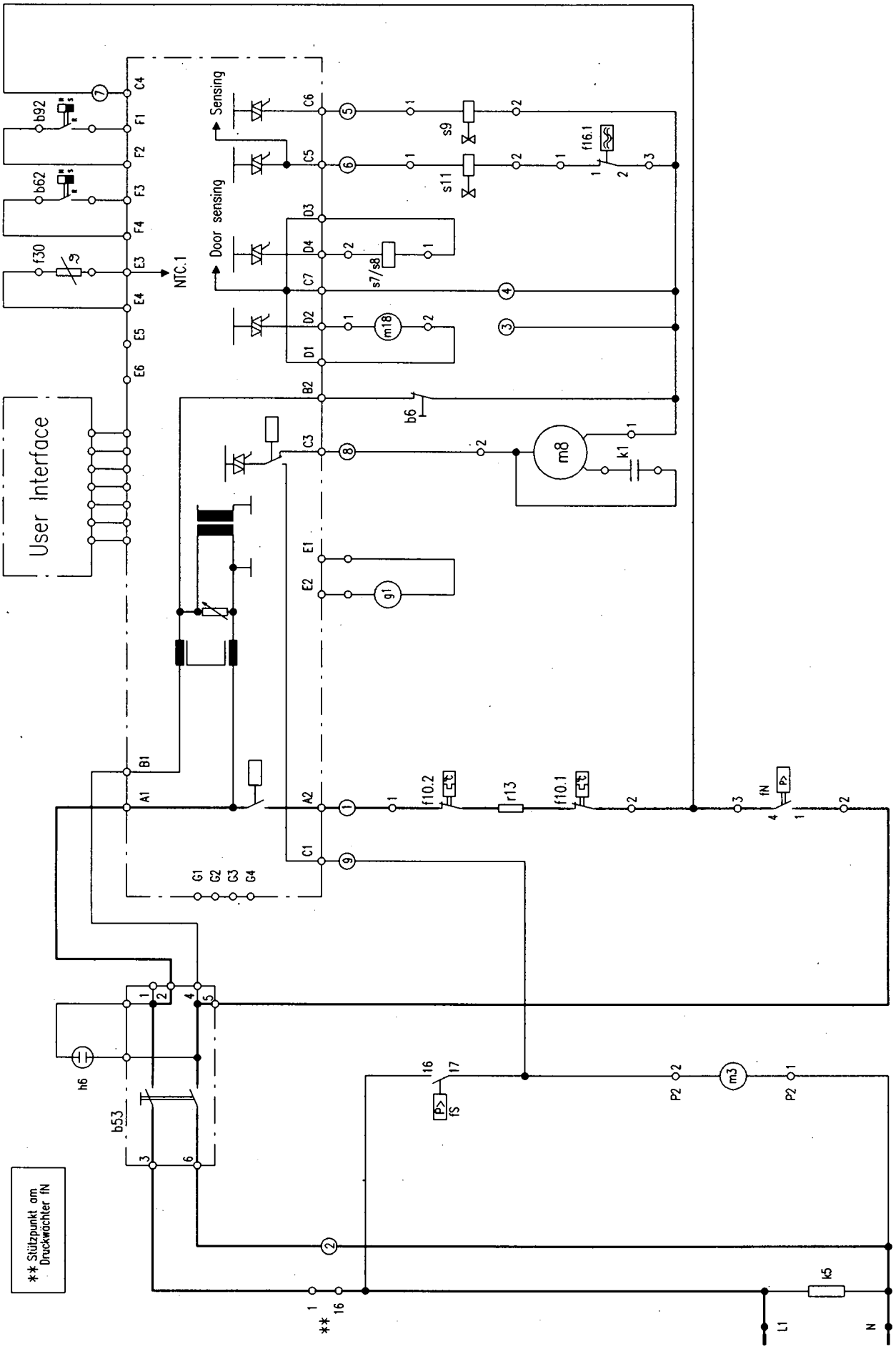
** = If 7-Segment display available, no PAA error display/Sound error display generally with VGA, with other machines depending on model

List of Possible Error Causes

Code	Possible error causes		
i10	No or not enough water let in		Water tap is closed or faulty No water pressure, pressure too low or changing Screen in front of inlet valve clogged Flow governor at inlet valve faulty Inlet valve faulty Inlet valve deenergized (faulty wiring or no activation by electronics) Inlet hose bent Softener system clogged (by filling detergent into salt compartment, for instance)
	Machine runs dry (Siphon effect)		Upright installation without upright assembly kit Connection height of the discharge hose is lower than 30cm above appliance base Connection w/o siphon or air chamber
	Water level inside appliance is not detected		Pressure controller faulty Pressure controller hose obstructed, bent or leaking Pressure controller wiring is faulty Screens in the appliance clogged (also check spray arm nozzles for clogging)
i20	Water is not pumped off		Fault with discharge pump Discharge pump deenergized (faulty wiring or no activation by electronics) Obstruction/blocking (filters in the appliance, discharge opening in discharge trough, discharge pump, discharge hose, siphon, cover plug at siphon connection not removed during first commissioning) Discharge hose bent or connection height above 100cm Ball valve in discharge trough glued / blocked (discharge pump does not aerate)
	Water level inside appliance is not detected		Pressure controller faulty Pressure controller hose obstructed or bent Insulation fault with heating element
i30	Water remains in base trough	Leakage	Leakage at recipient, discharge trough, hose system (e.g., Y-type hose), regeneration dosage etc.
		Overflow	Inlet valve faulty (does not close) Water inlet too high (faulty flow governor at inlet valve) Connecting hose regenerating dosing to discharge trough blocked Water inlet channels in regeneration dosing unit blocked Screens in the appliance clogged (also check spray arm nozzles for clogging) Pressure controller faulty Pressure controller hose obstructed, bent or leaking Pressure controller wiring is faulty Foam production in the appliance (splashed rinsing liquid / leaking dosing unit or con-compatible detergent / rinsing agent used)
	Base trough is dry		Inlet valve or wiring electrically interrupted
i50	Motor triac short-circuit		Faulty electronics
i60	No rise in temperature		Heating element faulty Heating element deenergized (faulty wiring or no activation by electronics)
i70	NTC signal faulty		Thermal sensor defect Wiring faulty (e.g. short-circuit or interruption)
i80	Check sum error EEPROM		Mains filter defect Faulty electronics EMC problem
i90	Check sum error model programmation		Faulty electronics
iA0	Upper spray arm does not rotate		Blocking by dishes or cutlery basket Nozzles clogged (drive nozzles at spray arm extremities) Spray arm leaking (welding seam) Spray arm bearing blocked (dirt, foreign bodies) Screens in the appliance clogged Bellows at connecting pipe not sealed at recipient rear wall (bellows not contacting/glued together) Circulating pump does not reach full power (nominal speed is not reached due to winding influence) Too little water in appliance - for possible causes see Error codes i10 and iF0 Foam production in the appliance (splashed rinsing liquid / leaking dosing unit or con-compatible detergent / rinsing agent used)
	No spray arm detection		No magnet in spray arm Spray arm detection sensor faulty Wiring faulty
ib0	turbidity signal faulty		turbidity sensor defect Wiring faulty turbidity sensor dirty Foam production in the appliance (splashed rinsing liquid / leaking dosing unit or con-compatible detergent / rinsing agent used)
ic0	communication faulty		Faulty electronics Wiring faulty
id0	Circulation pump no function		Circulating pump / capacitor defect Circulating pump deenergized (faulty wiring or no activation by electronics)
	No tacho signal recognized		Tachometer generator defect Wiring faulty
iF0	Time limit during filling exceeded		Problem with water inlet in general - see Error code i10, pipette effect in particular (also look for an error memory entry i10) Problem by incomplete pumping in previous program cycle (remaining water) - see Error code i20 (also look for an error memory entry i20) Improper loading, e.g. big item (pot, bowl is reversed and fills with water) Foam production in the appliance (splashed rinsing liquid / leaking dosing unit or con-compatible detergent / rinsing agent used)

8. Schaltpläne

8.1 Stromlaufplan (Beispiel)



8.2 Wiring diagram