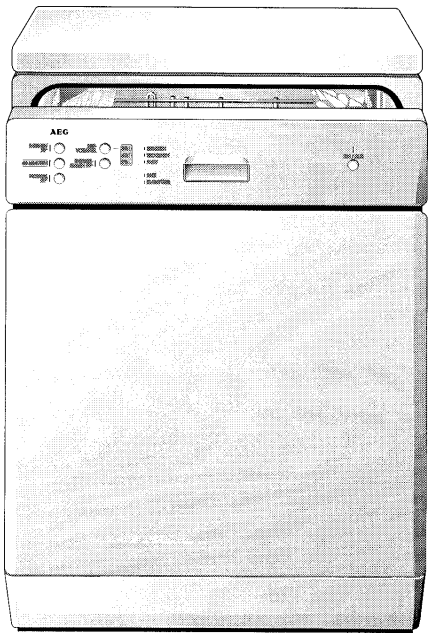
Electrolux
Spares Operation

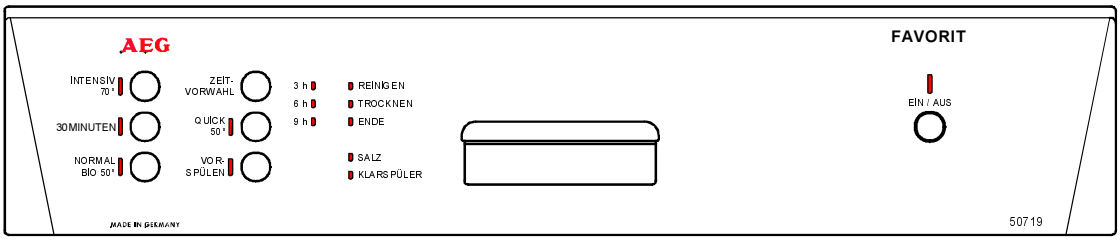
SERVICE MANUAL

DISHWASHER

DIVA

+ EDW 1001





Dishwasher

DIVA

+

EDW 1001

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Spares Operation

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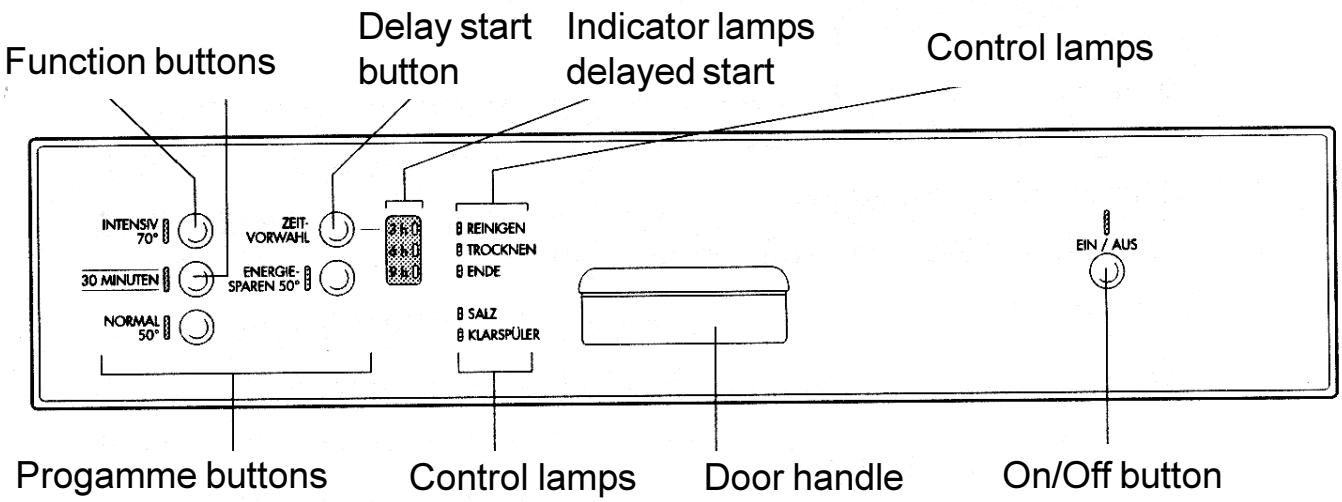
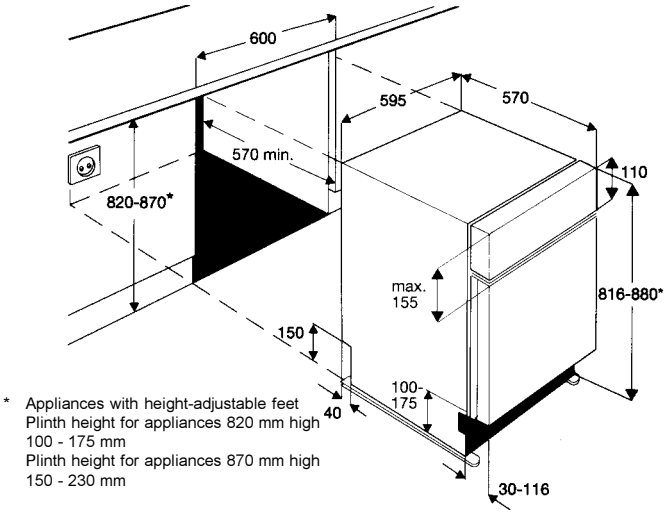
1. Control panel



2. Dimensions

Build-in dimensions for Integrated Dishwashers

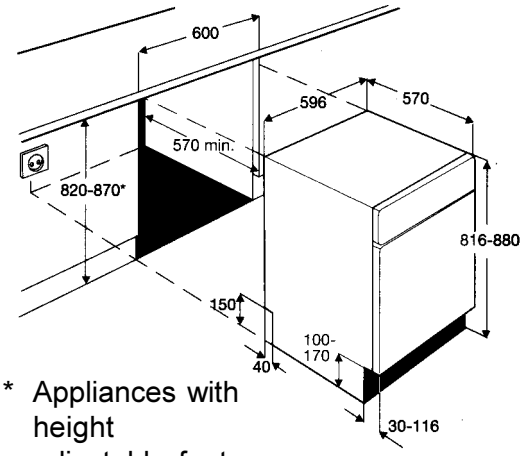
ÖKO-FAVORIT



* 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

Build-in dimensions for Built-Under Dishwashers

ÖKO-FAVORIT



* Appliances with height adjustable feet

Dimensions for Freestanding Dishwasher

Height 85 cm
Width 60 cm
Depth 60 cm

Height with worktop removed 82 cm
Feet adjustment 1 cm

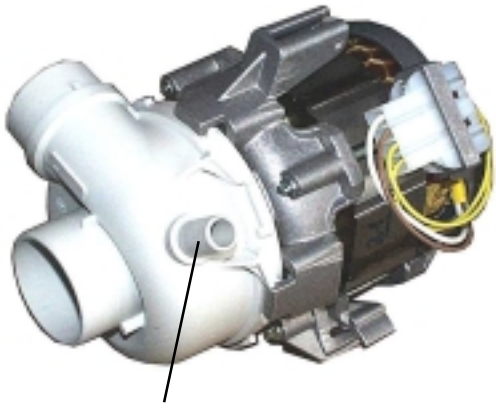
3. Components

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.

Wicklungswiderstände

Hauptwicklung	45 - 55 Ohm
Hilfswicklung	110 - 140 Ohm
Tacho	ca. 220 Ohm

Nur bei Ausführungen mit Deckensprüharm

3.3 Drain Pump

The drain pump is driven by a synchronous motor.

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

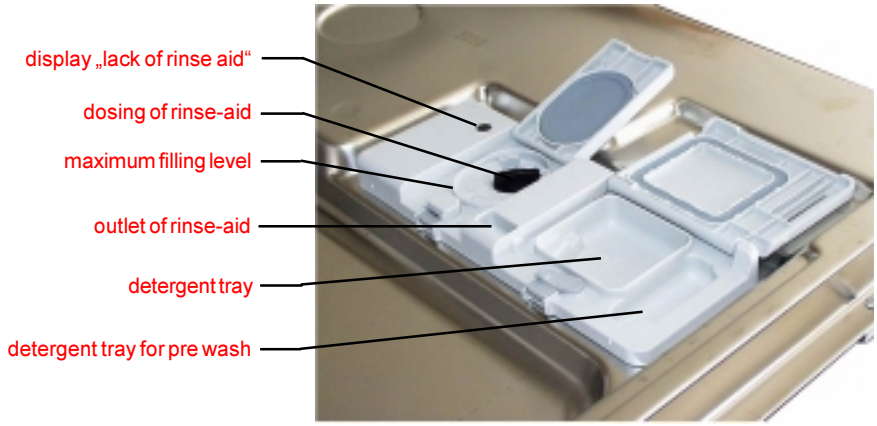
3.4 Flow Heater

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

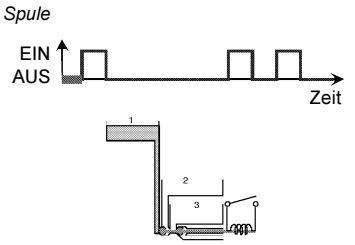
3.5 Detergent dispenser

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

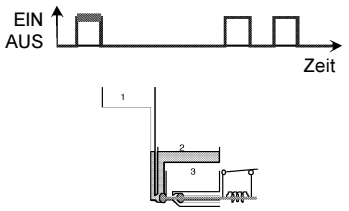


coil

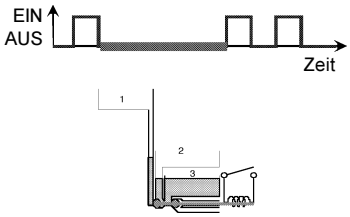
The detergent compartment 1 is filling corresponding to the set dosing quantity when the door is open. Possibly existing rinse-aid in compartments 2 and 3 flows back into the storage tank of the rinse-aid. The detergent trays are filled up. The door will be closed and the detergent for prewash will be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



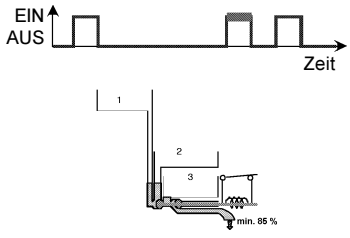
During the washing cycle the coil is switched on and the detergent compartment cover releases the detergent. The rinse-aid flows from compartment 1 into compartment 2.



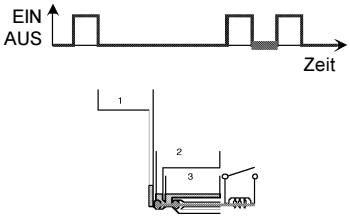
After switching off the coil, the rinse-aid flows from compartment 2 into compartment 3.



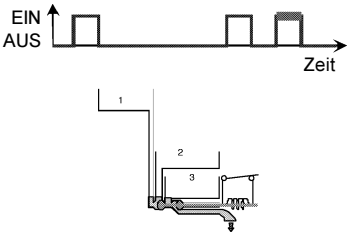
During the rinse cycle, the coil will be switched on when the rinse is warmed and the rinse-aid runs from compartment 3 into the rinse tank. At the same time, the remaining rinse-aid (15 %) runs from compartment 1 into compartment 2.



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

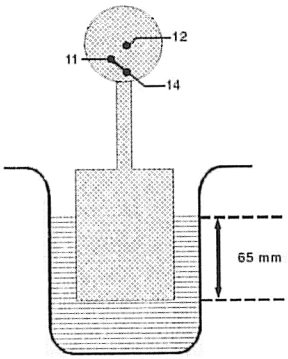
Temp.	Resistor
10°C	9653 Ohm
25°C	4843 Ohm
60°C	1204 Ohm
90°C	445 Ohm

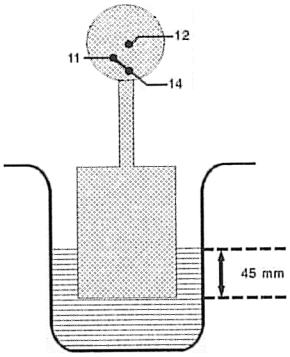
3.7 Pressure Switch

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

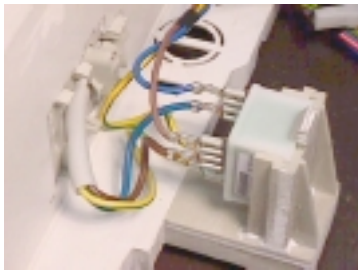
The pressure switch is not adjustable.

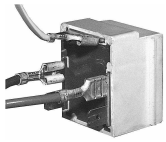


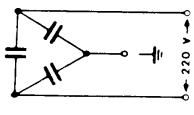


3.8 Interference Filter

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.

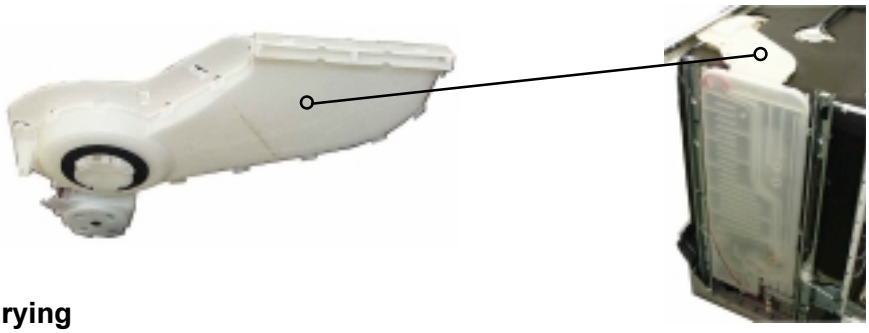
Celling spray arm

upper spray arm

lower spray arm

3.10 Drying fan

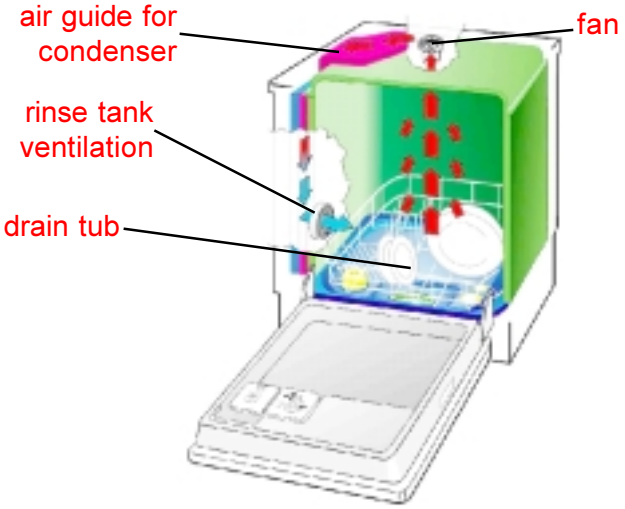
The new drying fan is located at the top on the rinse tank.



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.



Active Drying

Active Drying means the ventilation of a container without any movable parts
A plastic container is clipped into the opening in the container cover, from where a hose is passed to the appliance base.

Function

A small quantity of moist air and some condensate emerge from the hose. The condensate is collected in the base side sections where it will evaporate.
If a larger quantity of condensate should be present (due to many subsequent programme cycles) the hose end will be immerged, thus stopping both the convection and the condensating process in the hose.
Flooding of the sections is therefore excluded. Only very little moist air will be present.

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.

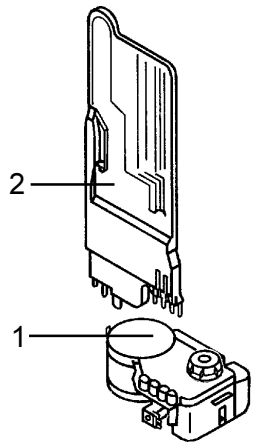
Afterwards the softener is washed out with fresh water and is now fully effective.

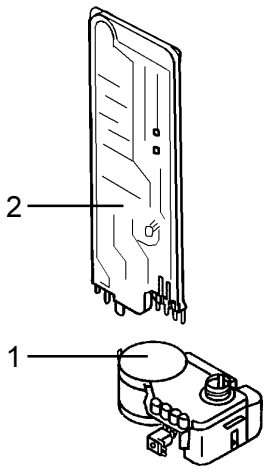
Depending on the water hardness, regeneration is only necessary after several wash cycles.

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.



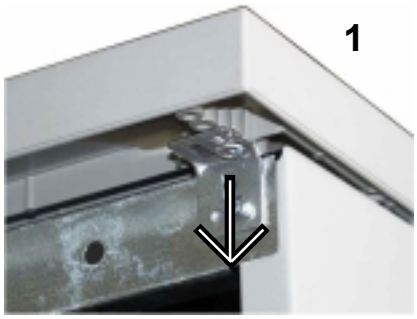


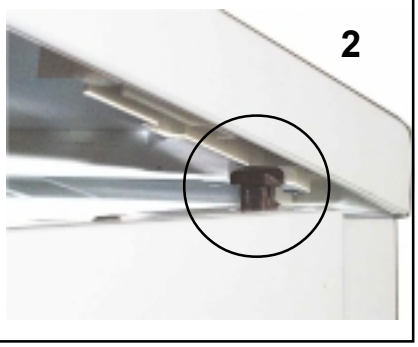
4. Service tips

4.1 Open the housing

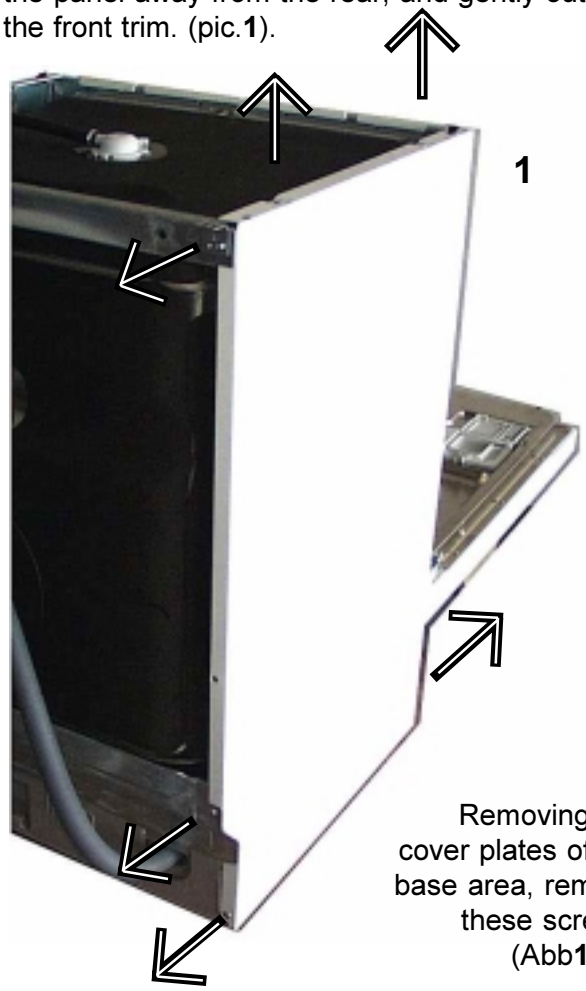
Remove the screws (Abb.**1**) of the upper plate on the left and right side.

Push the upper plate in front direction to remove the plate (Abb.**2**).





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

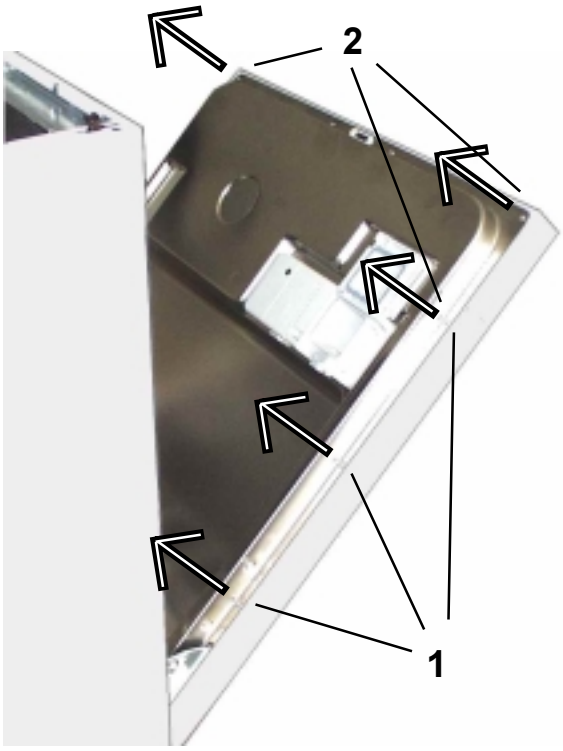


Removing the cover plates of the base area, remove these screwst (Abb**1**+**2**).

You need
Torx epuipment

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

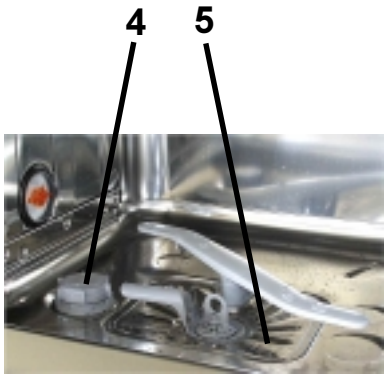
To remove the panel, remove the fixing screws (**2**) .

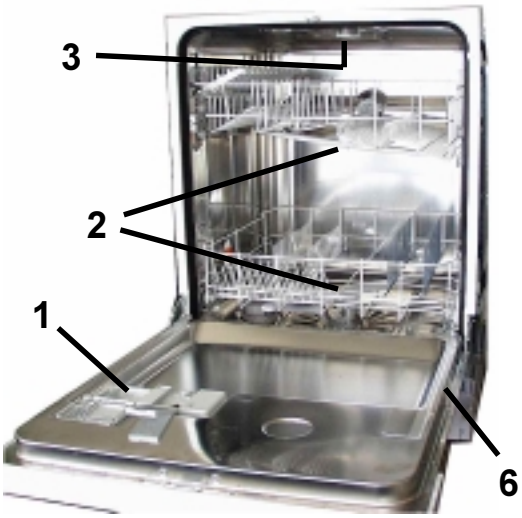


4.2 Position of Components

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

Type plate (**6**)

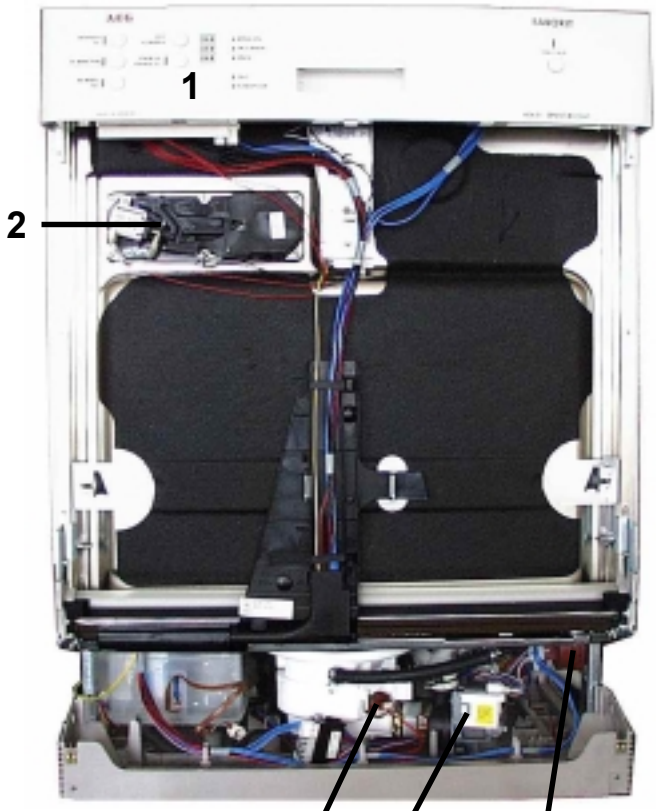




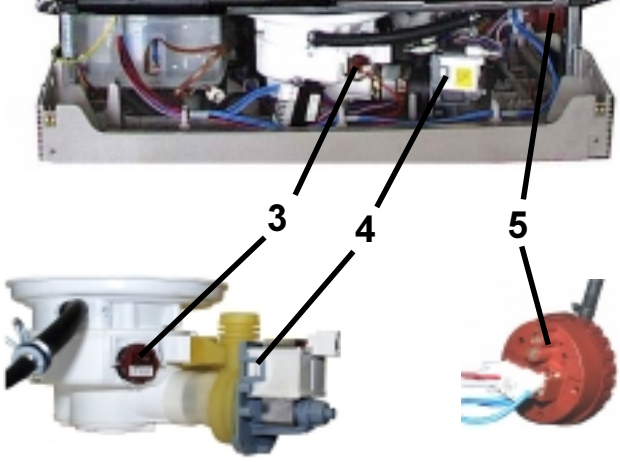
On/Off-Switch (**1**)
Electronic (**2**)

Electronic
Panel (**1**)

Detergent dispenser (**2**)



Thermal sensor (**3**)
Drain pump (**4**)
Pressure switch (**5**)

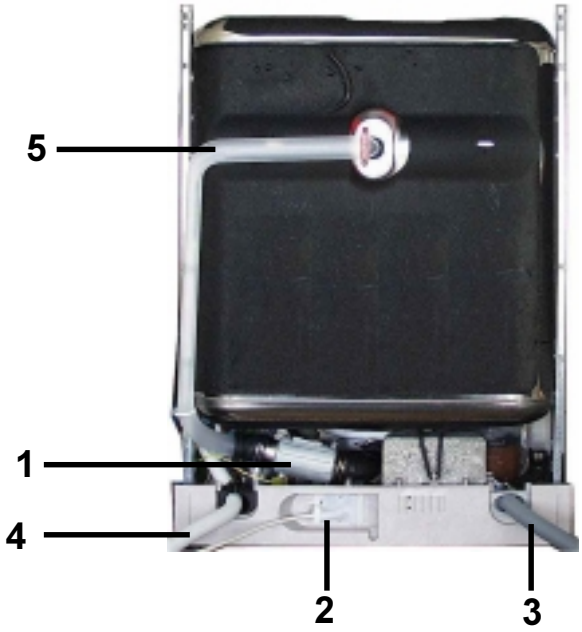


Back side view

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

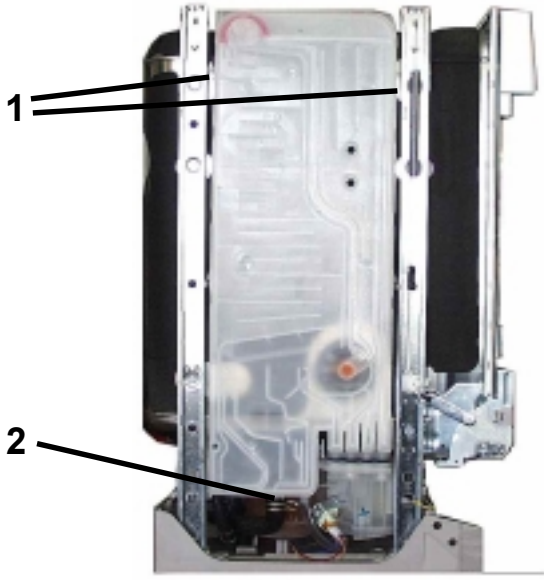
- Inlet hose (**3**)
- Drain hose (**4**)

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



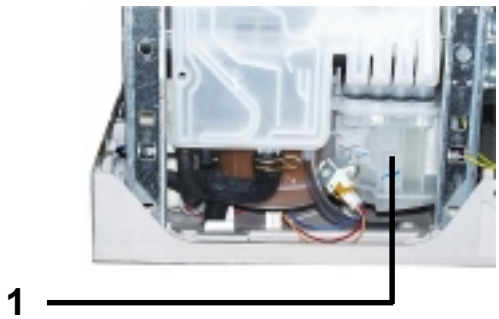
Removing the detergent dosage chamber:

- 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.

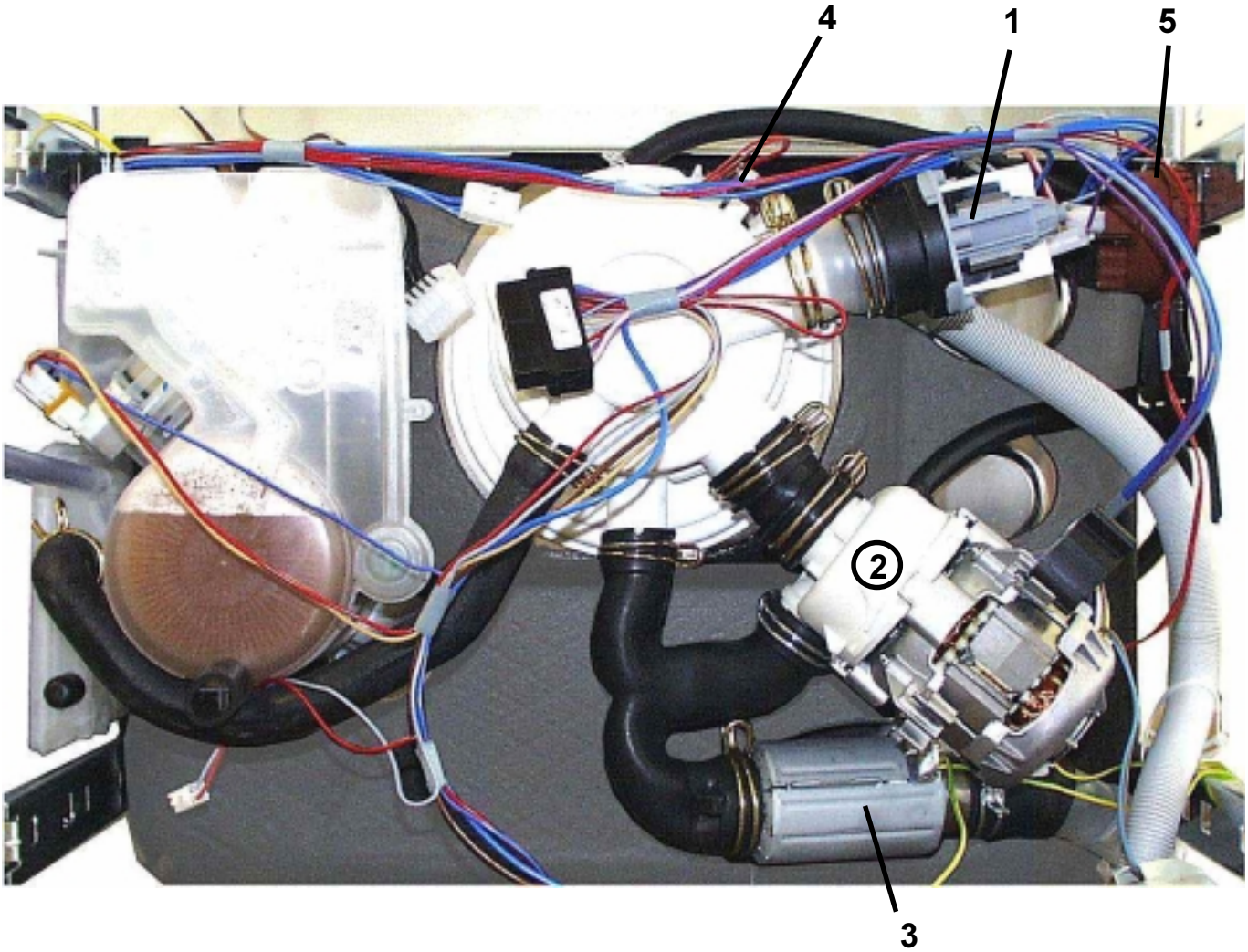


Removing the base :

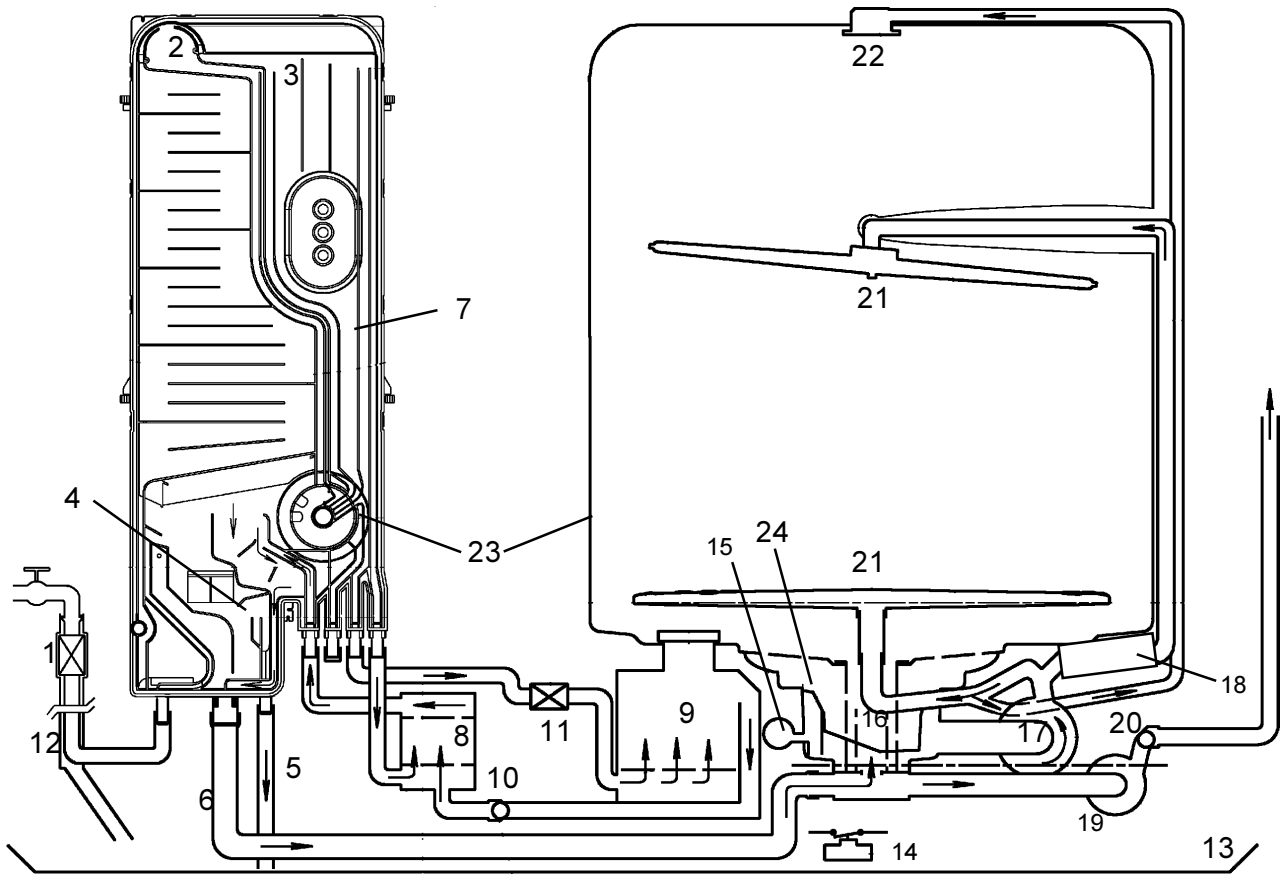
- remove side panels, rear panel and plinth panel
- gently release base fixing clips with a screwdriver (figure)
- take off base carefully and release circulation pump, electronic and heater relay
- disconnect the float switch

With base removed, following components are accessible:

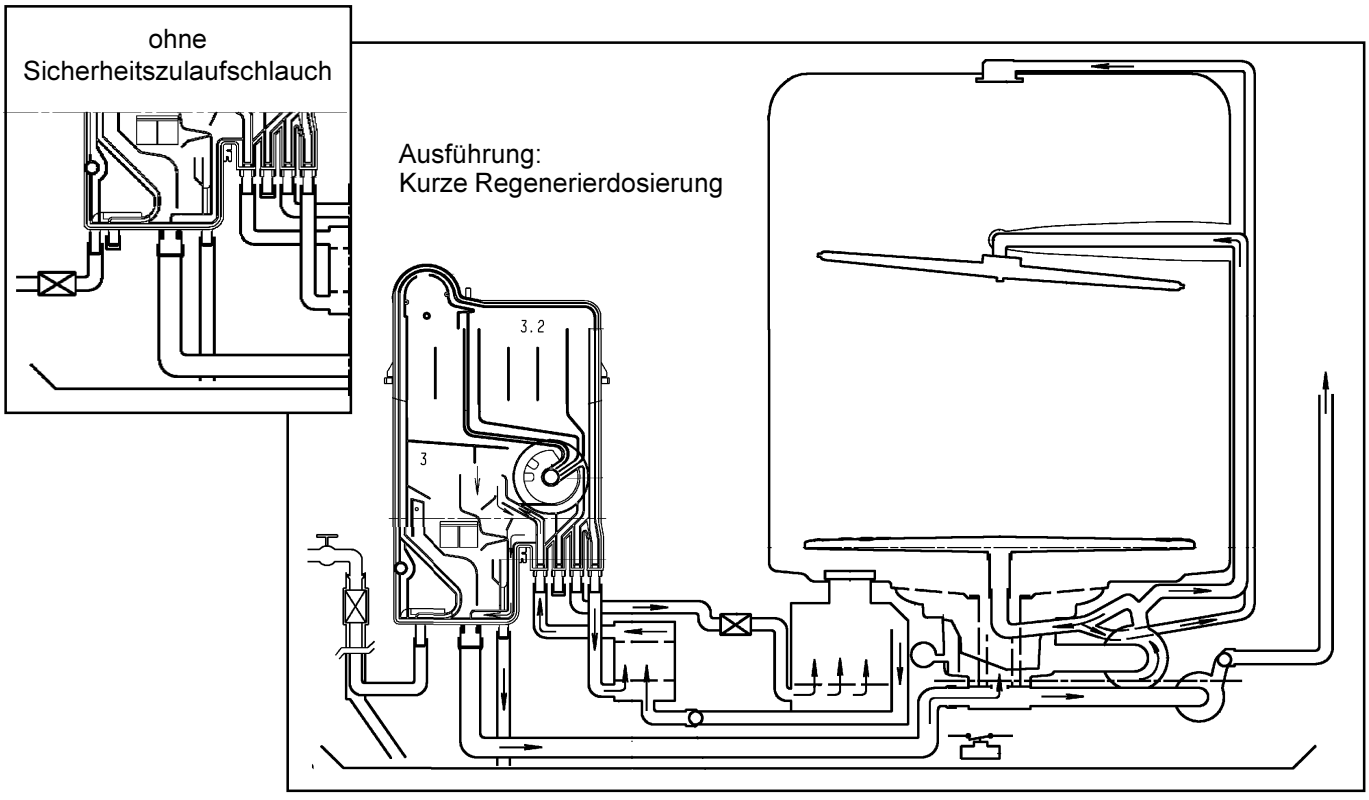
- Drain pump (1)
- Circulation pump (2)
- Flow heater (3)
- Temperature sensor / Turbidity sensor (4)
- Pressure switch (5)



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				



All-Around Water Protection

Aqua-Control Inlet Hose

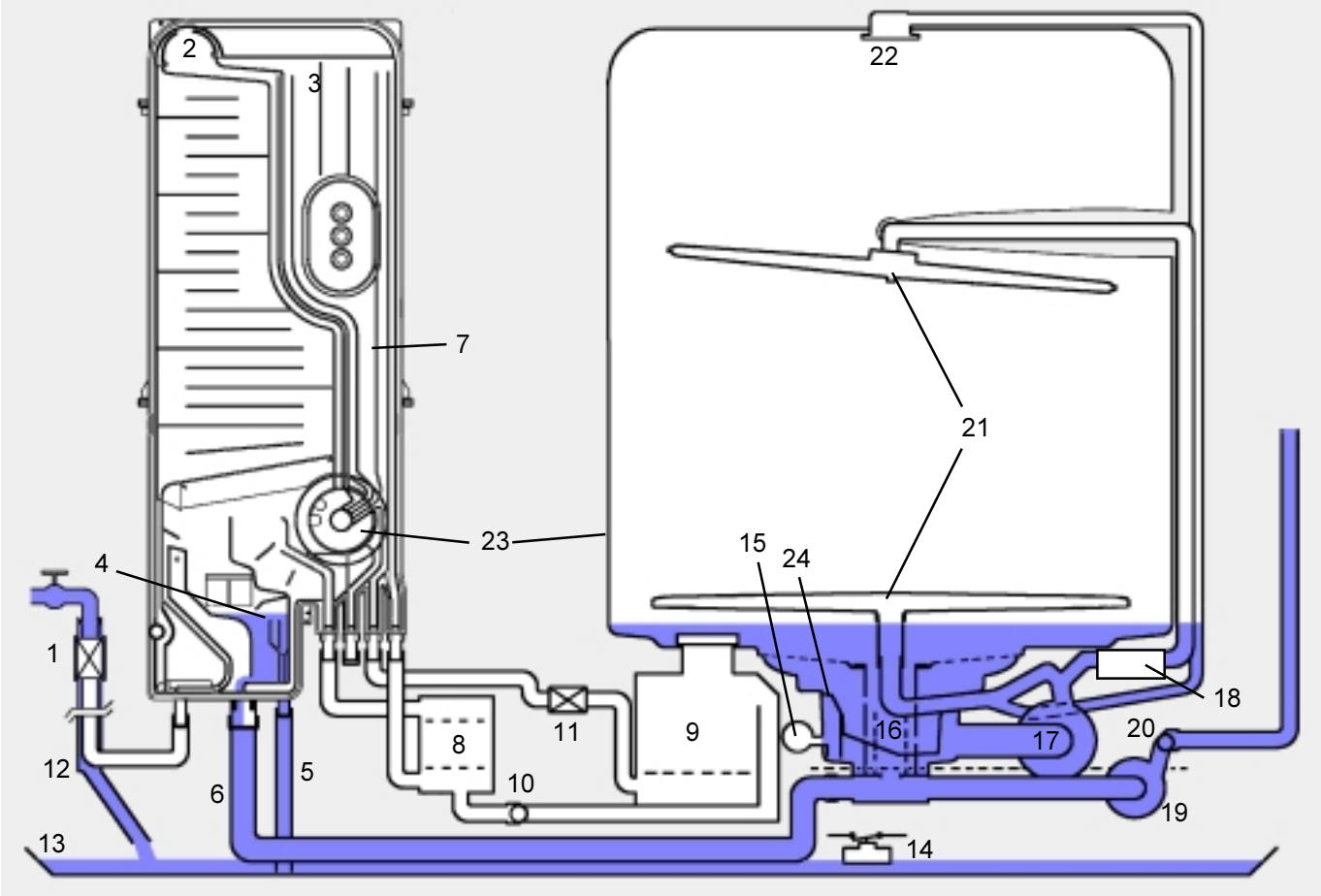
The inlet hose has a double-wall construction. The inner hose is equipped with a flow restrictor built into the tap connection, and has a flow rate of 4 litres per minute. If the inner tube starts bursting, the water reaches the floor pan, gets diverted to the float switch in the floor pan and enables the drainage protection.
In this case the electric valve at the water hose get voltage free and the water connection gets locked. The drain pump additionally pumps off the dishwasher so that no damage by water could be produced.
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 water level in the detergent dispenser transcends the overflow protection switch ”Safety level”(4), the water passes over the overflow protection switch (5) in the floor pan and also activates the float 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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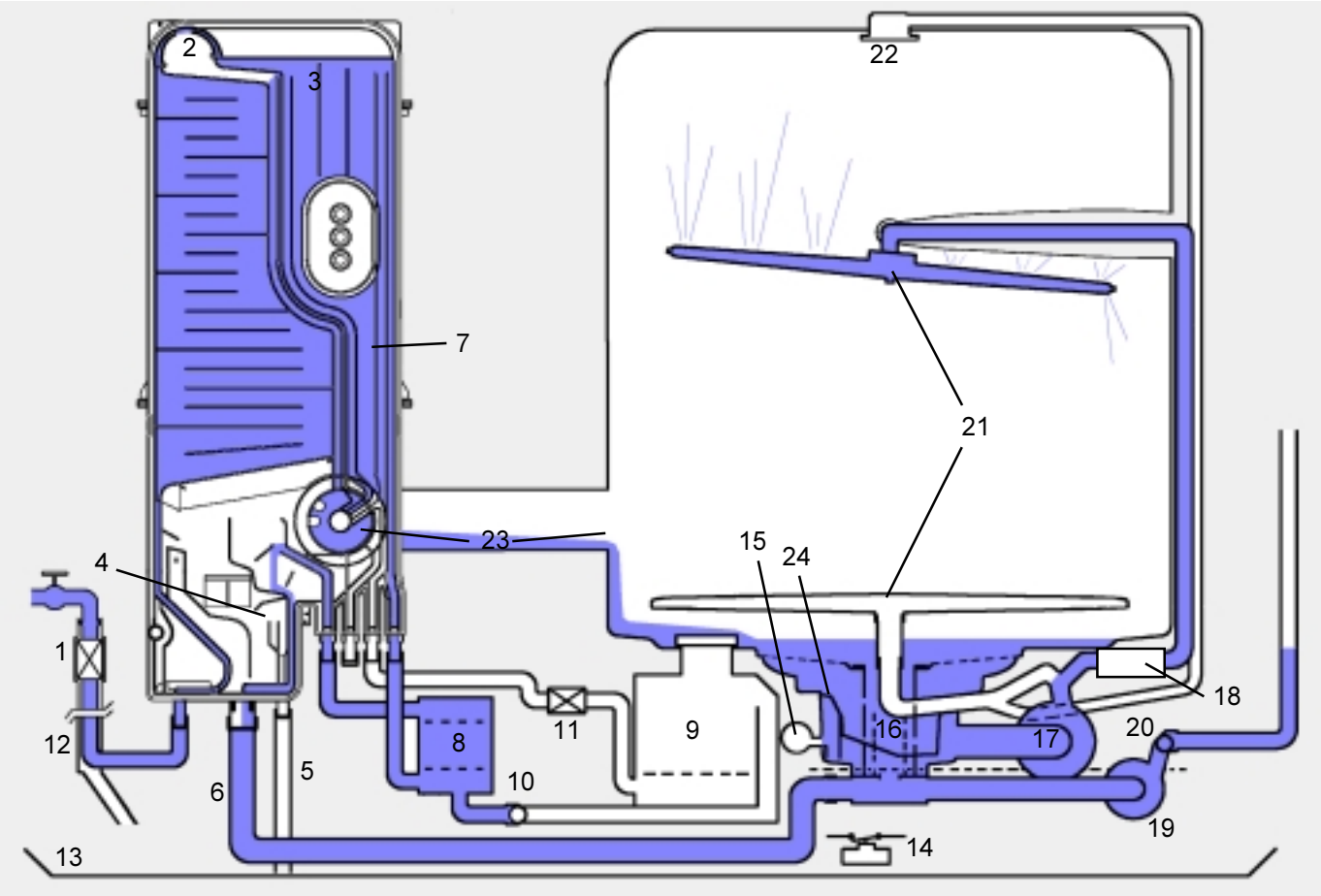
5	Safety overflow	14	Float switch	22	Roof-mounted shower
6	Inlet to sump from regeneration dosage chamber	15	Pressure switch	23	Tub vent
7	Regeneration dosage chamber	16	Filter	24	Sump assembly
8	Softener	17	Circulation pump		
9	Salt container				

5.2 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).



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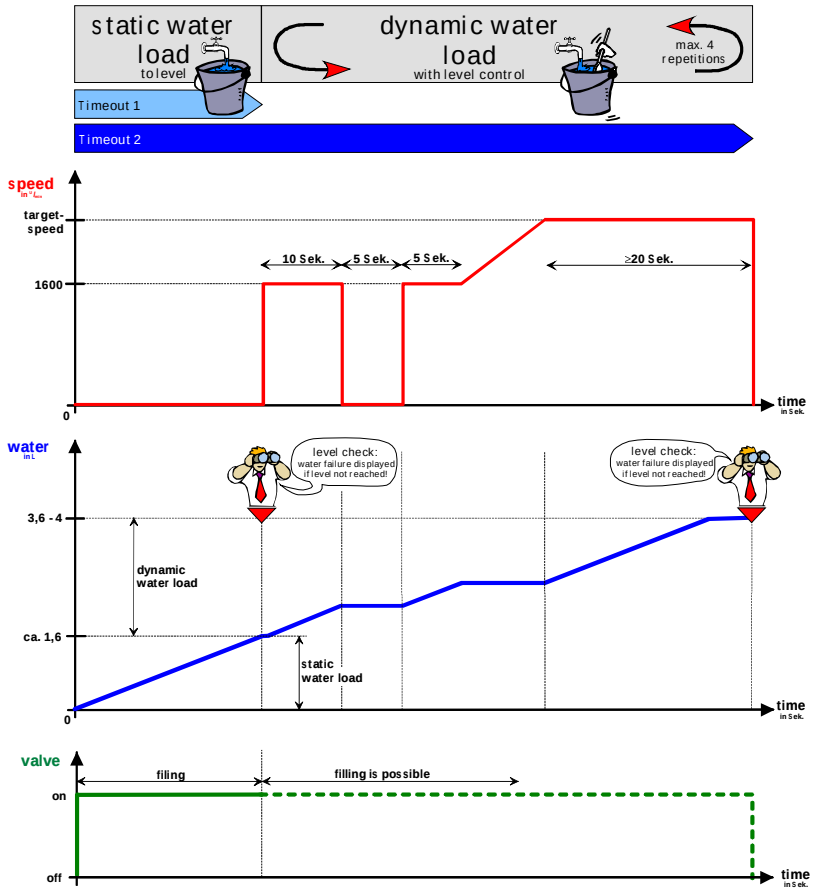
9	Salt container				

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. The program phase display PPD-LED LD9 is blinking.

● LD9
○ LD10
○ LD11

Dynamic filling

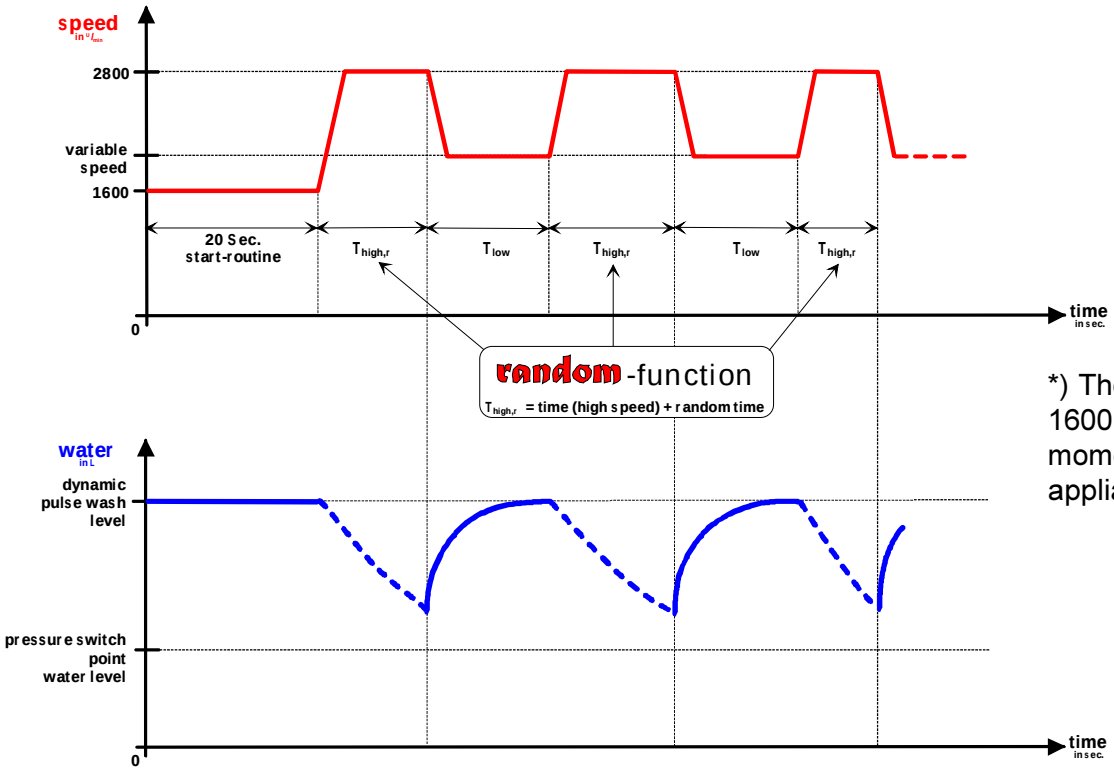
- 10 seconds filling at reduced circulation pump speed
- 5 seconds pause
- 10 seconds filling at reduced circulation pump speed
- filling with increasing circulation pump speed. As soon as the target speed has been reached, it is filled up to the pressure switchpoint.
  Failure code:
  If this dynamic 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 PPD-LED LD9 is blinking.

● LD9
○ LD10
○ LD11

*) 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

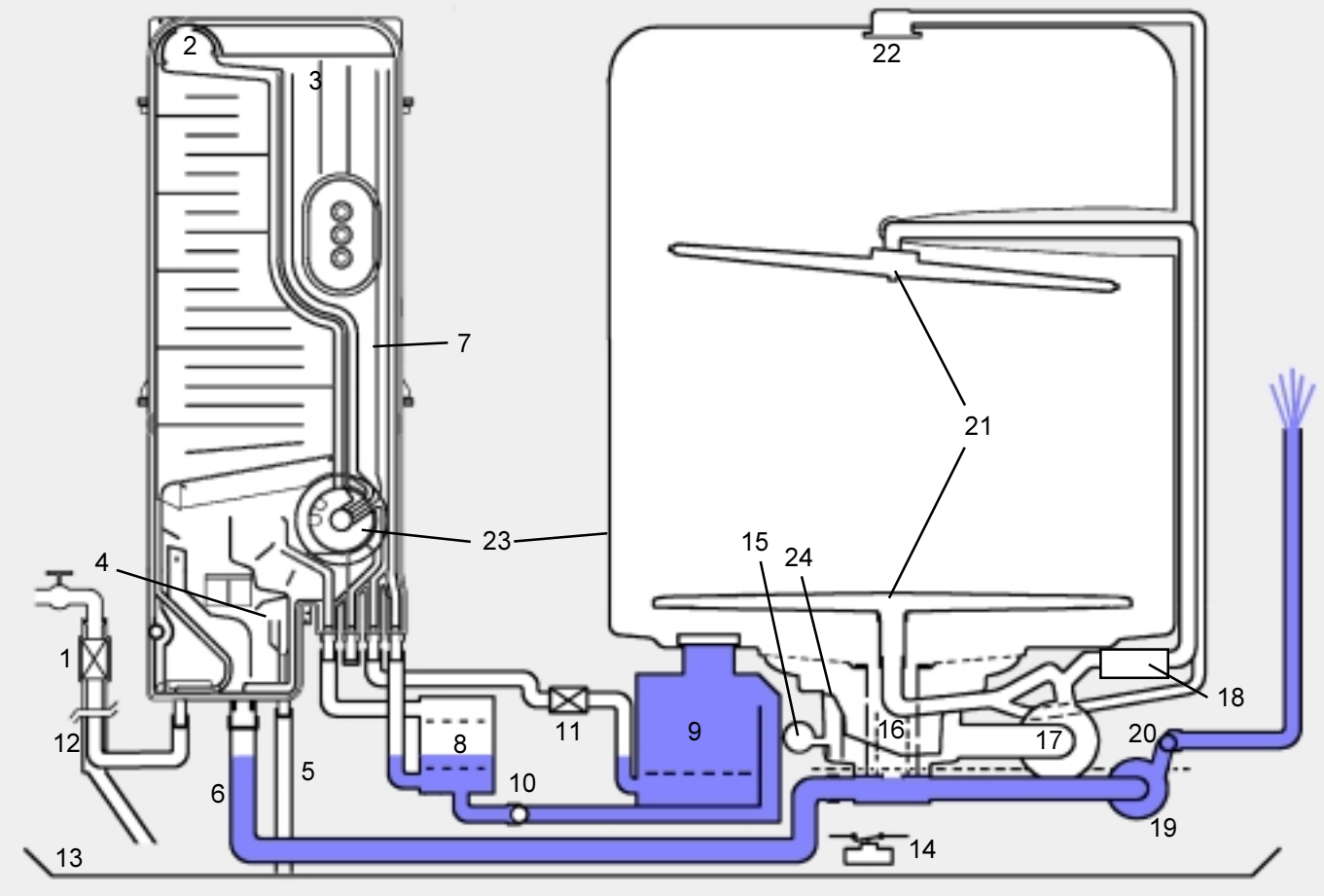
After the filling steps, the circulation pump is running at two rotational speeds.

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.

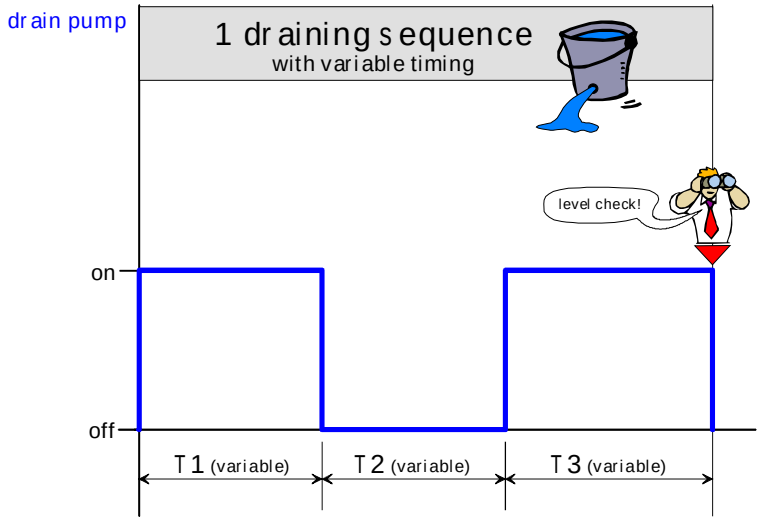
5.3 Draining

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 and PPD-LED LD10 is blinking.

  ○ LD9
  ● LD10
  ○ LD11

6.1 **Modifications from EDW1000 to EDW1001**

Author: Doris Reiß WPD/EP - Basis EDW1000 (C0901m10.s2)

No.	Gross Description of the Change:	Detailed Description:
1	Fan control	
2	Program Reset during Drying in case of power failure (switching ON/OFF)	
3	Water hardness setting procedure changed. Operation Manual needs to be adapted for existing machines.	
4	Rinsing agent deconnectable (Clip handle as for water hardness setting, but key 2) for cleansing agent with integr. rinsing product. Rinsing agent LED is deactivated. Operation Manual needs to be adapted	You should not make the user aware of filling up rinsing agent, if this is already integrated in the cleansing agent.
5	Automatic half-charge detection Limit and correcting factors in the EEPROM	As with ET/ET plus by means of heating speed
6	Automatic Start for Super Simple only when switching ON/OFF by use of main switch	You can define the program for automatic start in the EEPROM
7	Selection of two programs by one key only Super Simple only (toggle function)	
8	Superwash	120 min
9	Intensive program 80 min	Only with ZM
10	Eat Load Run program	Duration 30 min
11	Point of rinsing with programs for new drying modified from program start to Drying.	
12	Wasserzulauf Trocknen wegen neuer Reg-dos (New Water system)	1 l water admission for drying support
13	New Reg-dos (New Water system) - Change of rinsing to 2 litres in the EEPROM	
14	With half-full detection - 5°C during Wash not with Intensive)	With half-full detection, the temp. is reduced by 5K during Wash.
15	New energy-saving program for BAB	
16	Adaptation of minimum program durations for hot water connection.	
17	Intensive and normal programs without impulse rinsing for ZM as well	
18	*Removed:* Alternating spray beam drive by ball	
19	*Removed:* Alternating spray beam drive by ball with half-full	
20	*Removed:* Tablets option no longer possible	
21	*Removed:* Subprograms no longer required were canceled.	
22	*Removed:* Change of manufacture testing program for ZM	
23	*Removed:* Program counter over the life cycle	Readable in the EEPROM

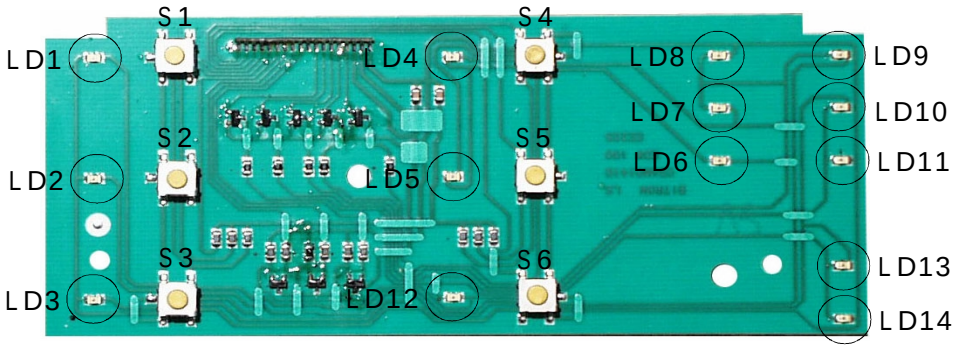
6.2 Inputs and Outputs

Arrangement of keys, LED's and lamps

for DGN appliances of SGA design AEG

with vertical key arrangement

left hand panel side

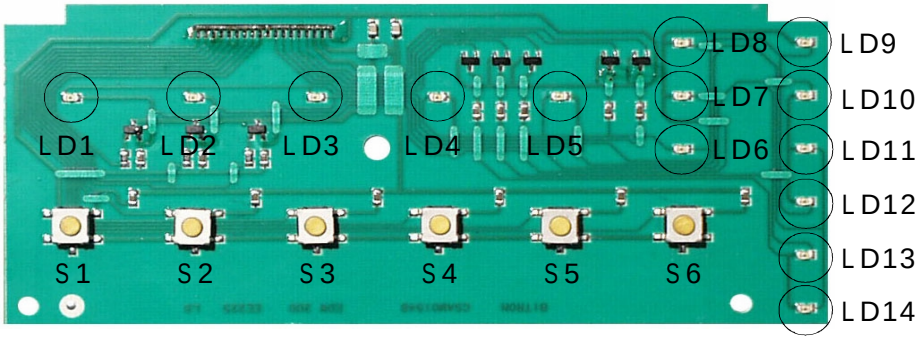


right hand panel side

For DGN appliances of IGA design AEG and OEM varieties

with horizontal key arrangement

left hand panel side



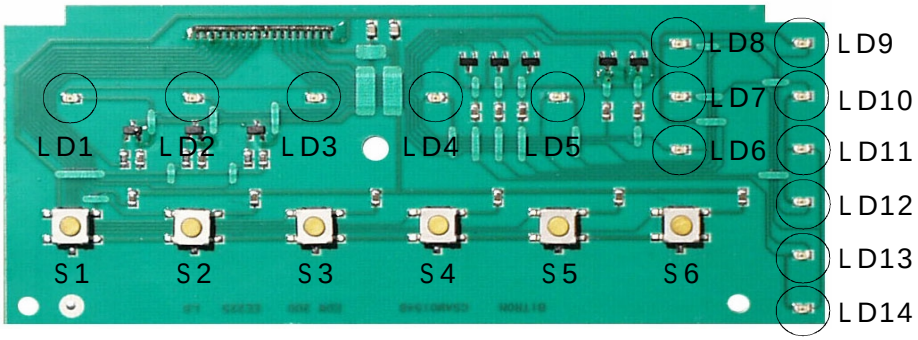
right hand panel side

for Solaro and Schwanden appliances

with horizontal key arrangement

left hand panel side

right hand panel side



Generally available keys and LED's (minimum standard):

Keys	S0 (ON/OFF), S1, S2, S3 as programming keys If the 3 programming keys are not placed on S1 - S3, observe the revisions made to maintenance or customer service programs respectively, and also the hardness range selection!
LED's / Lamps	LD0 (ON/OFF), LD1, LD2, LD3

6.3 **General**

- **Equipment in panel area:**
  (refer to panel drawings on page B 1)
  - Separately arranged ON/OFF key S0
  - 6 keys S1 to S6 for selection of programs or options

    All keys can be freely assigned without restriction due to programming of the model at issue

    Keys S1 to S3 and the associated LED's should usually be available
    required for maintenance function control)
  - 3-step program flow display (PAA) with LED's
    Denomination of LED's "Wash" - "Dry" - "End"

  Available on certain models
  - 3-step start preset time with display via LED's LD6 to LD8
    Time grades are stored in the EEPROM and can be freely assigned without restriction due to programming of the model at issue
    It is necessary, however, that the 3 selected times are between 1 hours and 15 hours.
  - LED display for salt
  - LED display for rinsing agent

- **Available program options for selection:**
  - Start preset time
  - Superwash
  - Half load "small quantity"
  - Temperature increase and/or temperature reduction
  - Additional rinsing cycle

- **Miscellaneous**
  - Regeneration on demand / Water hardness setting and display on the control panel
  - Rinsing agent display can be switched off by customer depending upon the model
  - Manufacture check program
  - various customer support functions (error memory, individual actuator control, LED test)
  - Rating of the appliance for max. energy label ABC
  - optional with and without blower drying
  - Aqua-Control-System in various models
    Depending upon electrical and mechanical components and the associated programmation of the model

- **Key version:**
  The ON/OFF key S0 is made as separate mains switch with "exceeding stroke" function.
  All other available keys S3 to S6 are keys on the printed circuit board.

- **Acknowledgements and Displays:**
  All key acknowledgements and other displays are displayed by the LED's.
  Only the ON/OFF key is provided with a glow lamp instead of a LED display
  This indicates the operational status of the appliance (appliance is switched ON or OFF).

6.4 **Input Philosophy: Program and option selection**

Appliance startup

- Switch the appliance ON by use of ON/OFF key S0
- Anzeige LD0 bei Ein/Aus-Taste leuchtet.

  ↳ Appliance is in prestart mode.
  ↳ All program and optional keys are enabled and can be selected

- Selection of start time anytime possible
  - Start preset time by use of the key which is defined accordingly
    This key has no acknowledgement LED.
  - Activated start time displayed by means of 3 LED's
    Only one of the start preset time LED's can be lit.
  - Selection by rotational system (e.g. 3h .. 6h .. 9h .. OFF .. 3h ..)
  - Switch-over or switch off of start preset time is possible anytime (all start preset time LED's dark) during the total run of the start time
  - Since no rinsing cycle has been selected, the preset value of start preset time is maintained and flashing.

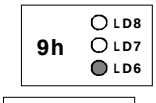
Program selection/Option selection

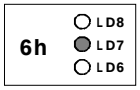
- The desired rinsing cycle is set by pressing the corresponding program key.
- LED of selected cycle key is lit.
- The operator can switch the program over within 6 sec or add one or more options.
- During this phase, all PAA-LED's pertaining to the program are flashing, but not the LED backlit by "END".
- Any options or the start time preset can be added only until the start of the program proper!

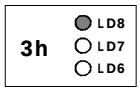
- **Options are available**
  - Press the desired option key
  - Acceptable are only the defined combinations admissible
  - If the option selection is admissible, the program key and option key LED's are lit
  - It is possible to select another option within 6 sec.

- **Start time preset is available**
  - Set the start time preset by pressing the respective defined key
  - Start time activated is displayed on 3 LED's
    Only one of the start preset time LED's can be lit.
  - Selection by rotational system (e.g. 3h .. 6h .. 9h .. OFF .. 3h ..)
  - 6 seconds after the last action on the key, the timer for preset time is started.
  - Within those 6 seconds, the associated program key LED is lit.
  - During this phase, all PAA-LED's pertaining to the program are flashing, but not the PAA-LED backlit by "END".
  - During the sequence of start preset time, the program key DEL is permanently lit.
    PAA indication goes dark during this period.
  - It is anytime possible to switch over or off the start preset time (all start preset time LED's are off)
    druing the whole of the sequence of the start time.

- Sequence of the selected start time
  - The start time selected is counted backwards from the set value until reaching Zero hours. Then the program is started automatically.
    (see description page B 4 / "Program start")
  - Indication is updated accordingly.
  - Display of start times:
    9h to 6h - LED LD6
    6h to 3h - LED LD7
    3h to 0h - LED LD8
    0h / Start - all LED's "off"
    (Other definitions possible depending upon each model!)







- Every pushbutton operation during the 6-second operation period will reset the timer for program start proper (keys are then blocked) back to 6 seconds.

6.5 Input Philosophy: From program start to program stop

Program start

- When the preset start time runs out, or 6 seconds after the last pushbutton operation of a program or option key, the rinsing program selected is started automatically.
- From this moment it is no longer possible to add a preset start time or any program option. It would be necessary to completely restart the machine to enter a new preset start time!

program flow

- During program processing, the following LED's are on display
  - Key LED of the rinsing program and any options selected
  - According to the state of the program, one of the PAA LED's
- The sequence of the program is separately described in the chapter Program Technology

Program stop

- The end of the program is displayed with the PAA LED "End".
- The acknowledgment LED of the program key, and of the option key of the completed program, if any, remain lit.
- After reaching program stop, the stored and executed program can be cleared either by opening the door, or by switching the machine off by use of the ON/OFF key S0.
- If you clear the program by opening the door, the machine will be automatically in "prestart" mode after closing the door, i.e. a new program could be selected immediately.

6.6 **Input Philosophy - clearing, changing, cancelling**

Clearing a programm

- You can clear a rinsing program selected or already started at any time.
- For this, press the key of the selected rinsing program until
  the associated key LED goes dark (after approx. 2 secs).
  - ↳ During this time, the associated key LED and the LED's of any selected option keys are lit.
- The rinsing program is canceled and cleared.
  - ↳ All LED's of all program and option keys, and also the PAA LED's will go dark, too.
  - ↳ Only the indicator lamp LD0 at the ON/OFF key remains lit.
- The machine is now back in the prestart mode.
  (see description page B 3 / "Switching ON the machine")

Changing the program (**when the program has already started)**

- Both "Clearing the program" and then "restarting" the desired program are possible (see above)
- Direct change-over during operation is not possible.

Interrupting the program / Pause Function

- You can interrupt the program for any period of time by use of the ON/OFF key S0 without any losses.
  This is equal to a "Pause" Function. The same is true for any interruption by opening the door.
- No clearing function is integreted into the ON/OFF key S0!
- Whenever the program is interrupted with the ON/OFF key, all indications go dark.
- After restarting by pressing the ON/OFF key or by opening the door, the program flow is continued
  at once without need to press any button.
  - Note: With program sequences where the recycling pump is controlled, this one is operated directly upon the startup for about 20 seconds at reduced speed. N
- All indications and acknowledgements appear in the same status as before the break

Attention: This function is only applicable until the start of the program section "Drying".

- From the program section "Drying" the following is true:
  - If the machine is stopped by pressing the ON/OFF key S0.
    the program is cleared.
    - ↳ All displays go dark.
    - ↳ If you restart the machine by pressing the ON/OFF key S0, it will be automatically,
      after closing the door, in "prestart" mode, so that you could immediately select a new program.

What happens when opening and closing the door?

- **Machine is switched ON and is in "prestart" mode.**
  - After opening the door, all indications on the panel are maintained.
    Full power supply to the electronic system is ensured as long as the machine remains switched ON.
- **The door is opened during a program in process.**
  - By opening the door, you can interrupt the program without losses for any period of time.
    This is equal to a "Break/Pause" function.
  - After opening, all displays on the panel are maintained so long as the machine remains
    siwtched on by means of the ON/OFF key S0.
  - After closing the door, the machine immediately starts up, the program flow is continued.

6.7 Input Philosophy - Displays

- **Display of program, program sequence, start time preset and information:**
  - All displays are executed as LEDs and available depending upon the model.
  - They are subdivided into 4 different types:
    1. Program selection and option displays
    2. Program flow displays
    3. Start time preset LED's
    4. Information displays
  - **Program selection and option displays**
    - Over or next to a program or option key, there is always a corresponding LED for acknowledging the selected function (not applicable for start time preset).
    - They are continuously lit during the whole program flow.
  - **Program flow display (PAA)**
    - The program flow display contains of a maximum of 3 LED's
    - The position of the LED's depends upon the model programming. With vertical key arrangement, output is by the LED's LD6 to LD11, LD13 and LD14, with horizontal key arrangement there is additionally LED LD12.
    - At present, PAA is assigned to the LED's LD9 through LD11.
    - According to the program start, the associated LED will be lit permanently during the entire program flow.
  - **LED flow display for preset start time**
    - LED display for start time preset contains of a maximum of 3 LED's
    - The position of the LED's depends upon the model programming. With vertical key arrangement, output is by the LED's LD6 through LD8 and LD9 through LD11, with horizontal key arrangement there are additionally LED's LD12 through LD14.
    - At present, start time preset is assigned to the LED's LD6 through LD8 and is defined as follows:
      LD6 = 9h / LD7 = 6h / LD8 = 3h
    - According to the time processed, the associated LED will be lit permanently until program start.
  - **Information displays**
    - These LED's are permanently lit from switching the machine on by use of ON/OFF key until the moment of actual program start. These LED's will also be lit after reaching program stop until the machine is switched off.
    - The display LED's will go dark during the entire program flow!
    - **LED display Salt**
      - The position of the LED depends upon the model programming. It can be assigned to any LED not occupied with a program or option key.
      - At present, the LED Salt is assigned to the LED's LD13 or LD14.
      - "ON" when salt is lacking
      - Goes dark after filling up the salt (depending upon the dissolution of the salt, it may take some time until the LED goes dark).
        - Note: LED display Salt goes dark when hardness range "WH1" is set (no regeneration required)
    - **LED display Rinsing agent**
      - The position of the LED depends upon the model programming. It can be assigned to any LED not occupied with a program or option key.
      - At present, the LED Rinsing agent is assigned to the LED's LD13 or LD14.
      - "ON" when rinsing agent is lacking
      - Goes dark after filling up the rinsing agent
        - Note: Rinsing agent display can be totally switched off by the customer, depending upon the model. (see description page B9)

6.8 **Operating Errors and Flow Interruption**

- **Simultaneous pressing of 2 or more keys**
  - In practice, it is not possible to press several program keys exactly simultaneously in view of electronic detection.

- **Key pressed too long (when program is in process)**
  - If you press a program key for more than 3 seconds, this may cause the rinsing program to be cleared.
    (see description page B 5 / item "Clearing the program")
  - If any option key is pressed longer, this will be of no influence for the program flow.
    These buttons are locked after program start.

- **Errors during program flow**
  (see description page B13)
  - Display by flashing program key LED's and flashing PAA LED's, depending each time on the coding (see Table). LED's of any option keys selected are lit.

  User errors - "Water tap closed", "Pump clogged"
  - If the error occurring is a user error, the machine automatically changes over to "Pause Mode".
  - If any error is detected, for instance "Water tap closed", the program is stopped at this place.
  - The machine will wait until the error is remedied (if possible).
  - In order to continue the program it will be necessary, in this case, to press the ON/OFF key.
  - The program is continued without transition at this place. No program losses will occur.
  - There is no need to clear the program.

  Miscellaneous errors
  - All other errors which are coded by means of the PAA LED's, partly visible for the Customer, are described in detail in the Table on page B12.

- **Power failure**
  - In case of power failure, the machine will behave in the same way as when switched off by pressing the ON/OFF key.
    (see description page B 5 / item "Interrupting the program & Break/ Pause function")
  - When the power is back, the machine will behave in the same way as when switched on by pressing the ON/OFF key.
  - The program is continued without transition at this place. No program losses will occur.
  - You need not press any key for the program to continue without transition after power failures.

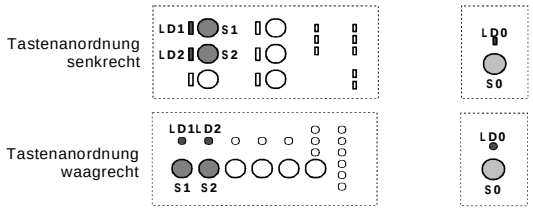
  Attention: This function is only applicable until the start of the program cycle "Drying".
  From the start of the program cycle "Drying", the program will be stopped in case of power failure.
  (see description page B 5 / item "Interrupting the program & Break/ Pause function")

6.9 Service Function / Water Hardness Settings:

When calling service functions, generally no rinsing program may be selected!

General Information

- Setting and adjusting the water hardness range is identical with all designs and/or key arrangements.
- Always use the keys S0, S1 and S2, independently of their model-related program assignment.



Generally applicable:

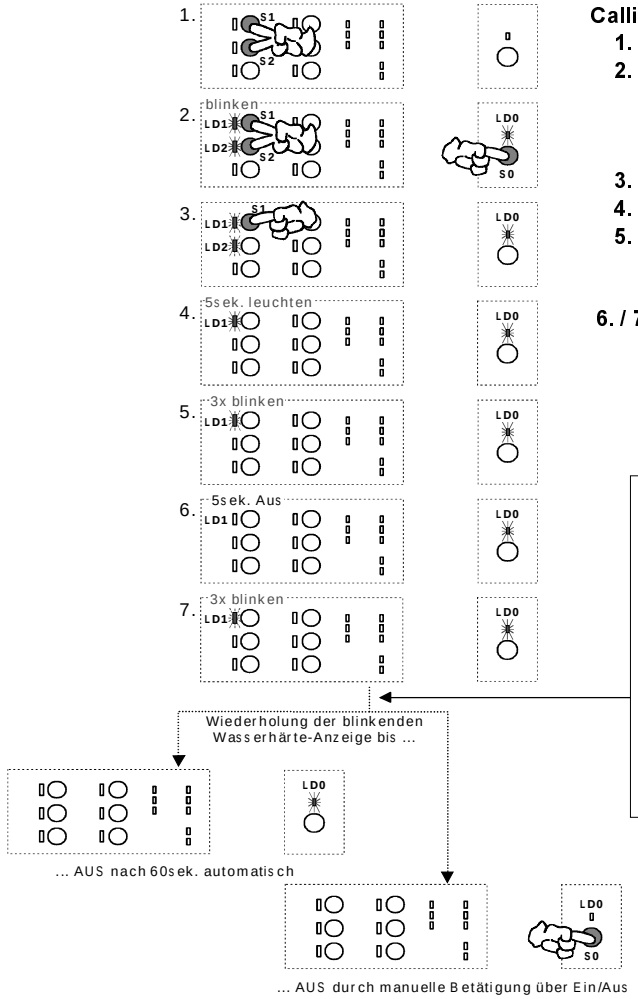
- Key S1 is ALWAYS the "Water hardness range key"
- In the works, hardness range value WH3 has been preset.
- With setting „WH1“ no regeneration is usually carried out.
  No adding of salt is required.
  Any salt LED available will not be activated.
- Table of hardness range values:

Einstellung	Wasserhärte	Anzeige mit LED LD1
WH 5	41 - 50 dH	5x blinken
WH 4	30 - 40 dH	4x blinken
WH 3	19 - 29 dH	3x blinken
WH 2	4 - 18 dH	2x blinken
WH 1	unter 4 dH	1x blinken

General explications to key LED LD2* :

- This key LED goes on or flashes only if the function "Rinsing agent stop" is programmed on a certain machine model.
  If the backlit function is not available on a certain model, the respective LED is switched off in the mode Service Functions.

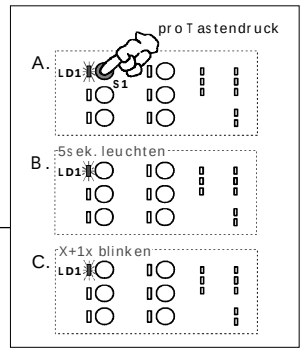
Calling / Modifying / Storing the Hardness Range Value



Calling the function "Water hardness settings"

1. Press keys S1 and S2 simultaneously and ...
2. ... Keep them pressed until the machine is switched on with the ON/OFF key S0. For acquittal, the respective key LED's LD1 and LD2* are flashing (LD2* is only flashing if rinsing agent stop has be programmed - see explanation opposite)
3. Press the key S1 in order to call the water hardness function.
4. The acquittal LED LD1 lights up for 5 seconds.
5. Now the hardness range setting is displayed by the key LED LD3 flashing:
   (In the example left, WH3 is displayed by 3 times flashing)

6. / 7. This LED will then go dark for about 5 seconds ...
The operation is repeated on display for a maximum of 60 seconds.
(3x flashing – 5 sec pause – 3x flashing – 5 sec pause – etc.)



Changing the preset hardness

- **A** Press the key S1 to modify the hardness range. The value is increased in rotating manner.
- **B** After pressing the key, the key LED LD1 will go dark for about 3 seconds.
- **C** The new value is then displayed by coded flashing of LED LD1.

Further sequence as described under 6./ 7.
Any pressing of the key S1
will increase the hardness range rotatively.
(WH1, WH2 ... WH5, WH1, WH2, ...)

Storage of the water hardness settings
The hardness range selection is stored immediately upon each single input.

Exiting the function
After 60 seconds after the last pushbutton operation on key S1 or by switching the machine off by use of the ON/OFF key S0, you automatically leave the special program.

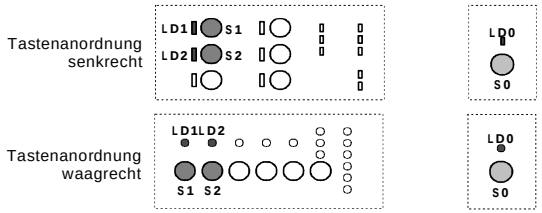
6.10 **Service Function / Switching off the rinsing agent display:**

⚠ *When calling service functions, generally no rinsing program may be selected!*

General Information

Function is not generelly available.
This function must be programmed in the software model.

- For deactivating or activating the rinsing agent dosage, you will need the keys S0, S1 and S2, independently of their model-related program assignment.
- If rinsing agent dosage is activated, this will be displayed by the LED's LD2 and (position-independently) LED "END".



Note:
This function is used to switch off the rinsing agent display ONLY. It is generally not possible to switch off the rinsing agent dosage.
If a certain model is not provided with rinsing agent LED, this function cannot be displayed!

Generally applicable:

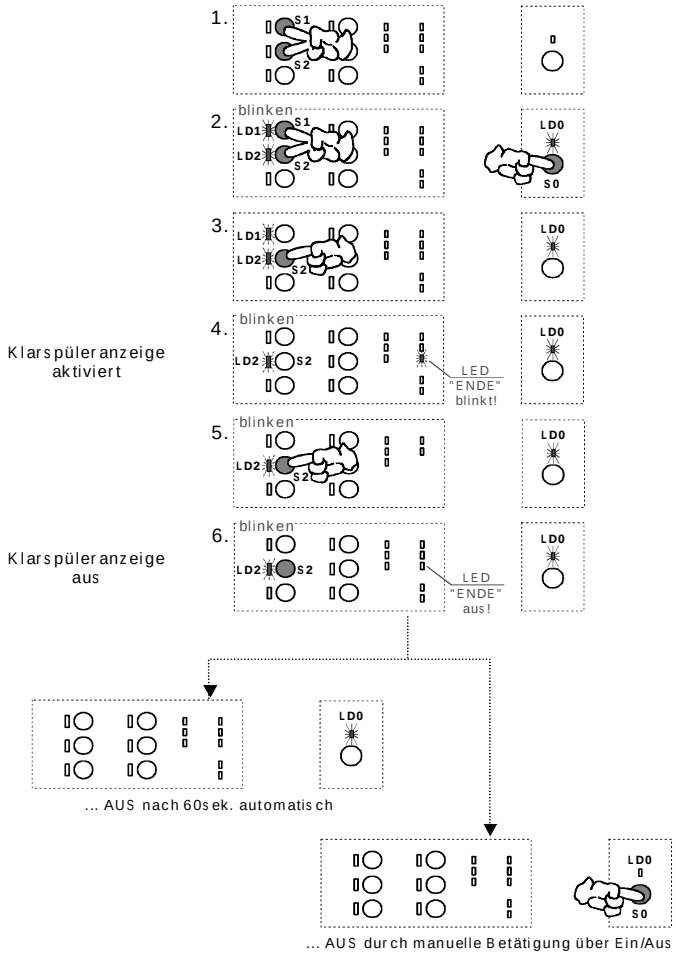
- Key S2 is ALWAYS the "rinsng agent key"
- In the works, rinsing agent display has been activated.

General explications to key LED T1* :

- This key LED only lights up or flashes, if the function has been programmed on this machine model.

If the backlit function is not available on a certain model, the respective LED is switched off in the mode Service Functions.

Aufrufen / Ändern / Speichern der Klarspüleranzeige



Calling and changing the rinsing agent display function:

1. Press keys S1 and S2 simultaneously and ...

2. ... Keep them pressed until the machine is switched on with the ON/OFF key S0. For acquittal, the respective key LED's LD1 and LD2 are flashing.

3. Press the key S1 in order to call the "rinsing agent display" function.

4. The key LED LD2 is flashing.
When the rinsing agent display is activated, the END LED will also be flashing.
The "END" LED position can vary depending upon the model programming.
(see description page B 6 / item "Program flow display")

5. / 6. By pressing key S2, you can now activate or deactivate the rinsing agent display.
Rinsing agent display active:
Key LED's LD2 and "END" LED are both flashing.
Rinsing agent display inactive:
KeyLED LD2 is flashing.

Storing the status setting:
The setting is stored immediately upon each single input.

Exiting the function
After 60 seconds after the last pushbutton operation on key key S2 or by switching the machine off by use of the ON/OFF key S0, you automatically leave the special program.

6.11 Service Functions Manufacture

⚠ *When calling service functions, generally no rinsing program may be selected!*

• Calling the ManufactureTesting Program:

(see description page B 12)

Not for the use of final customers

- Press both program keys S1 and S3 simultaneously and keep them pressed until the machine has been switched on by use of the ON/OFF key S0.
- As an acknowledgement that the function "Manufacture Test Program" is active, the key LED LD3 flashe This LED will keep on flashing during the whole program cycle.
- Program starts automatically after about 3 seconds.
- The remaining program flow is identical to that of any Consumer rinsing program. The usual rinsing program sequence is simulated.
- In the manufacte test program, regeneration is always carried out independently of the demand
- Program status is displayed by means of the PAA LED's LD9 through LD11.
- In case of power failure, the test program is continued after approx. 3 seconds after the return of the pow
- You can stop the test program by opening the door.
- When the door is open, both the program key LED LD3 and the respective PAA LED are lit.
- You can exit from the test program by again pressing on the key S3. (also see description on page B 5 "Clearing the program")
- At the end of the manufacture test program, both the LED LD3 and the PAA LED "End" are lit.

• Setting and recognition of heating power:

- Heating capacity is included in machine model programming.
- All machines of series EDW1000 are of standard design 10A only.

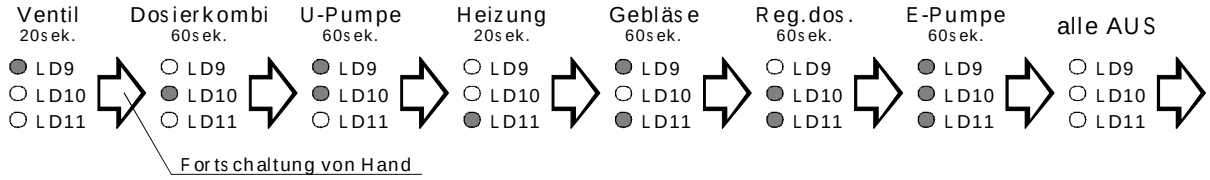
6.12 **Service Functions Customer Support**

⚠ *When calling service functions, generally no rinsing program may be selected!*

• Control of individual actuators

(see description page B12)

- Press both program keys S2 and S3 simultaneously and keep them pressed until the machine has been switched on by use of the ON/OFF key S0.
- As an acknowledgement that the function is active, the key LED's LD1, LD2 and LD3 are flashing.
- Start the function by pressing the program key S2.
- The key LED LD2 will keep on flashing during the whole program cycle.
- The first actuator to be activated is automatically the valve. All other individual actuators can then be called by pressing the program key S2 one after the other in the below-mentioned order.
- Each of the individual actuators is activated for the period of time indicated below. Then it switches off automatically. The machine remains in a break mode until the next individual actuator is called by pressing key S2 or you leave the whole function.
- Each single actuator is displayed on the PAA LED's in coded manner.
- The order of activation is defined and rotative. It cannot be changed.
- You can intentionally shorten the time of activation by pressing the key S2
- even before the expiry of the stated period of time.
- Order of activation, ON duration and associated coding:



- The function remains active until you switch if off by use of the ON/OFF key S0.

• Output Customer Support error memory

(see description pages B12 and B13)

- Press both program keys S2 and S3 simultaneously and keep them pressed until the machine has been switched on by use of the ON/OFF key S0.
- As an acknowledgement that the function is active, the key LED's LD1, LD2 and LD3 are flashing.
- Start the function by pressing the program key S1.
- The key LED LD1 will keep on flashing during the whole program cycle.
- Errors are displayed on the PAA LED's LD9 through LD11 in coded manner. (see page B13 / item "Error Display Overview")
- By further pressing each time on key S1, you can call the errors in rotative manner.
- Only the last three errors each occurred can be displayed.
- You can exit from the function only by switching the machine off by pressing the ON/OFF key S0. werden.

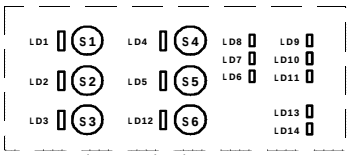
• Clearing the Customer Support error memory and LED Test

(siehe Beschreibung Seite B12)

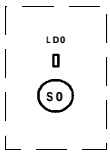
- Press both program keys S2 and S3 simultaneously and keep them pressed until the machine has been switched on by use of the ON/OFF key S0.
- As an acknowledgement that the function is active, the key LED's LD1, LD2 and LD3 are flashing.
- Start the function by pressing the program key S3.

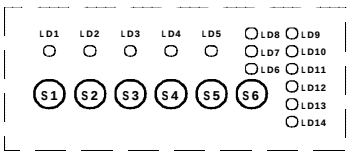
  !! Warning: By starting this function, the error memory will be automatically cleared!!
- All LED's provided on the panel (max. LD1 through LD14(will be lit simultaneously shortly (for abt. 1 sec). The lighting up of all LED's is repeated twice again with a break of 2 seconds in between each time. Then only the program key LED of S3 will be flashing.
- You can leave the function in a shorter period of time only by pressing the ON/OFF key S0 and switching off the machine.

6.13 **Summary of Service and Customer Support Functions**

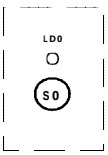


Tastenanordnung senkrecht





Tastenanordnung waagrecht



⚠ *When calling service functions, generally no rinsing program may be selected! Alle weiteren Daten sind dem zugehörigen aktuellen Pflichtenheft zu entnehmen !*

Function	LED Display		Selection resp. Start of Function by key operation	LED Display	Short description/remarks
Water Hardness Setting	S1 + S2 then additionally S0 (ON/OFF)	→ LD1 and LD2 flashing	→ S1	→ LD1 lights up for 5sec. Then display of new H value by coded flashing	→ For detailed description see page B 7 "Water hardness settings"
Switching Off the Rinsing Agent Display	S1 + S2 then additionally S0 (ON/OFF)	→ LD1 and LD2 flashing	→ S2	→ Rinsing agent active: LD2 and "END" flashing Rinsing agent OFF LD2 flashing	→ For detailed description see page B 8 "Switching off the rinsing agent display"
Manufacture Test Program	S1 + S3 then additionally S0 (ON/OFF)	→ LD3 flashing	→ Program start after 3 sec. auto-matically	→ LD3 flashing	→ Manufacture test program is carried out automatically. For detailed description see pag B 9 "Calling the manufacture test program"
Individual Actuator Control	S2 + S3 then additionally S0 (ON/OFF)	→ LD1 + LD2 + LD3 flashing	→ S2	→ LD2 flashing	→ Order of activated actuators: Valve > Dosing combination > Recycling pump > Heating > Fan > Reg.dos > El.pump > all OFF For detailed description see page B 10 "Individual actuator control"
Output Customer Support Error Memory	S2 + S3 then additionally S0 (ON/OFF)	→ LD1 + LD2 + LD3 flashing	→ S1	→ LD1 flashing Error display coded via PAA LED's.	→ For detailed description see pages B 10 / B 13 "Output Customer Support Error Memory" / "Overview Error Displays"
Clearing the Customer Support Error Memory LED Test	S2 + S3 then additionally S0 (ON/OFF)	→ LD1 + LD2 + LD3 flashing	→ S3	→ 3 times short lighting up of all existing LED's with an approx.bBreak of 2 sec.each time.	→ The activation of this function will clear the Customer Support Error Memory For detailed description see page B 10 "Clearing the Customer Support Error Memory and LED Test"

Exiting the functions	**All Service and Customer Support Functions can only be exited by way of key S0 by switching OFF the machine.** Exception: Hardness Range Setting - You can leave this function also when after the last pushbutton operation on S1 60 seconds have passed.

6.14 **Overview Error Displays**

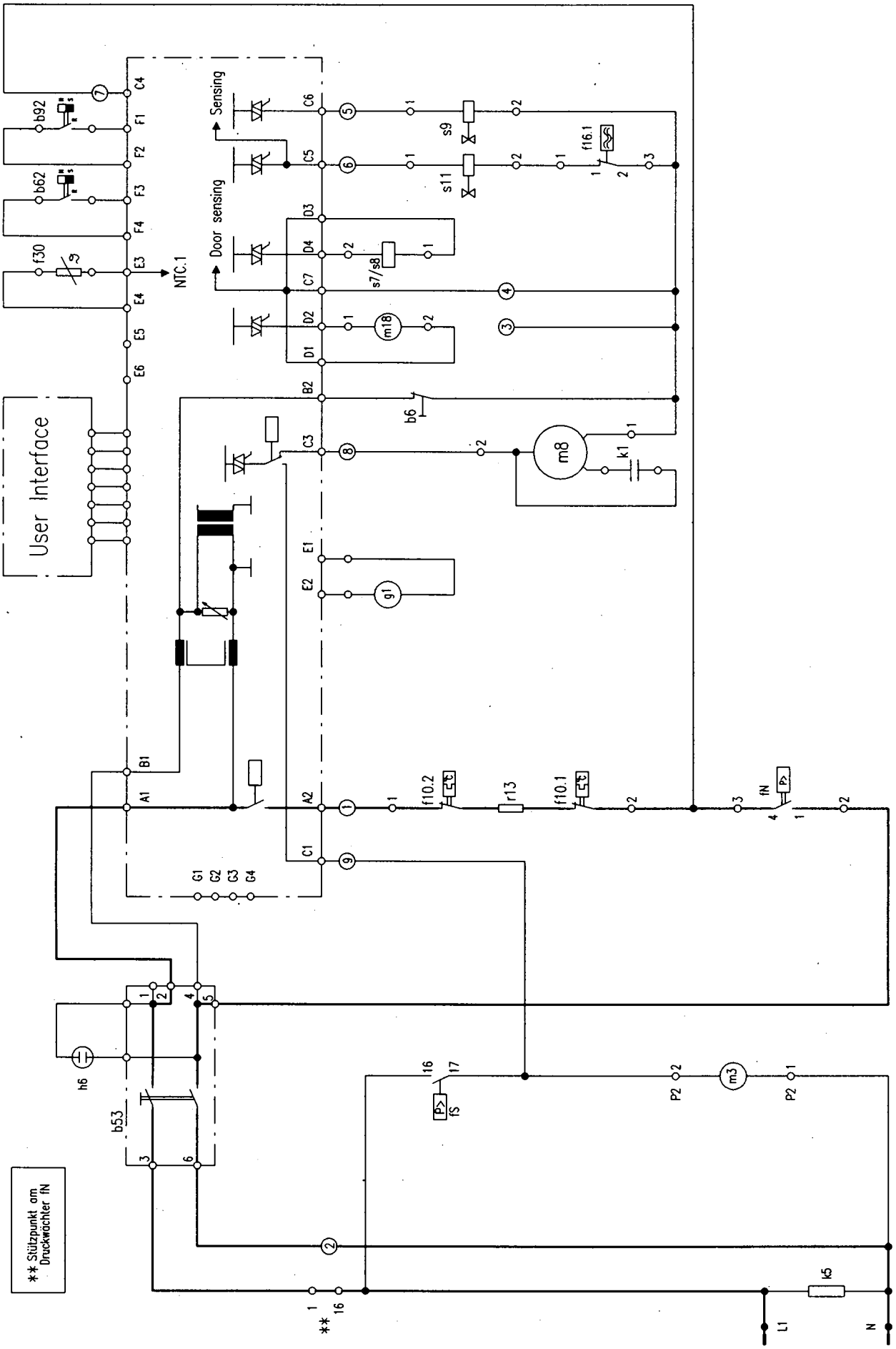
Applicable for EDW1001

Error Name	**Display PAA LED's**	Error Display visible for Customers	Calling the Error Memory (Customer Support)	**Short Description**	**What happens**
Water tap closed	LD9 LD10 LD11	yes flashing	yes lit up permanently	Filling time exceeded - error is detected if the switch point of the pressostat is not reached ... 1) ... after 2min of static filling ... 2) ... after 4min of total filling ... 3) ... after 1min of dynamic filling up during rinsing ...	Progr. LED flashing. Program stops. After remedying the error, the program can be continued by pressing the ON/OFF key S0.
Discharge pump	**LD9** **LD10** **LD11**	yes flashing	yes lit up permanently	Pressostat has not reached point of return after 2 pumping cycles.	Progr. LED flashing. Program stops. After remedying the error, the program can be continued by pressing the ON/OFF key S0.
Aqua-Control	**LD9** **LD10** **LD11**	yes flashing	yes lit up permanently	Float switch detects water in the trough (antirebounding time 2sec.)	Program is interrupted. Valve is closed, and discharge pump starts up for 1 pumping cycle (approx. 1min). E After remedying the error, the program can be continued by pressing the ON/OFF key S0.
Heating	**LD9** **LD10** **LD11**	no	yes lit up permanently	Target temperature could not be reached after 45min. (Only possible in heating cycles which are temperature-monitored)	Program is completed to the end without activation of the heating element! All heating cycles generally take 45min.
NTC Sensor	**LD9** **LD10** **LD11**	no	yes lit up permanently	NTC short circuit or break. NTC is monitored between 1st filling to start of drying.	Program is completed to the end without activation of the heating element! All heating cycles generally take 45min.
Tacho	LD9 LD10 LD11	yes flashing	yes lit up permanently	When the recycling pump is controlled, no tacho signal is detected for 30 secs.	Program stops. The program can be restarted by pressing the ON/OFF key S0. If error occurs several times, you have to contact the Customer Support.
Recycling pump Triac short-circuit	**LD9** **LD10** **LD11**	yes flashing	yes lit up permanently	Tacho signals are detected although the recycling pump is not activated.	The program is interrupted and water is supplied until the pressostat function point is reached. The program can be restarted by pressing the ON/OFF key S0. (If error occurs several times, you have to contact the Customer Support)
Programming error when forming machine models	No displays	nein	impossible	Check sum in EEPROM not correct. Is detected only after start up!	No programs can be selected. ON/OFF lamp is ON (LD0)

7. Program steps

8. Schaltpläne

8.1 Stromlaufplan (Beispiel)



8.2 Verdrahtungsplan (Beispiel)