FX - 12 - 01

Edition 2012 – 06

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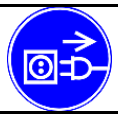
GENERAL SAFETY INSTRUCTIONS

1.1 SYMBOLS

These service instructions make use of the following safety icons. These icons are to draw the reader's attention primarily to the text of the adjacent safety instructions.

	Symbol	Description
1.		"Warning of danger point" - During operation, this warning sign is used at danger points that require particular attention and caution. Heed the safety instructions and dosing recommendations printed onto packages when handling chemicals. Wear protective clothing, protective gloves and

		protective goggles when handling chemicals.
2.		DANGER! "Warning of dangerous electrical voltage (lightning flash)" - This warning demands caution. Mortal danger due to live components! Disconnect the machine from the mains during all work on the electrical system and check the absence of voltage.
3.		"Warning of caustic substances" - Caustic substances may destroy the skin when they come in contact with it. Acids and leaches are classified as caustic (rinsing agents and cleaning agents)
4.		"Warning of hot surfaces" Caution, burning hazard! Boiler, wash tanks or the inside of the machine casing exhibit hot surfaces even after the machine is switched off.
5.		"Danger of slipping" Danger of slipping on wet floor, e.g. due to leaked cleaning agent / rinsing agent residues or moisture in general.
6.		"Warning of hand injuries" - hands may get crushed, drawn in or be injured in another manner, e.g. during transport of the machine or by tilting the machine.
7.		Warning label "Warning of substances that are harmful to health" - necessary rules of conduct and protective measures must be adhered to in this area. This warning sign is among others depicted on the descaling agent Radikalk. It may possibly react with other agents.
8.		Pull the mains plug before opening the machine
9.		"Danger of injury!" Personal protective equipment (PPE), **protective goggles, hard hat and working gloves.** **Some examples regarding the use of PPE:** Drilling, grinding, abrasive cutting Working on the dosing equipment / chemicals dispensing unit Working with descaling agents Installation / dismantling of the machine

1.2 SAFETY INSTRUCTIONS AND WARNINGS

While operating the machine, observe the general safety instructions and warnings which precede every action.

Danger levels

The danger level is an integral part of the safety instruction and is identified by the signal word. Possible consequences are distinguished from each other by the selection of the signal word.

⚠ GEFAHR	immediately threatening danger: **leads to serious** personal injuries or death

⚠ WARNUNG	potentially dangerous situation: **may** lead to **serious** personal injuries or death
⚠ VORSICHT	potentially dangerous situation: **may** lead to **minor** personal injuries or death
ACHTUNG	potentially harmful situation: **may** lead to **damage** to the product or other objects

Layout of warnings

Warnings are depicted with warning sign and signal word with the corresponding safety colours.

CAUTION	
	Type and source of danger Explanation regarding type and source of danger Measure to avert the danger Possible further measures to avert the danger

1.3 BASIC SAFETY INSTRUCTIONS

Product safety

The machine complies with the state of the art and recognised safety rules and regulations. However, dangers may arise.

Only operate the machine in perfect operating condition taking into account the operating instructions.

Any conversions or modifications on the product may only be carried out by persons authorised by HOBART. Parameterisation is accordingly protected by password.

1.4 PERSONNEL QUALIFICATION

Observe the rules and regulations in respect of occupational health and safety.

Attentively read the service manual prior to use.

Installation	Qualified personnel	Authorised electrician (electrically skilled person or persons with comparable training)
	Trainees	only under corresponding expert supervision and monitoring

Commissioning	Qualified personnel	Authorised electrician (electrically skilled person or persons with comparable training)
	Trainees	only under corresponding expert supervision and monitoring
Work on the electrical system	Qualified personnel	Electrically skilled person
Operation	Laymen	Instruction by the operating company on the basis of the operating instructions, instructions in respect of dangers
	Handicapped persons	Instruction by the operating company on the basis of the operating instructions, instructions in respect of dangers
	Children from the age of 14	Instruction by the operating company on the basis of the operating instructions, instructions in respect of dangers, only under supervision
	Children up to the age of 13	not permitted
Maintenance, repair	Qualified personnel	Hobart after-sales service or service technicians trained by Hobart
	Trainees	only under corresponding expert supervision and monitoring

1.5 PRODUCT-SPECIFIC DANGERS

Avoid danger of bruising or blows to body parts:

During storage, lifting or transport, pay attention to the instructions on the packaging.

Avoid danger of explosion:

Do not install machine in a location with explosive atmosphere.

Avoid electrocution:

Do not allow water to run across live components.

Ensure the machine does not overflow during filling.

Do not damage connection cable during unpacking.

Only allow qualified personnel to connect the machine to the mains power supply.

Avoid fire hazard:

Do not allow water to run across live components.

Ensure the machine does not overflow during filling.

Only allow qualified personnel to connect the machine to the mains power supply.

Only allow qualified personnel to make adaptations to the machine.

Prevent chemical burns, sensitisation of the skin surface, poisoning:

Wear personal protective equipment when handling chemicals (gloves, protective goggles, protective clothing).

Only use suitable chemicals. Comply with manufacturers' specifications.

Only allow trained service technicians to make adjustments to the chemicals sensors.

Do not open the door during operation, wait for the program to stop.

Separate the machine from the mains before carrying out any cleaning work.

Wear personal protective equipment when cleaning and touching parts with adhering washing liquor (gloves, protective goggles, protective clothing).

Prevent burns and scalding (of the hands)

Do not open the door during operation and during the evaporation phase, wait for the program to stop.

Separate the machine from the mains before carrying out any maintenance work.

2. MODEL OVERVIEW

2.1 MODEL OVERVIEW WITH EQUIPMENT FEATURES

Profi/ Premax	new generation	Tank: Standard 0.8 kW	Tank: Cold rinse 2.7 kW	Detergent dispenser	Turbidity sensor	Chemicals sensors Electronic system
Profi	**FX-10A**	X			X	X
Profi	**FXS-10A**	X		X	X	X
Profi	**FX-90A**	X			X	X
Profi	**FX-72A**	X			X	X
Profi	**FX-80A**	X			X	
Profi	**FX-81A**	X			X	
Profi	**FXSTD-10A**			X	X	
Profi	**FXSTD-11A**			X	X	
Profi	**FXSNav-10A**			X	X	X
Profi	**FXMar-70A**				X	X
Profi	**FXMar-71A**				X	X
Profi	**FXMar-72A**				X	X
Profi	**FXMar-73A**				X	X
Profi	**FXMar-74A**				X	X
Profi	**FXMar-75A**				X	X
Profi	**FXMar-76A**				X	X
Profi	**FXMar-77A**				X	X
Profi	**FXCV-70A**				X	
Profi	**FXCV-71A**				X	
Profi	**FXCV-72A**				X	
Profi	**FXL-80A**	X			X	
Profi	**FXL-81A**	X			X	
Profi	**FXL-10A**	X			X	X
Profi	**FXLS-10A**	X		X	X	X
Profi	**FXLSBäko-10A**	X		X	X	X
Profi	**GXHK-10A**		X		X	X
Profi	**GXH-10A**	X			X	X
Profi	**GXHS-10A**	X		X	X	X
Profi	**GX-10A**	X			X	X
Profi	**GXS-10A**	X		X	X	X
Premax	**FP-10A**	X			X	X
Premax	**FPS-10A**	X		X	X	X
Premax	**FP-90A**	X			X	X
Premax	**FP-10A**				X	X
Premax	**FPS-10A**			X	X	X
Premax	**GP-10A**		X		X	X
Premax	**GPS-10A**		X	X	X	X
Premax	**FPCV-70A**				X	
Premax	**FPCV-72A**				X	

2.2 EXPLANATION OF MACHINE DESIGNATION

F	Machine with front door
G	Glass dishwasher
P	Premax version
X	Fine filter system Genius X²
CV	Cruise vessel version
H	High version (820mm high)
HK	Hot / and cold rinsing (820mm high)
L	Large / bakery version (40mm deeper)
NAV	
Mar	Marine version
S	Machine with integrated softener dispenser
Bäko	Specially labelled Bäko* version (*bakery/confectionery)
S	Machine with integrated softener dispenser
TD	Thermal disinfection
Figure	Sales figure
A	First version

2.3 EQUIPMENT FEATURES PROFI / PREMAX

	Profi FX / GX	Premax FP / GP
USB connection	X	X
Data read-out via USB	- - -	X
Automatic documentation	- - -	X
Plain text display	X	X
Scroll mode	X	X
Standard water consumption / basket	2.0l	1.0l
Film control panel	blue	grey
Drying assistant	- - -	X
Vapostop	- - -	X
Softener dispenser	Option	Option
Turbidity sensor	X	X
Clip in rinsing arms	X	X
Integrated chemicals tanks	Retrofit	Retrofit
Tank-empty sensor (chemicals)	X	X
Double basket insert	Retrofit	Retrofit
Strainer detection	X	X
Filter system	Genius X²	Genius X²
Standby position of front door	X	X

Overview of program data see page 11.

3. PROGRAM DATA / SYMBOLS

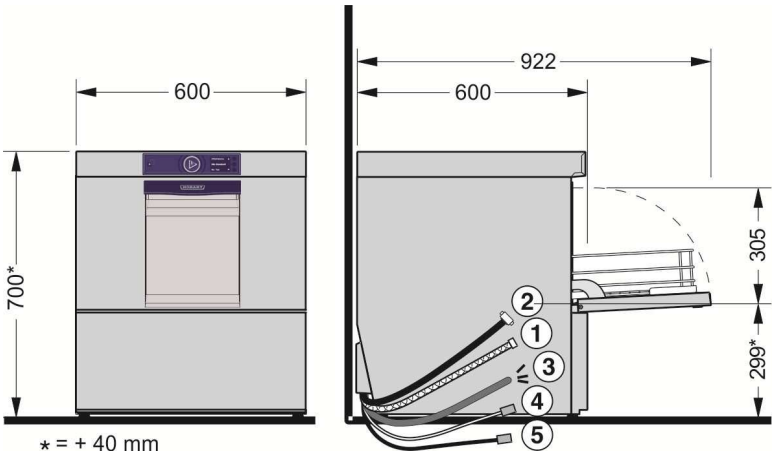
	S77 = 1	S77 = 2	GX	GPGP	FX	FP	FXCV	FPCV	Bäko& FXNB	FXTD
1	SHORT		60		90	80	100	100	90	
2	STANDARD		90		180	150	190	190	180	X
3	INTENSIVE		120				250	250		Austria.
4	ECO	Eco				170				
5	COLD		120							
6	INTENSIVE WITH WATER CHANGE				360				360/no cleaning agent	
7	CONTINUOUS				X				X	
8	CUTLERY			360		360 with steam				
9	HYGIENE		X						X/off	X
10	BASIC CLEANING		X						X	
11	DESCALING		X					X		
12	COFFEE CUPS								X	

3.1 TECHNICAL DATA

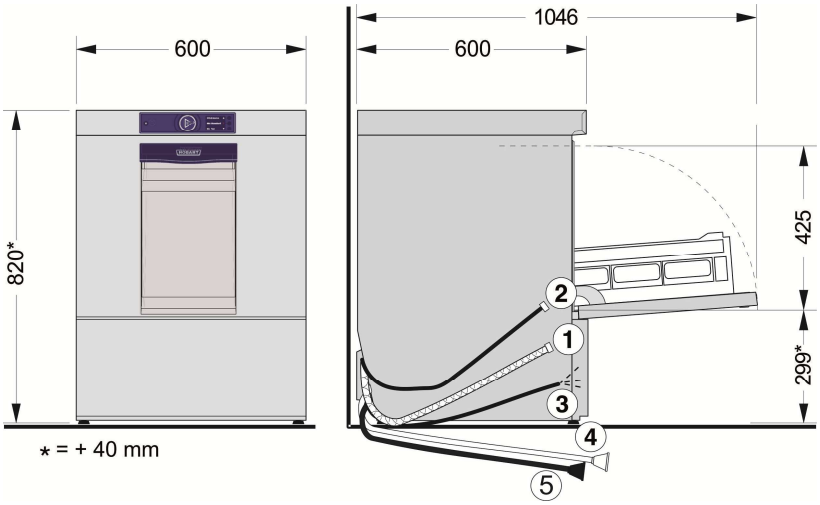
Equipment	Control system USB interface Soft start Thermostop-induced wash time extension Liquor pump Self-cleaning program during tank draining Built-in water softening system as option
Basket output/h (theoretical)	FX 40, GX/GP 60, FP 45
Basket size	500 x 500 mm (540 x 500) (can also be used as double basket machine)
Rack height	420 mm
Type of protection	IP X4
Fresh water feed	Minimum flow pressure 0.5 bar upstream of the solenoid valve, maximum pressure 10 bar
Water hardness	For machines without softener dispenser 0-3°d, for machines with softener dispenser max. 30°d
Flow rate filling valve	5 l/min
Rinsing water amount	**S**tandard: 2.0 l, / Intensive with water change: 11.5l / Intensive program of glass dishwashers 4.0l / Eco program 1.0l / Turbidity sensor 2l, or 2.5l, or 3l
Boiler content	6.8l
Boiler heating	6.1kW (3P 16A); 1.4kW (1Ph 13A); 2.0kW (1Ph 16A); 4.1kW (1Ph 25A)
Boiler temperature	83 °C, for glass dishwashers 65 °C, for cold rinsin g programs cold
Tank heating	0.8kW standard / 2.5kW for machines with cold water rinsing
Tank temperature	60°C FX / 63 °C FP / 55-60°C GX, GP
Tank content	11.5l
Pump motor	Output 0.59 kW
Circulating capacity	140l/min
Sound level	60 dB (A)

3.2 INSTALLATION DIMENSIONS

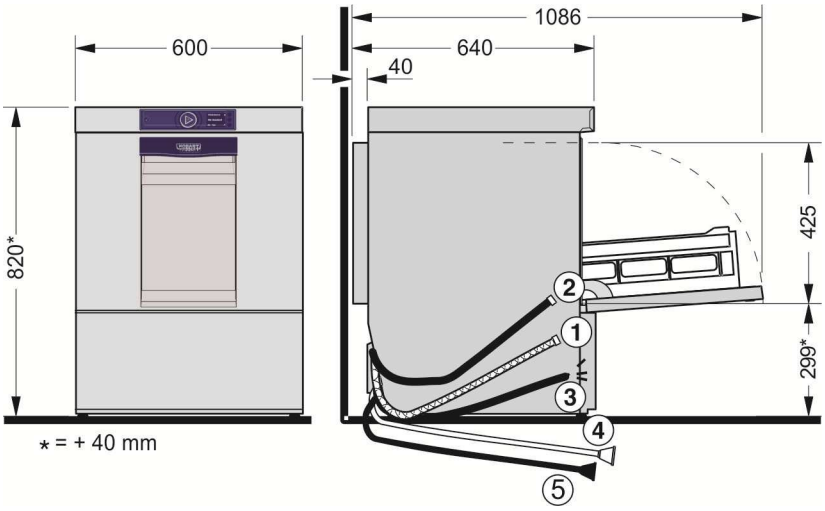
3.2.1 GX



3.2.2 FX / FP / GXH / GP



3.2.3 FXL



4. INSTALLATION

4.1 ELECTRICAL CONNECTION

The machines are basically supplied with a cable H07RN-F (cable length from cable gland approx. 2.5m).

Pursuant to EN 60335, the machine must be connected to the equipotential bonding and fuse and feed cable cross section must be designed accordingly.
The mains feeder must be connected via an isolator. The connection is located at the cable bushing on the rear of the machine.

4.2 WATER CONNECTION

The machine must be operated with drinking water quality.
Proposed conductivity limits:
80 µS for cutlery and **100 µS** for glasses, **200-400 µS** for chinaware.

Machine without softener dispenser:
Connection to soft, as warm as possible water up to max. 3°d total hardness (0.5 mmol/l, max. 60°C) po ssible.
Connect machines with separate cold rinsing system to soft cold water.

Machines with softener dispenser:
The machine should as far as possible be connected to as warm as possible water (max. 60°C).
Connect machines with separate cold rinsing system to cold water.

Softener dispenser/machine **must** be adjusted to the water's degree of hardness.

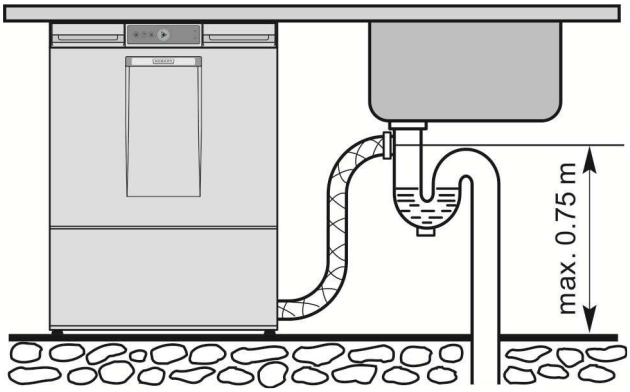
The flow pressure of all machine types should be between 0.5 and 10 bar.
Provide a pressure reducer at a flow pressure in excess of 10 bar.
Screw union nut G 3/4" onto on-site stop cock.

Do not kink or cut feed hose.
A possible extension of the hose must be produced with a suitable pressure hose e.g. 324088-1.

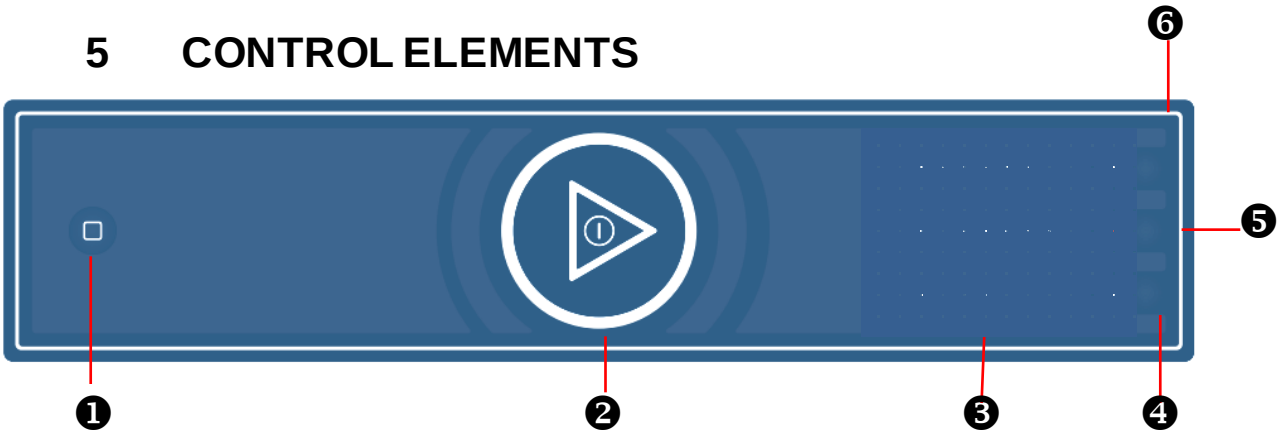
Low temperatures <= 5°C during transport/storage ma y lead to frost damage to water-carrying components.
Store the machine at room temperature (min. 15°C) f or 24h.

4.3 DISCHARGE

The connection between machine and on-site discharge may not exceed a maximum height of **0.75 m**. Do not lay discharge hose loosely on the floor and do not kink.



5 CONTROL ELEMENTS



① Off button

With this button, the machine can be switched to off mode at any time. Active programs are aborted.
In machine-off mode, it is possible to skip respectively one menu level back in the menus.
However, after that the machine is not de-energised!

② Start button

Pressing this button switches the machine on.
By pressing the button again, a program that was selected beforehand can be started.

In addition, the button indicates the current operating status by different colours.

GREEN increasing	(sectors)	= Machine is being filled and is heating up
GREEN	(permanent)	= Machine is ready for operation
BLUE	(sectors)	= Dishwashing program is running
RED	(permanent)	= Critical error *(see page 62ff)*
GREEN/RED	(alternating)	= Non-critical error *(see page 62ff))*

Pressing and holding (3 sec.) activates the automatic sequence and self-cleaning program and the machine switches off afterwards.
However, after that the machine is not de-energised!

③ Display

Display

④ + ⑥

Display navigation buttons
Display setting buttons

The navigation buttons are shown as soon as it is possible to navigate into the corresponding direction. If a text or screen limit is reached, navigation is stopped, provided no deviating behaviour is specified in the menu descriptions. If one of the navigation buttons is held, the system automatically continues to navigate in the same direction after two seconds at a rate of 2Hz.

The setting buttons are shown as soon as a value can be changed.

Holding button 4	1,2,3…98,99,1,2,3….
Holding button 6	99,98,97…3,2,1,99,98…

If one of the setting buttons is held, the value automatically continues to be changed in the same direction after 2 seconds at a rate of 2Hz. After another eight seconds, the automatic change rate is increased to 100Hz within 20 seconds.

⑤ **Display navigation buttons** Menu level change / Confirmation (save button) / return
Error acknowledgement

Display test ④ + ⑤ + ⑥ / **Reset display test - hold** ① **for some time**

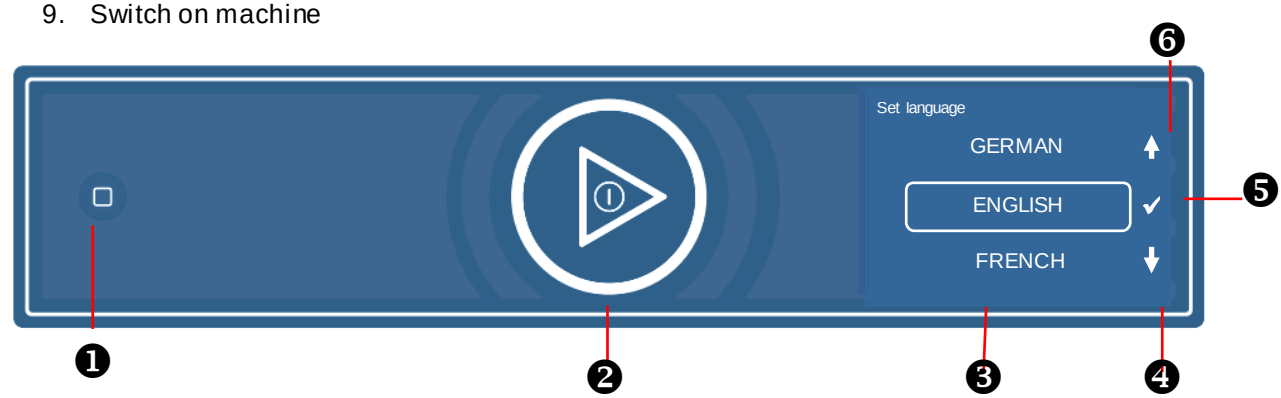
6 INITIAL COMMISSIONING / SETTINGS

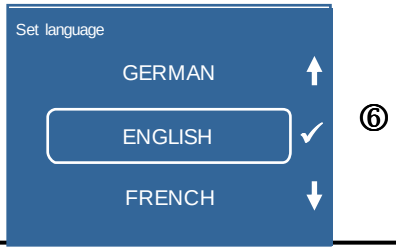
6.1.1 LANGUAGE (EXAMPLE GERMAN)

When the machine is delivered, the switching function **S 73** (request initial commissioning) is set to "**1**". When the start button ② is pressed for the first time (in switched-off state), the language selection is displayed (preset to ENGLISH).

Procedure

1. Set language
2. Set date (day / month / year)
3. Set time
4. Set water hardness (only on machines with the option softener dispenser S)
5. Fill salt tank (1.5kg coarse regenerating salt), afterwards fill the salt tank with water with the aid of a funnel (only on machines with the option softener dispenser S)
6. Fill chemicals tank / or place dosing hoses into the containers (blue marking into the rinsing agent / the other one into the cleaning agent container)
7. Close door
8. Automatic filling of the chemicals hoses
9. Switch on machine

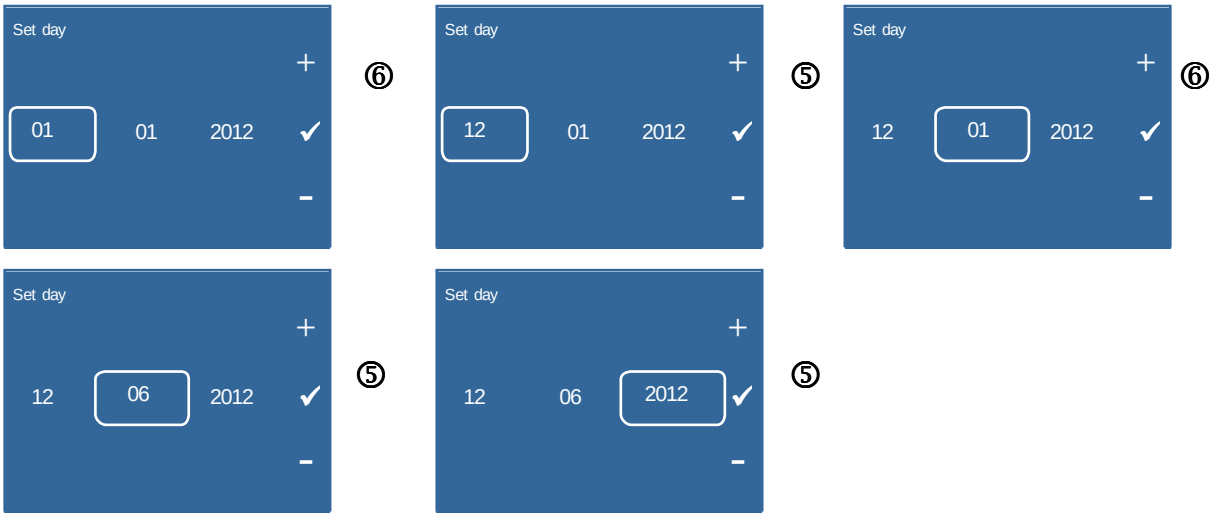




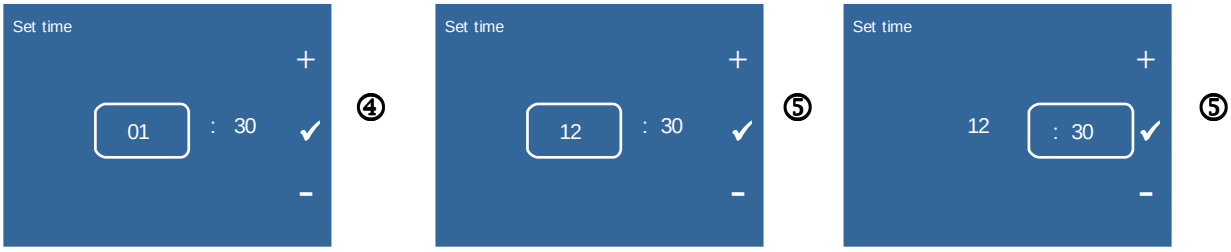
⑥

⑤

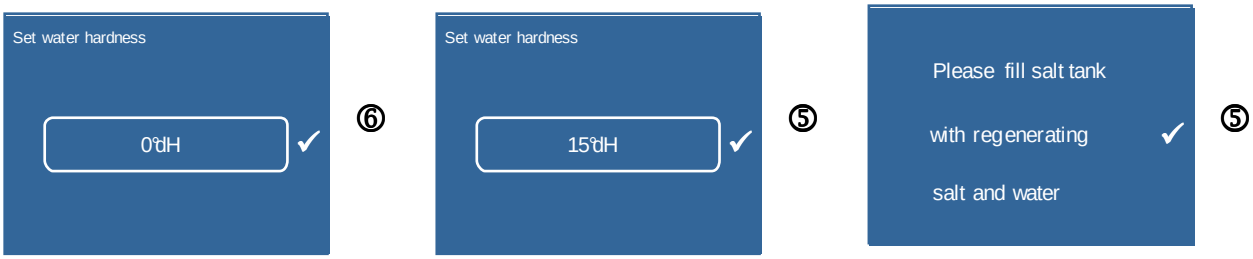
6.1.2 DATE (EXAMPLE 12 06 2012 DD.MM.YYYY)



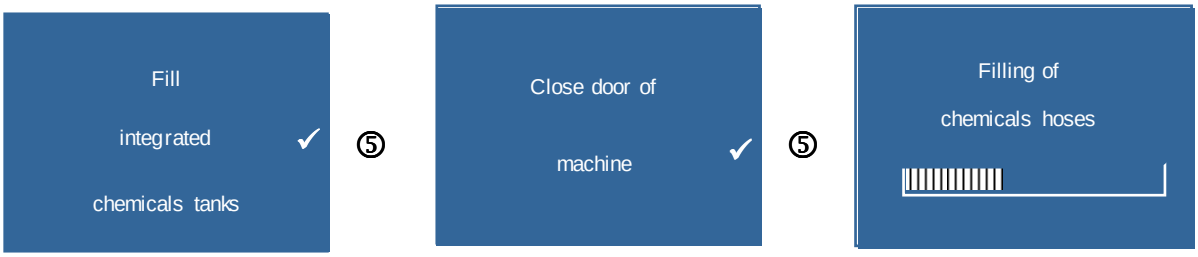
6.1.3 TIME (EXAMPLE 12 : 30)



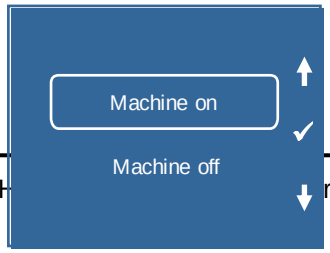
6.1.4 WATER HARDNESS AND FILLING THE SALT TANK



6.1.5 CHEMICALS TANK / HOSE FILLING



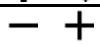
6.1.6 SWITCHING ON THE MACHINE



⑤

⑥

6.1 GENERAL SYMBOLS

Other symbols	
Timer	
Login	
Temperatures	
Info/service	
back	
Error	
Washing / rinsing temp	
Sound off / on	
Scroll menu	
Change value	
Accept value	
Lack of salt	
Lack of chemicals	
Filling error	
Process error	
Lack of salt	

7. HYDRAULIC DIAGRAMS

7.1 EXPLANATIONS IN RESPECT OF THE HYDRAULIC DIAGRAMS

B1 TEMPERATURE SENSOR BOILER
B2 TEMPERATURE SENSOR TANK
B3 PRESSURE TRANSMITTER BOILER
B4 PRESSURE TRANSMITTER TANK
B5 TURBIDITY SENSOR

E1 HEATING BOILER
E2 HEATING TANK

M1 WASH PUMP
M2 RINSING PUMP
M3 DOSING PUMP RINSING AGENT
M4 DOSING PUMP CLEANING AGENT
M5 DISCHARGE PUMP
M6 VAPOUR FAN
M7 AMBIENCE FAN

S1 SOLENOID SWITCH DOOR
S2 FLOW METER WATER BREAK[1]
S3 SOLENOID SWITCH TANK STRAINER
S4 LACK OF SALT SWITCH[2]

Y1 FILLING VALVE

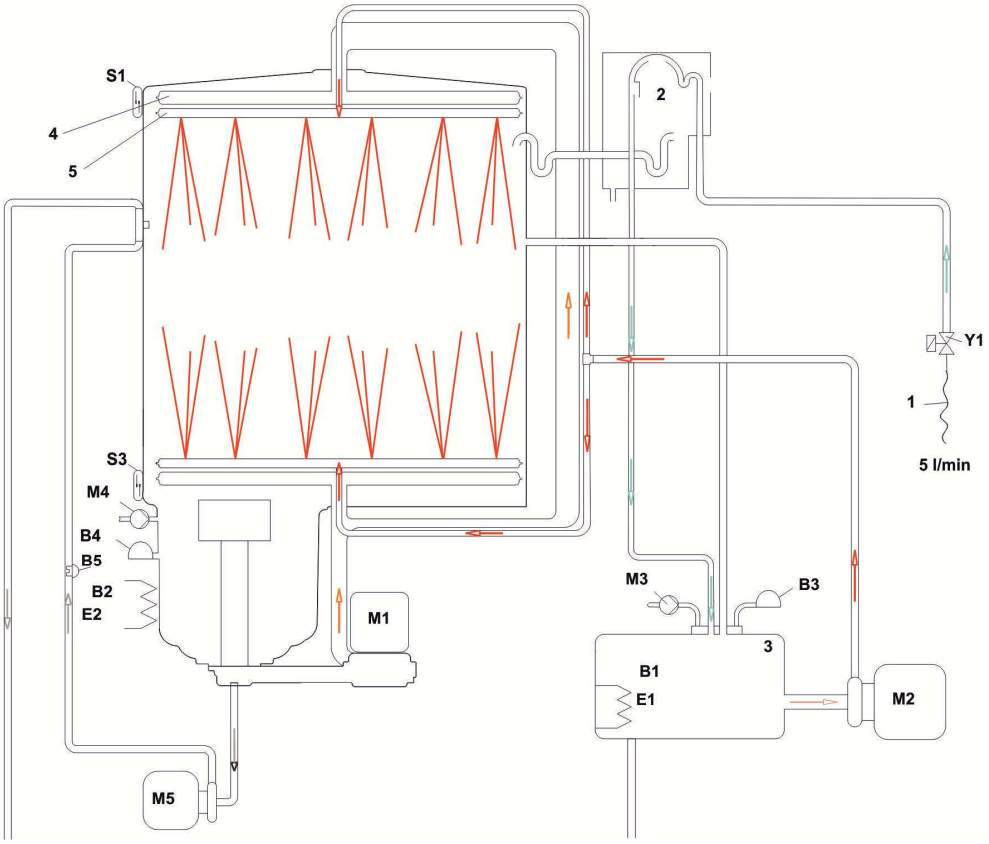
Y10.1 SOFTENER VALVE SALTING
Y10.2 SOFTENER VALVE BOILER
Y10.3 SOFTENER VALVE DISCHARGE

[1] COMPLETE PART WATER BREAK
[2] COMPLETE PART SOFTENER DISPENSER

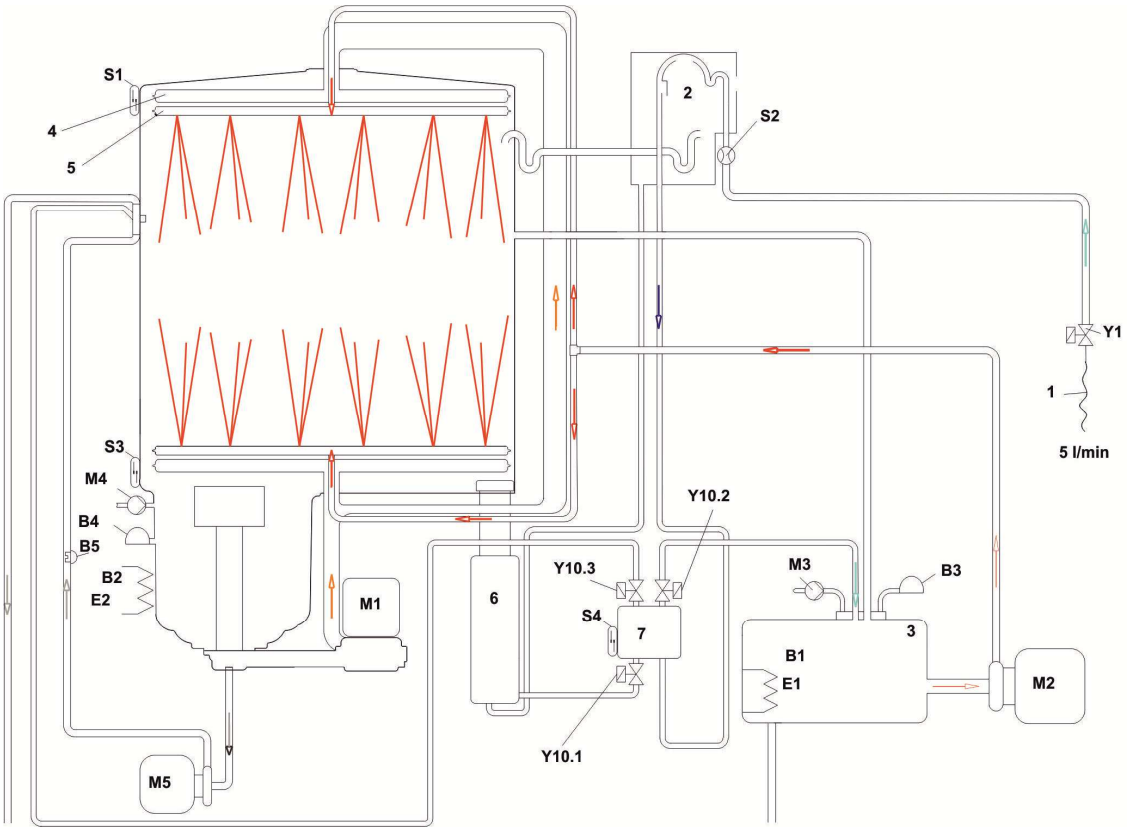
1 WATER INTAKE HOSE
2 WATER INLET WATER BREAK[1]
3 BOILER
4 WASHING ARMS
5 RINSING ARMS
6 SALT TANK[2]
7 RESIN COLUMN[2]

7.2 HYDRAULIC DIAGRAMS: FX / GX

7.2.1 FX / GX WITHOUT SOFTENER DISPENSER

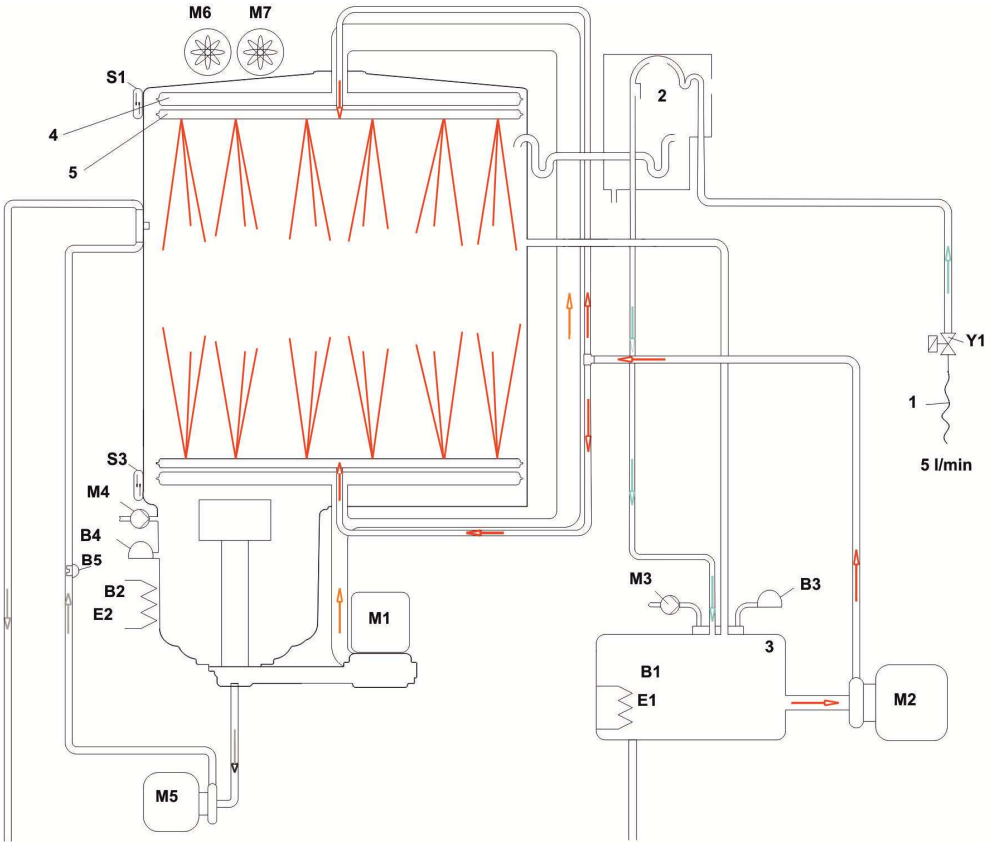


7.2.2 FX / GX WITHOUT SOFTENER DISPENSER

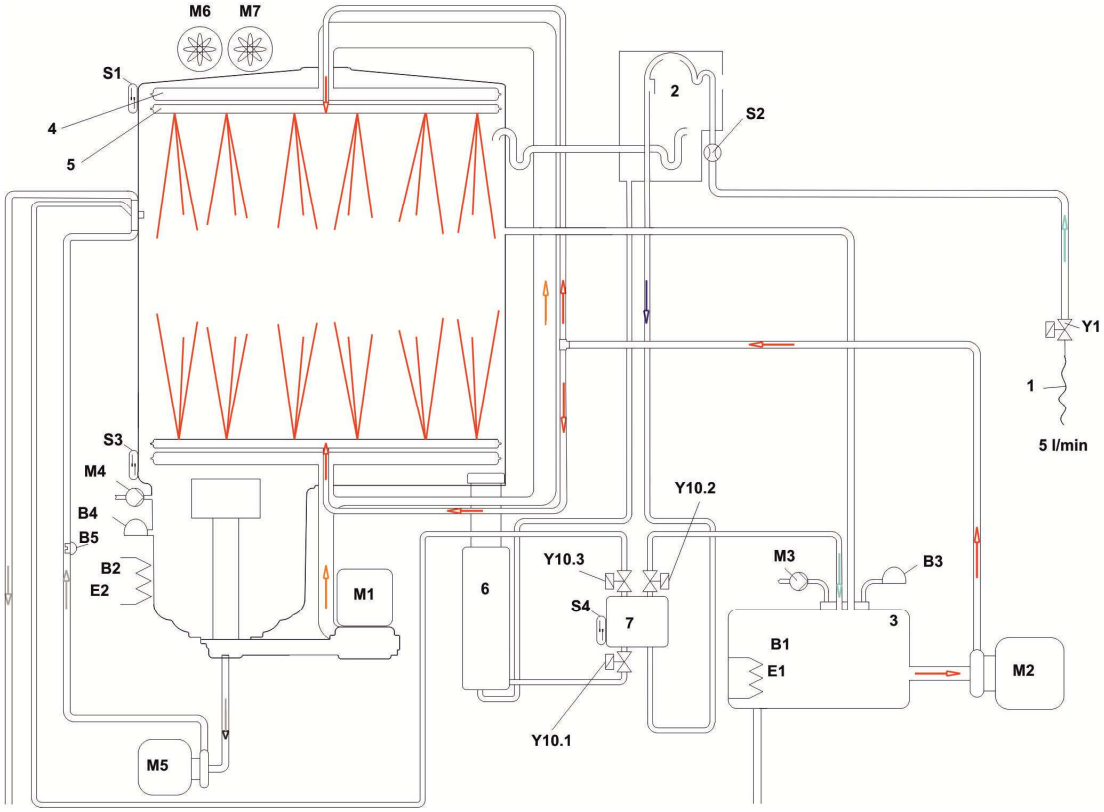


7.3 HYDRAULIK DIAGRAMS FP / GP

7.3.1 FP / GP WITHOUT SOFTENER DISPENSER



7.3.2 FP / GP WITH SOFTENER DISPENSER



8. COMPONENTS

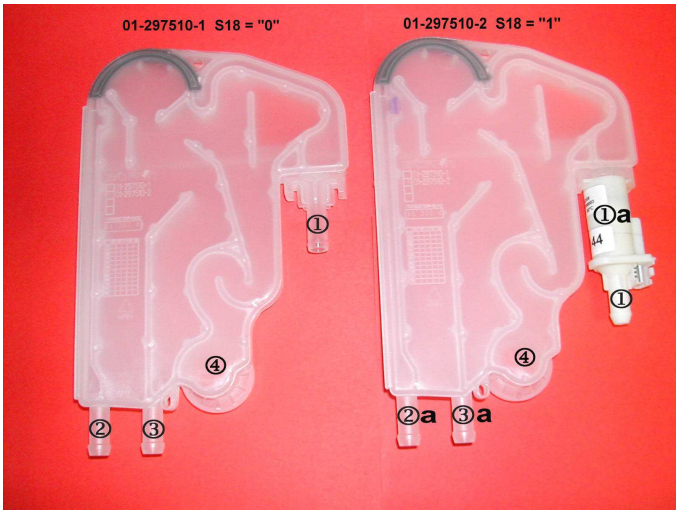
8.1 WATER BREAK (01-297510-1 -2 / SERVICE KIT 01-297695-1)

The pulse generator S2 (reed switch) on the small control board is activated by the solenoid in the impeller. The connecting wires are connected with the reed switch via double-pole insulation displacement terminations.
The control system counts the switching contacts of the reed switch. **208 pulses** correspond to approx. **1 l of water.**

In the course of maintenance/inspection it should be checked whether the impeller sensor is working. This may happen in two ways.

1. Select input S2 with the service menu (see page) and subsequently additionally activate the filling valve by pressing the **ON/OFF** button ① (display changes between --0 /--1)
2. Visual inspection whether the LED 2 on the main circuit board is pulsating quickly (see page 55).

Remark:
After respectively 20 min inactivity during stand by, the filling valve and the boiler valve are activated for 0.8 sec. (parameter S17).

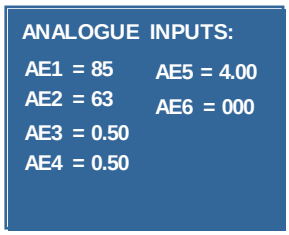


①	=	Connection fresh water hose from filling valve
①a	=	Flow meter
②	=	Connection for the fresh water to the boiler
②a	=	Connection for the fresh water to the softener dispenser
③	=	Connection is provided with a dummy cap
③a	=	Connection for the water for the regeneration
④	=	Ventilation to the wash tank

Remark
If the switching function **S18** is on "**0"** (OFF), the water is not metered via **pulses** (208 pulses approx. 1l of water), but via the **opening time of filling valve Y1** as a function of the theoretical flow rate **A100** with **3.0l/min**.

8.2 PRESSURE TRANSMITTER B3 / B4

Function
From the air chamber (in the boiler / wash tank), compressed air is transmitted via a transparent hose to the pressure transmitter boiler (B3) and wash tank (B4). The transmitters convert the pressure applied into an analogue direct current (AE3 = pressure transmitter boiler B3 / AE4 = pressure transmitter tank B4).



Pressure transmitter boiler B3 :
Boiler / tank "empty" corresponds to approx. **0.5 V tolerance +/-0.06V**. The filling valve is activated if standby mode has not yet been reached (boiler full). At an output voltage of approx. **0.62 V,** the boiler heating is switched on (heats to filling start temperature **85°C**).

Machines	Filling off Steam level	Filling off ECO level	Filling off Rinsing level	Heating on	Voltage change Fill level monitoring
Parameters	A52	A53	A54	A55	A59

Remarks:
Voltage values may not be changed by the service technician (only on instruction of Hobart). **After rinsing,** the voltage value (tank full) **is approx. 0.14V higher on all machines**.
Hoses must always be laid rising above tank or boiler level (no water pocket so that condensate can flow back)! The voltage values may deviate if this is specified by the turbidity sensor.

Machines	Tank empty	Tank full	Heating on	Intermediate pump out	Safety level	Pump out	Pressure increase in filling program
Parameters		A78	A82	A84	A92	A93	A95

Maintenance / replacement
When **a transmitter / air chamber** is replaced, attention must be paid that the **wash tank / boiler is empty**. Afterwards the voltage values must be checked in service mode. Both transmitters must have **0.5V** in empty state. Use only spring band clamps 01-246214-3 for fastening the hoses.

The voltage values can be checked in the service menu (see page 51) or with the service software (see page Fehler! Textmarke nicht definiert.**).**
With AE3 for level boiler / AE4 for level wash tank, the voltage values can be shown on the display, provided no error is pending. (Possible error messages pressure transmitter see from page 66 onwards)

8.2.1 ZERO POINT ADJUSTMENT PRESSURE TRANSMITTER

The zero point is adjusted in order to balance the pressure transmitters' tolerances. For this purpose, the output value of the sensor in a depressurised state is compared with the standard value of **0.5V**.
The adjustment is made **during initial commissioning** and after **every pump out program** that has been executed completely **without errors**.

If the offset value is outside the tolerance of +/- 0.06V, an error message is generated.

8.3 DOSING UNITS / CHEMICALS

8.3.1 DOSING UNITS

Dosing units Premax
Cleaning agent dosing unit: 01-515268-2 delivery rate: 3.0l/h (50Hz) 3.6l/h (60Hz)
Hose inside as service kit: 01-515268-12

Rinsing agent dosing unit: 01-515268-1 delivery rate: 1.3l/h (50Hz) 1.56l/h (60Hz)
Hose inside as service kit: 01-515268-11

Dosing units Profi
Cleaning agent dosing unit: 01-515268-2 delivery rate: 3.0l/h (50Hz) 3.6l/h (60Hz)
Hose inside as service kit: 01-515268-12

Rinsing agent dosing unit: 01-515269-6 delivery rate: 1.6l/h
Hose inside as service kit: 775608-3

Dosing amount
Dosing of cleaning agent, all models = preset to **3.0g/l** / **0-9.5g/l** are possible
Dosing of rinsing agent = preset to **0.3g/l** / **0-2.0g/l** are possible

Cleaning agent dosing: Predosing of the cleaning agent is always carried out in parallel to the rinsing pump M2.
The wash dosing of the cleaning agent sets in parallel to the wash pump

Rinsing agent dosing: Predosing of the rinsing agent takes place after the end of the filling program.
The wash dosing of the rinsing agent takes place after the end of the washing program.
Subsequent dosing after cold / Eco or steam program.

Hose filling and preset dosing amounts in g/l see customer menu page 44

Maintenance:

During maintenance, the hoses, dosing units and connections must be checked. The dosing hoses (hose inside, suction, pressure hoses) must be replaced every two years by way of precaution.
Part number dosing hoses as product sold by the meter **01-246301-99**.

The machines are basically supplied **without chemicals tank** but retrofitting is possible.

8.3.2 CHEMICALS MONITORING

Parameters chemicals monitoring

S20 **Assignment of the lack of chemicals sensor**

0 = no monitoring

1 = Chemicals monitoring with reed switch (with storage tank)

2 = Chemicals monitoring with chemicals sensor (without storage tank)

S21 **Signal in case of lack of chemicals**

0 = Signal in case of lack of chemicals is "0"

1 = Signal in case of lack of chemicals is "1"

S65 **Activating and deactivating inputs E06 and E07 (also possible in the service menu)**

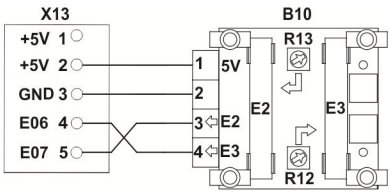
0 = E06 (lack of cleaning agent) and E07 (lack of rinsing agent) disabled

1 = E06 (lack of cleaning agent) and E07 (lack of rinsing agent) enabled

2 = only E06 (lack of cleaning agent) enabled

3 = only E07 (lack of rinsing agent) enabled

a) Monitoring with chemicals sensors B10 of machines without chemicals tank S20 = "2"



Sensitivity setting options 1-9 via the respective potentiometer

Sensitivity **1** Insensitive chemicals detection / sensitive error analysis

9 Sensitive chemicals detection / insensitive error analysis

Basic setting **3** Cleaning agent / **5** Rinsing agent

Setting procedure

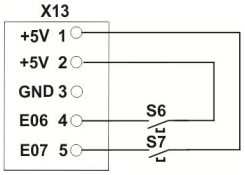
- Carry out hose filling in customer menu see also page 44**.**
- Chemicals monitoring in the menu "External chemicals"
- Select the **Service menu inputs,** see also page 51.
- Turn both potentiometers of the chemicals sensors to the **leftmost position.** While doing so, the input signals "**E06"** (cleaning agent) and "**E07"** (rinsing agent) must be set to "**0"** and **both LEDs** are on.
- Turn both potentiometers cleaning agent and rinsing agent to the **rightmost position.**
- Both input signals "**E06"** (cleaning agent) and "**E07"** (rinsing agent) must be set to "**1**". While doing so, both **LEDs** are on. To be completely certain, turn the potentiometers first to the leftmost position (**1**), then slowly up in direction of the rightmost position (**9**), until the **LED lights up**, then one scale marking further to **9**.

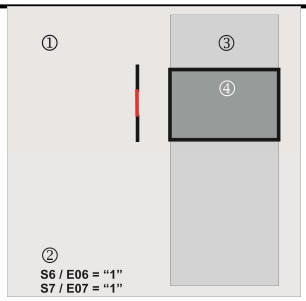
Note:

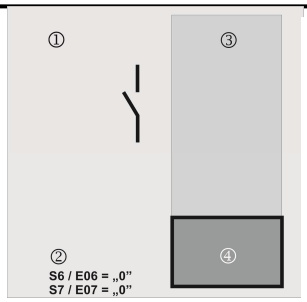
- In case of a **chemicals change, rinse the hoses several times with water,** afterwards fill the hoses with chemicals and readjust the chemicals sensors.
- A lack is only analysed if it has been pending across several wash cycles.
- A lack signal only goes out if the respective channel detects chemicals for several wash cycles

b) Monitoring with reed switch (solenoid float switch with chemicals tank) S20 = "1"

Tankfull Tankempty







① = Storage tank
② = Float switch
1 = no lack/ 0 = lack
③ = Column for float
④ = Float with solenoid
S6 = cleaning agent/ S7 = rinsing agent

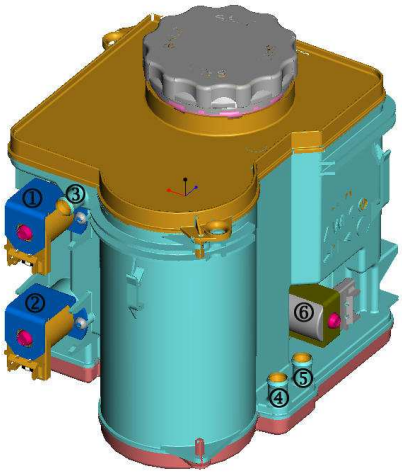
8.4 WATER SOFTENING WITH ONE-COLUMN SOFTENER DISPENSER 01-515030-1

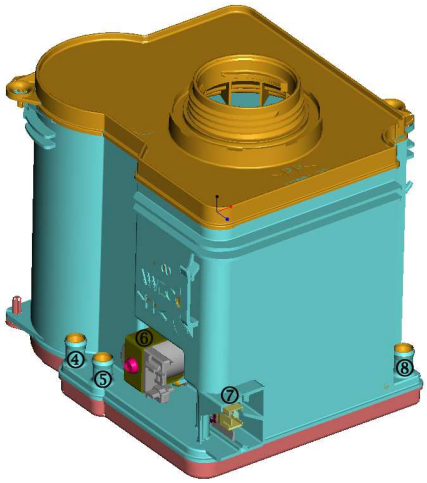
8.4.1 COMMISSIONING:

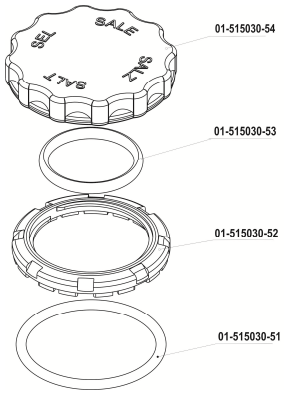
- Measuring the total hardness of the raw water in °d with the measuring instrument **607236**.
- **Setting ranges: 1-30°d** according to the measured raw water hardness (see page 44)
- Fill salt tank with **1.5 kg** coarse **regenerating salt** (2-8mm), afterwards fill up with water:

Special tool Fastening nut **Softener dispenser 01-293500-1** Spare parts kit Softener dispenser cover: **01-515030-50**.

Responsible parameter:
S11 = 0 = Off / 1 = On







① **Y10.2** Non-return valve boiler ② **Y10.3** Non-return valve discharge ③ Output soft water
④ Input hard water (fill-up water) ⑤ Output regeneration / salting ⑥ **Y10.1** Salting valve
⑦ Lack of salt switch **S4** ⑧ Regenerating salt connection to the discharge (via ventilation valve)

8.4.2. SOFTENER DISPENSER CAPACITY IN L

Total hardness	at 10°d	at 20°d	at 30°d
Capacity	3600l	1530l	630l

Maintenance / replacement:

- Completely pump out machine
- Then separate from the mains
- Dismantle front panel / plastic cover

- Drain boiler by means of draining hose
- Remove side panels on the right-hand side
- Remove transparent hose at the water break and hold into a bucket for draining while opening the cover of the softener dispenser (after this, the salt water has been completely drained from the softener dispenser)
- Remove hose to the multifunctional part
- Place machine onto its left-hand side
- Dismantle bottom panel
- Dismantle softener dispenser with the special tool 01-293500-1
- Pull out softener dispenser and dismantle the remaining hoses

Subsequent to a replacement (after 3 wash cycles), retighten the fastening nut with the special tool.

8.4.3 REGENERATING FUNCTION

Remark:
1. A manual initiation of regeneration is possible**??????**
2. The lack of salt indicator on the display only goes out after some time or after some wash cycles.
3. Regeneration can also take place during filling mode
4. A lack of salt is triggered by the solenoid float switch, which switches the lack of salt switch **S4** (reed switch) in case of too weak a salt content

8.5 PROCEDURE FOR THE SOFTENER DISPENSER TEST

As during maintenance, it is possible to read out via parameter **C11** with how much water the tank has been filled since the lack of salt started. With the aid of parameter **C12** it is additionally checked how often salt has been filled in when there was a lack of salt (lack of salt lamp on / off).

Required measuring instrument:
- A measuring instrument to determine the **total hardness** (°d) / carbonate hardness (part number **607236**). The manufacturer's use-by date must be observed in this connection.
- A temperature-compensated **conductivity measuring instrument 606909** (possibly also pH sticks **609927**).

What must be measured where?
- Measurement of the raw water inlet hardness (total hardness in °d) **directly at the on-site tap.**
- Measurement of the output hardness at the **boiler draining hose**
- Measurement of the raw water conductivity in µS/cm **at the on-site tap**
- Measurement of the rinsing water conductivity in µS/cm **at the boiler draining hose**

Alignment of the measured raw water hardness with the machine setting, ensuring the following:
- the hardness range set at the machine is adequate for the measured raw water.
- there is still salt in the storage tank
- whether the operating company has by mistake used salt tabs as this is not allowed
- whether the salt tank has been filled with water during commissioning

Approximate guide values for a correct softener dispenser function:
If the softener dispenser is functioning correctly, the conductivity of the boiler water ranges **above the raw water conductance,** i.e. **for instance at 500 µS** raw water conductance, **800 µS** in the rinsing water is completely normal. However if this value is **severely raised, e.g. 3000 µS** (= 3 mS), it can be deduced that the softener dispenser is not functioning correctly!!

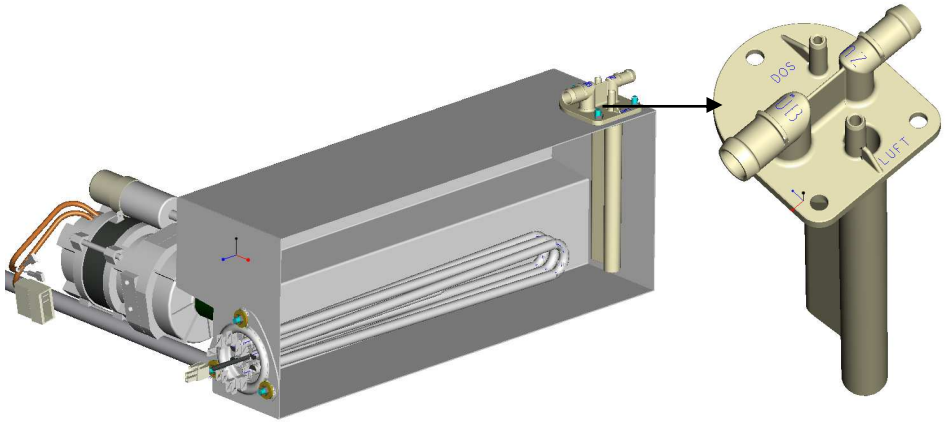
CAUTION:
If the above measurements seriously deviate from the ideal values, the softener dispenser test program must be activated (see also page 52). Remove the side panels before doing so.

The softener dispenser test program should on no account be carried out at the beginning of the softener dispenser test, as salts are inevitably washed in. Thoroughly rinse the boiler after this procedure (fill and drain several times) to remove the high chloride content (corrosion-inducing).

8.6 BOILER / BOILER CONNECTION SPACE

8.6.1 BOILER DESIGN / VOLUME

Standard heating capacity: 6.1kW 01-240135-4



Boiler connection space - multifunctional part (01-515134-1) is radially screwed onto the boiler with an O-ring and sealed.

DOS: Connection dosing hose rinsing agent
ÜB: Boiler overflow, is also used for evaporation on TD machines (with thermal disinfection)
ZU: Fresh water feed (water break/softener dispenser)
AIR: Connection air hose to the pressure transmitter

Boiler volume 6.8l; standard rinsing volume: 2.0l; possible rinsing volume: 4.2l

Replacement of boiler heating

- Completely pump out machine
- Then separate from the mains
- Dismantle front panel / plastic cover
- Drain boiler by means of draining hose
- Unclip rinsing pump from the catch and shift the boiler to the left. Dismantle heater.

8.7 WASH TANK / TEMPERATURE SENSOR / RINSING PUMP / DISCHARGE PUMP

8.7.1 TANK

Tank volume: 11.5l
Tank heating standard 0.8kW 01-240247-1

Tankheating machines with cold rinsing 2.5kW: 01-515161-1
Air trap tank: 01-515236-1
Viton O-ring for air trap: 276903-63

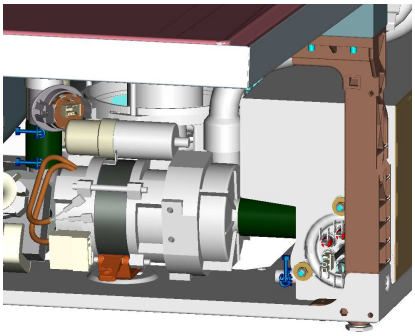
8.7.2 TEMPERATURE SENSOR BOILER / TANK

Part number:
Temperature sensor boiler **B1** = 775612-1
Temperature sensor tank **B2** = 775612-1

Temperature measuring range: The NTC thermal resistors are temperature-dependent semiconductor resistors. They have a strongly negative temperature coefficient (TK).
min. -40°C max. +125°C possible error messages tem perature sensor see page 62

8.7.3 RINSING PUMP:

Technical Data:
Part number for 50Hz: 01-240234-1
Part number for 60Hz: 01-240234-2
Voltage 220-240V
Current: 0.6A
Output: 0.14kW
Capacitor: 4µF /400V (226568-2)
Flow rate: 7.5s = 2.5l



Maintenance: The rinsing pump is fastened by means of clip in

8.7.4 DISCHARGE PUMP:

Technical data:
Part number for 50Hz: 01-515075-1 (50Hz)
Part number for 60Hz: 01-515075-2 (60Hz)
Voltage: 220-240V
Current: 0.3A
Output: 40W

The pump out program runs in several steps

Step 1 Pumping out (T70)
Step 2 Rinsing (T42)
Step 3 Pumping out (T71)
Step 4 Pause (T72)
Step 5 Pumping out (T66)

Steps 4 and 5 are repeated for the parameter C56.

8.8 TURBIDITY SENSOR 01-515020-1

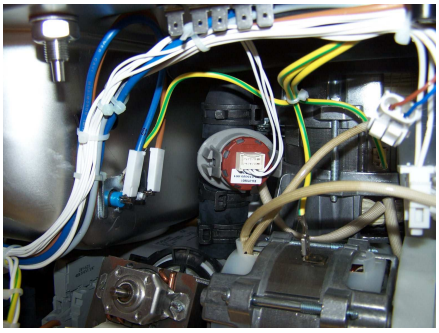
S53 Turbidity sensor **0** = Off / **1** = On

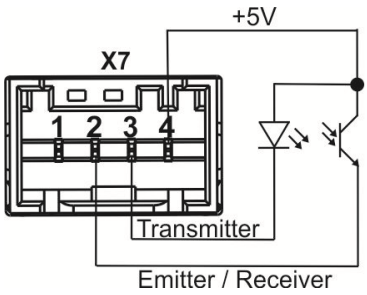
The turbidity sensor is active during the following programs: SHORT, STANDARD, COFFEE CUPS, ECO

The rinsing and pump out volumes of the above washing programs are adapted depending on the measurement result. The actual measurement starts after the GeniusX², then the turbidity sensor is switched on and an average is formed and afterwards the sensor is switched off again.

The greater the turbidity of the washing liquor, the lower the sensor output signal. The sensor is only switched on as long as it is required.

Installation position of the turbidity sensor





Calibration of the turbidity sensor (only possible if a pump out program has been started beforehand):

- During the rinsing time **during the filling program, the discharge pump** is activated to rinse the sensor with clear water and to bring it to operating temperature.
- Calibration always takes place during the filling program after the **last** filling step.
- Calibration is carried out via the control system to a voltage of 4V.

Testing the turbidity sensor via the service menu:

- Pump out machine
- Refill machine
- Select service mode, see page 51
- Calibration starts after the last filling step (must then be 4V AE5).

Testing the turbidity sensor via the service software:

- Pump out machine
- Refill machine
- Connect netbook via the USB cable with the USB interface on the machine
- Start service software
- Select the button "Diagnosis" after the loading process
- Select button turbidity sensor (see also page Fehler! Textmarke nicht definiert.)

- Start calibration
- Monitor evaluation on the screen

  If the calibration value deviates, an internal error analysis is carried out, which has no influence on the machine.

8.9 WASH PUMP

Washing liquor circulation: The washing liquor is distributed to the top or bottom wash arm via this system during the washing cycle. The washing liquor that is flowing back is filtered through a strainer system and is circulated via an integrated coarse strainer ring from the outer annular space of the suction piece through the main channel to the wash pump. While the washing water is circulating through the wash pump (suction effect), the **flipper** (see picture below) is closed. Tank strainer is monitored (S68).

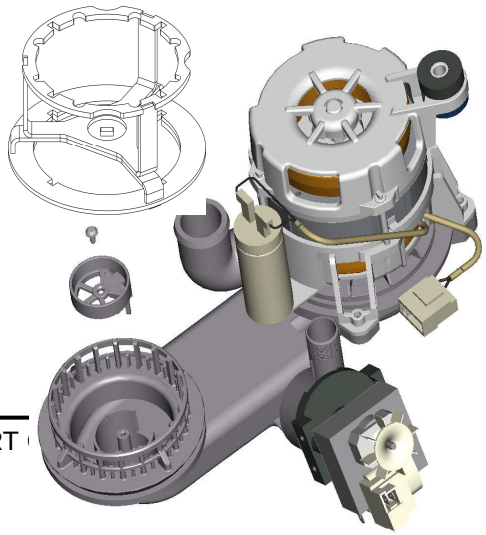
Output X2 : 2 is controlled by means of triac over four performance levels. After t4 has elapsed or at S83 = 0, the triac is bypassed by relay 2. The soft start function (as well as the wash pump function) can be switched off directly via the door switch contact!

Designation of spare parts	**Part number**
Capacitor 8µF	226568-14
O-ring	01-240298-1
Kit support shim, O-ring, slide ring seal	01-240374-1
Impeller 50Hz	01-240300-1
Impeller 60Hz	01-240300-2
Impeller 50Hz GC	01-240300-3
Special tool	01-240303-3
Transition nut for special tool	609939

Dismantling the wash pump

If it is necessary to replace the wash pump, the machine (including the boiler) must be completely emptied. If necessary, dismantle the chemicals tanks.

- Dismantle front panel and plastic cover
- Dismantle the discharge pump by clockwise turning at an 45°angle (release the lock of the discharge pump beforehand)
- Undo the fastening nut with the special tool

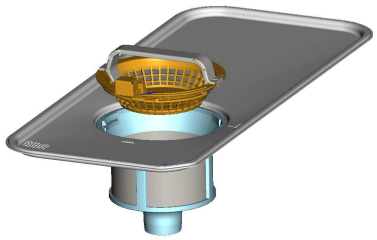


- Dismantle the right-hand side panelling
- On "S" machines, dismantle the transparent hose at the water break and drain completely.
- Open cover of the softener dispenser; drain transparent hose once again completely
- Refasten the softener dispenser cover.
- Place the machine onto its right-hand side
- Remove the bottom plate
- Unplug the electrical connection of the wash pump at the control system
- Dismantle the rising pipe washing and rising pipe discharge
- Dismantle additional fastening on the tank floor (by means of rubber buffer)
- Dismantle wash pump

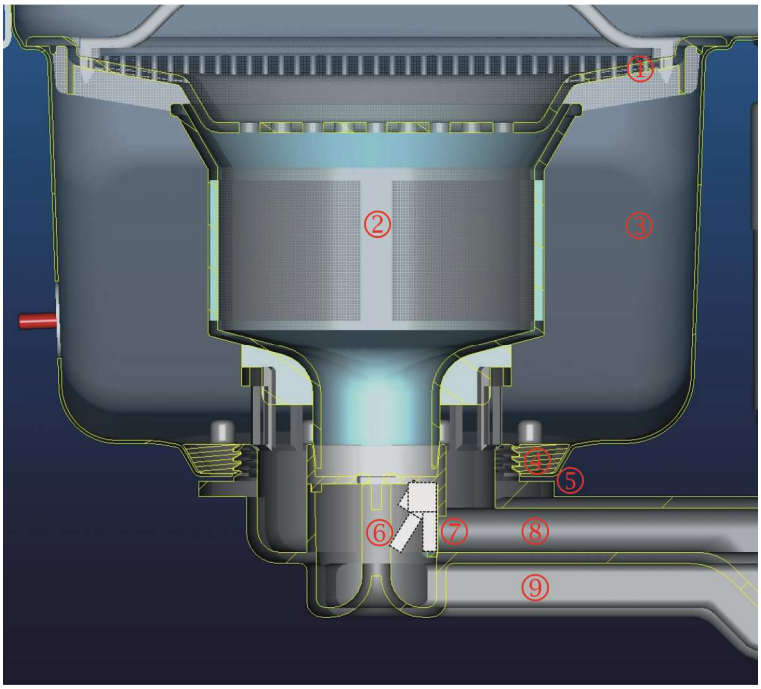
8.10 GENIUSX² / FLIPPER

Discharge system: Serves to partly pump out soiled washing liquor after approx. 10 sec (**Genius X²**) during the washing program, and to completely drain the wash tank. On the discharge side, the dirty washing liquor is taken via a hose system and afterwards via a ventilation valve to the on-site drain.
The **flipper** is open during intermediate pump out or during the self-cleaning program. The **flipper** prevents the collected dirt in the pump sump from getting into the circulation system.

During maintenance,
the **unobstructed movement of the flipper** must be checked. In addition, the fine filter must be cleaned daily. In addition, the ventilation valve must be checked for soiling.



Sectional drawing Genius X²



① **Tank-covering strainer**
② **Fine filter**

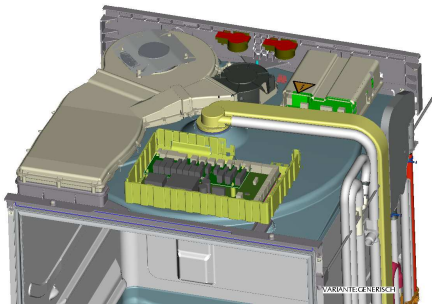
③ **Washing chamber**
④ **Fastening nut suction piece**
⑤ **Flat gasket**
⑥ **Open flipper (during pump out)**
⑦ **Closed flipper (suction effect during washing process)**
⑧ **Washing chamber**
⑨ **Pump out chamber**

8.11 WASHING ARMS / RINSING ARMS

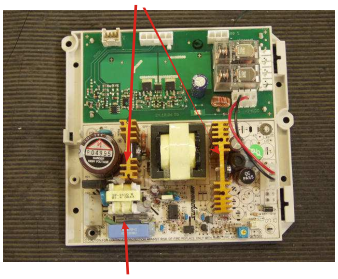
The following points must be checked during maintenance:
1. Free-moving rotation of the washing and rinsing arms.
2. Dismantling and cleaning the reducing washer 01-240016-1 in case of soiling.
3. Dismantling and inspection of the washing and rinsing arms for soiling (if necessary rinse well and clean).
4. Inspection of the grey friction bearing 01-515088-1 for soiling and/or wear.
5. Check the correct fit of the metal slide ring 775933-3.
6. Secure the rotatable arm axle with Loctite 243 part number 609684 in case of repair

8.12 VAPOUR EXTRACTION / VAPOSTOP GP / FP

Parameters:
S54 = 1 Drying on



Caution! The dissipators are live!!!



Additional fuse for additional circuit board A5

The drying unit consists of a main fan **M6,** which aspirates the vapours from the wash tank, and a second fan **M7,** which aspirates air in the upper area of the machine. This creates a mixture consisting of the humid air flow from the interior tank space and ambient air, to achieve a lower temperature and a reduced relative humidity at the exhaust opening.

The exhaust opening is located inside the door frame.

Miscellaneous: Starting the washing program switches off all drying functions

Deactivation possible via the customer menu (see page 44)
A test can be carried out via the service software (see page **Fehler! Textmarke nicht definiert.**).

Condition: Machine "On" and door closed

Maintenance see separate maintenance instructions
Special tool: Vapour extraction: **01-240303-2 or 01-240303-3** (special tool for wash pump)

9. PROGRAMS

9.1 FILLING PROGRAM

Prerequisite:

- When the machine is switched on, the wash tank level required for standby mode has not yet been reached
- Tank temperature >45°C (if the wash tank level req uired for standby mode has already been reached)
- if the tank is full, but the temperature <45°C, th e machine pumps out
-

Rinsing time filling	T43
Boiler filling start temperature	A21

Function

Program sequence filling

1. Filling valve Y1 opens, filling water flows into the boiler across the water break either directly or in the case of "S" machines via the softener dispenser (Y10.2 is activated at the same time)
2. The level in the boiler rises, the boiler heating switches on at 0.6V
3. At boiler level full, the filling valve Y1 switches off
4. Heating the boiler water to filling start temperature
5. Rinsing pump M2 pumps the filling water via the rinsing system into the wash tank* / pump out to calibrate the turbidity sensor
6. The discharge pump is briefly activated (only during standard filling program)
7. Parallel to this, predosing of cleaning agent is carried out
8. Step 2-6 is repeated until the wash tank is completely filled
9. Predosing rinsing agent

*on machines with Vapostop, the wash pump briefly starts after the filling process

9.2 SHORT / STANDARD / INTENSIVE / CONTINUOUS PROGRAM

Prerequisite:

- Machine is ready for operation (Start button ② glows green)

Parameters	SHORT	STANDARD	INTENSIVE	CONTINUOUS
Washing time	T1	T2	T3	T10
Rinsing time	T23	T24	T25	T32
Switching function	S25	S26	S27	S34
Rinsing temperature	A1	A2	A3	A10
Washing temperature	A28	A29	A30	A38

Function:

Program sequence SHORT / STANDARD / INTENSIVE / CONTINUOUS PROGRAM

1 Soft start M1 (washing); rinsing agent dosing (only subsequent to COLD or CUTLERY PROGRAM);
(if necessary filling of the boiler)
Heating the boiler to rinsing temperature (is thermostop-controlled)
2 Genius X²
3 Cleaning agent dosing (after the soft start)
4 Dripping time (Vapostop)
5 Intermediate pump out (Vapostop)
6 Rinsing
7 End of program

9.3 ECO PROGRAM

Prerequisite:

- Machine is ready for operation (Start button ② glows green)

	Parameters
Washing time	T4
Rinsing time	T26
Switching function	S28
Rinsing temperature	A4
Washing temperature	A31

Steam rinsing completely fills the rinsing chamber with steam. This steam forms a micro-fine film on the items to be washed and removes the residual alkalinity. By using steam, every position of the items to be washed can be reached and no shadow zones are able to form. The self-drying effect of the items to be washed is further increased by raising the temperature of the items to be washed.

Remark:
It is not recommended to use the ECO program if it is permanently necessary to wash heavily soiled dishes.

Program sequence with ECO

1 Soft start M1 (washing);
2 Intermediate pump out
3 Hot water rinsing
4 Heating phase to 100°C (idle interval)
5 Steam rinsing
6 Interval
7 Drying cycle after end of program

9.4 COLD PROGRAM AT BOILER TEMPERATURE <35°C

- Machine is ready for operation (Start button ② glows green)

	Parameters
Washing time	T7
Rinsing time	T29 / T44 / T45
Thermostop time WT	T58
Switching function	S31
Rinsing temperature	A7
Washing temperature	A28

Program sequence COLD PROGRAM

1 Soft start M1 (washing); rinsing agent dosing (if necessary filling of the boiler)
2 Genius X²
3 Cleaning agent dosing (after the soft start)
4 Cold rinsing 1 (T29)
5 Refilling the boiler / Intermediate pump out 1
6 Cold rinsing 2 (T44)
7 Intermediate pump out 2
With closed door, another cold rinsing T45 / filling of the boiler / intermediate pump out and
8 cleaning agent dosing is carried out after 2 min
9 End of program

9.5 COLD PROGRAM AT BOILER TEMPERATURE >35°C

Prerequisite:

- Machine is ready for operation (Start button ② glows green)

	Parameters
Washing time	T7
Rinsing time	T29 / T44 / T42 / T45
Thermostop time WT	T58
Switching function	S31
Rinsing temperature	A7
Washing temperature	A28

Program sequence COLD PROGRAM

1 Soft start M1 (washing); rinsing agent dosing (if necessary filling of the boiler)
2 Complete draining of the boiler (M2) T42 / cleaning agent dosing 1
3 Refilling the boiler
4 Intermediate pump out (brief lowering of level) Genius X²
5 (after the soft start)
6 Cold rinsing 1 (T29)
7 Refilling the boiler / Intermediate pump out 1
8 Cold rinsing 2 (T44)
9 Intermediate pump out 2
With closed door, another cold rinsing T45 / filling of the boiler / intermediate pump out and cleaning agent dosing is carried out after 2 min
End of program

9.6 INTENSIVE WITH WATER CHANGE PROGRAM

- Machine is ready for operation (Start button ② glows green)

	Parameters
Washing time	T9
Rinsing time	T31 x3
Switching function	S33
Rinsing temperature	A9
Washing temperature	A36

Program sequence INTENSIVE WITH WATER CHANGE PROGRAM

1 Soft start M1; rinsing agent dosing (only subsequent to COLD or CUTLERY PROGRAM); (if necessary filling of the boiler)
Heating the boiler to rinsing temperature (is thermostop-controlled)

2 Genius X²
3 Cleaning agent dosing (after the soft start)
4 Dripping time (Vapostop)
5 Intermediate pump out (Vapostop) (complete draining)
6 Rinsing 1 / short pump out pulse
7 Filling of boiler / rinsing agent dosing / heating boiler to rinsing temperature
9 Rinsing 2
10 Filling of boiler / rinsing agent dosing / heating boiler to rinsing temperature
11 Rinsing 3
12 Filling of boiler / rinsing agent dosing / heating boiler to standby temperature

9.7 CUTLERY PROGRAM

- Machine is ready for operation (Start button ② glows green)

	Parameters
Washing time	T11
Rinsing time	T33
Thermostop time WT	T58
Switching function	S35
Rinsing temperature	A11
Rinsing temperature	A23
Washing temperature	A38

Special program to remove stubborn coatings (starch breakdown program)
Manual addition of a special basic cleaning powder is necessary (according to the chemicals supplier's recommendations).

Comply with manufacturer's application and safety instructions.

9.7.1 Description CUTLERY program

For every further subsequently following basic cleaning cycle, a manual addition corresponding to **4 litres** of water is required.

- Mode of operation of the cutlery program on FP machines
  After the program start, the wash pump starts with a soft start for the washing time of 333s.
  At the same time, cleaner is dosed into the wash tank.

  Parallel to this:
  1. The level in the boiler is checked and regulated to steam level (0.65V).
  2. From a level of 0.6V and a temperature of <67°C onwards, the boiler heating is switched on. During this phase, the boiler water is heated to 100°C (steam temperature). The steam escaping from the boiler overflow contributes to the washing water reaching almost 70°C. However, washing time takes priority (temperature comes second).

  After the cutlery washing time:
  1. The boiler level is once more refilled to 0.9V.
  2. The boiler heating is switched on at a temperature smaller than 55°C.
  3. The intermediate pump out is followed by rinsing with approx. 4l.

  After the end of the program, the boiler is once more refilled to steam level 0.65V.

  With this program, GP machines always work without steam.

9.8 HYGIENE- (H) WITH HYGIENE TABS / DESCALING PROGRAM

- Machine is ready for operation (Start button ② glows green)

Parameters for the HYGIENE program

	HYGIENE	DESCALING
Washing time	T12	T14
Rinsing time	T34	T36
Thermostop time WT	T58	T58
Default	C94	
Switching function	S36 (on / off)	S38 (on / off)
Switching function	S67 Request HYGIENE program	
Rinsing temperature	A12	A14
Washing temperature	A38	A41

The aim of the hygiene program is to increase machine cleanliness and to clean difficult to reach positions. This HYGIENE program requires a special tab **609731** which is placed onto the tank strainer inside the machine before starting the program.

Dosing/application:

Place 1 tab per cleaning program onto the tank strainer
The HYGIENE program can be selected with the buttons ④ or ⑥ and will then appear on the display

Mode of operation of the HYGIENE program:

If the **ON/OFF** button ② is pressed with activated machine and closed door, the machine drains the entire tank content. Parallel to this, the standard filling program starts (boiler filling, boiler heating, rinsing pump, etc.) without predosing of cleaning or rinsing agent.

Once the tank level is reached, the wash pump starts for approx. 6 min to circulate the tank water.
Once the washing cycle is completed, the self-cleaning program starts, then the control system switches off.

The temporal progress of the program is signalled during the entire HYGIENE program by the sectors of the **ON/OFF** button ① (and the display).

After the end of the hygiene program, the parameter C94 automatically resets to the set number of washing cycles.

Maintenance:
With the aid of parameter C27 it is possible to read out how many HYGIENE programs **have been started.**

9.9 BASIC CLEANING PROGRAM

Parameters for the BASIC CLEANING program (all machines except for FXTD)

- Machine is ready for operation (Start button ② glows green)

	Parameters
Washing time	T13
Rinsing time	T35
Switching function	S37
Rinsing temperature 1	A13
Rinsing temperature 2	A24
Washing temperature	A40

Special program to remove stubborn coatings
(e.g. protective coating on new glasses caused by the manufacturing process, starch build-up).

Manual addition of a special basic cleaning powder is necessary

The following procedure must be adhered to

1. Open door.
2. Following the individual dosing recommendations, add the amount of powder required for 11.5 litres of water into the flat tank area
3. The BASIC CLEANING program can be selected with the buttons ④ or ⑥
4. Slide loaded basket into the machine and close the door.

Note:
For every further subsequently following basic cleaning cycle, a manual addition corresponding to 4 litres of water is required.

9.10 COFFEE CUP PROGRAM

See SHORT program

9.11 THERMAL DISINFECTION PROGRAM

10 DISPLAY

10.1 MENU NAVIGATION GENERAL

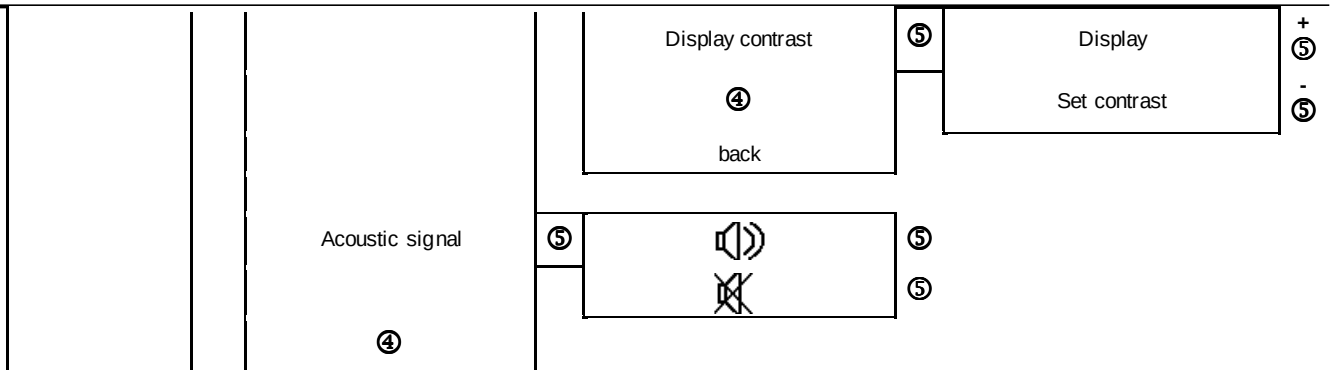
Program info and selection ⑤				
Info / Service	**Temperatures**	**LOGIN**		
	Temperature display	**PIN 1111**	**PIN 9999**	**PIN0022**
		Customer menu	**External chemicals**	**Service menu**
Machine type		Page 43	Page 48	Page 49
Operating data	**Commissioning DD.MM.YYYY**	**General settings**	**Activation cleaning agent dosing**	**Parameters**
Service addresses		Language		
Back		Date		
		Time		
		Date format		
		Time format		
		Temperature unit		
		Back		
		Page 43	Page 48	Page 49
	Operating hours to next service	**Display**	**Activation rinsing agent dosing**	**Activate - deactivate programs**
		Program depiction		
		Brightness		
		Contrast		
		Back		
		Page 43	Page 48	Page 50
	Total operating hours	**Acoustic signal**	**Cleaning agent - rinsing agent detection**	**Service interval reset**
		Page 44	Page 48	Page 50
	Total rinsing cycles	**Chemicals adjustment**	**Chemicals tank**	**Software version display**
		Cleaning agent dosing		
		Rinsing agent dosing		
	Total water consumption	Filling the chemicals hoses		
		Back		
		Page 44	Page 48	Page 50
		External water treatment	**Signal in case of lack of chemicals**	**Software update**
		Setting the counters		
		Resetting the counters		
		Residual water quantity		
		Back		
		Page 44		Page 50
	Daily operating hours	**Degree of hardness**		**Select machine type**
		Page 44		Page 51ff
	Daily rinsing cycles	**Drying assistant**		**Diagnosis**
		Page 45		Inputs - outputs
	Daily water consumption	**Operating data Hygiene data**		Softener dispenser
		Show operating data		Error memory

	Show hygiene data		Soft start
	Transmit log		Impeller sensor
	Back		Back
	Page 45		Page XXX
Residual capacity external water treatment	**Timer**		**Unlock in case of lack of salt**
	Weekly program		
	Daily program		
HOBART SERVICE	Activate / deactivate		
	Back		
Back	**Back**	**Back**	**Back**

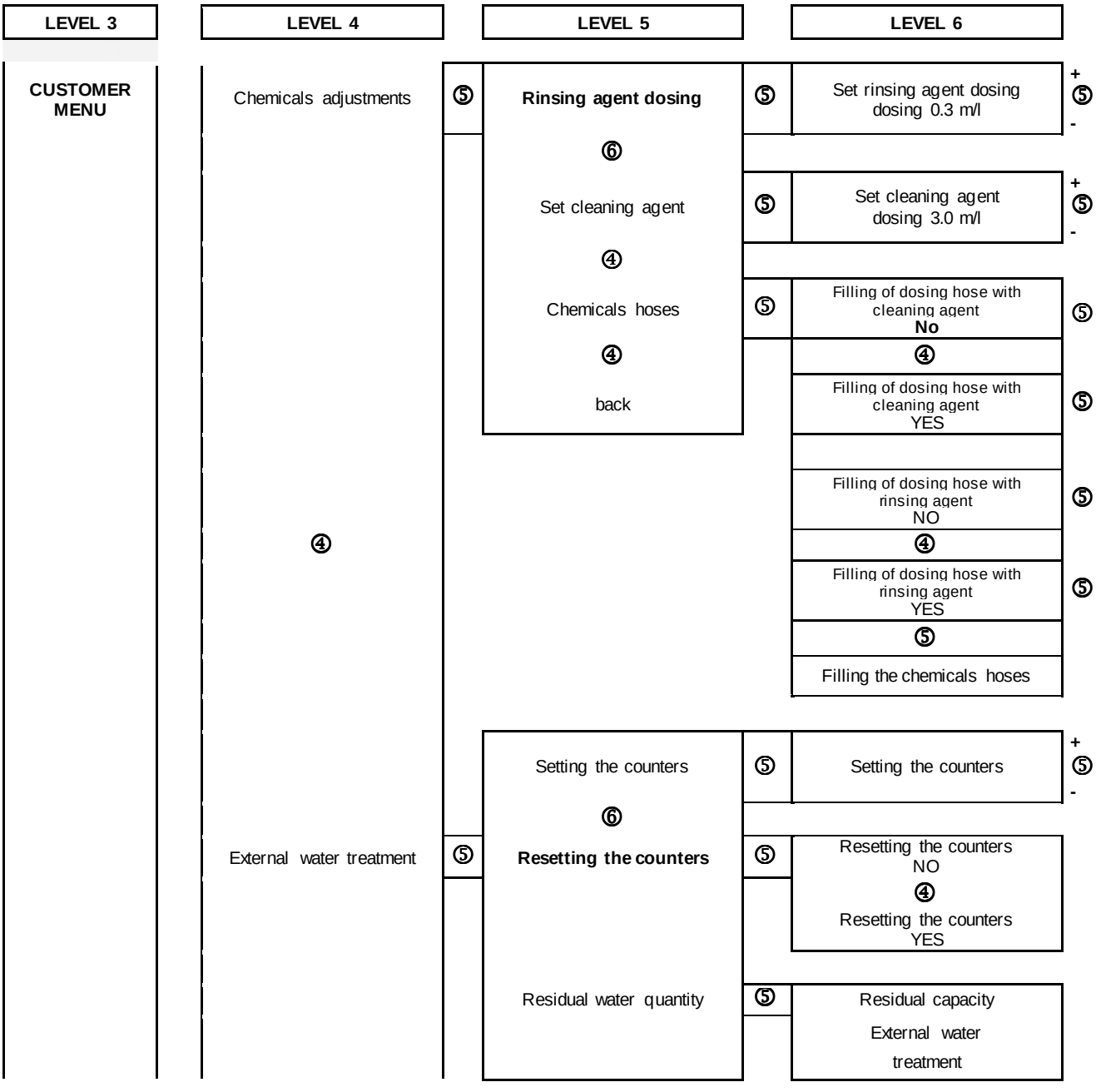
10.2 MENU NAVIGATION CUSTOMER MENU

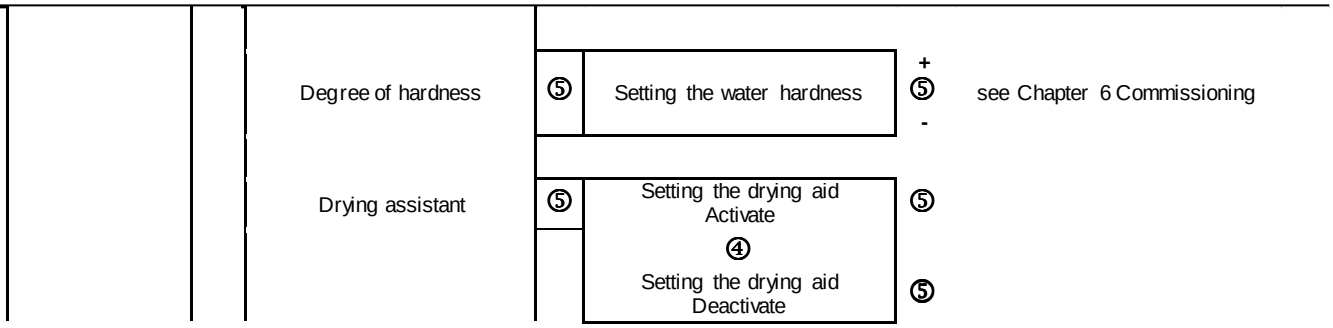
10.2.1 GENERAL SETTINGS

LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
CUSTOMER MENU	**general settings**	**Language**	see commissioning
		⑥	
		Date	see commissioning
		④	
		Time	see commissioning
		④	YYYY.MM.DD ⑤
			⑥
		Format Date	⑤ **DD.MM.YYYY** ⑤
			④
		④	MM.DD.YYYY ⑤
	④		back
		Format Time	⑤ **24h** ⑤
			④
		④	12h ⑤
			back
		Temperature unit	⑤ ℃ ⑤
			④
		④	℉ ⑤
		back	back
	Display	**Program depiction**	**Text depiction** ⑤
			④
		④	Symbol depiction ⑤
		Display brightness	Display + ⑤
			Set brightness - ⑤
	④	④	

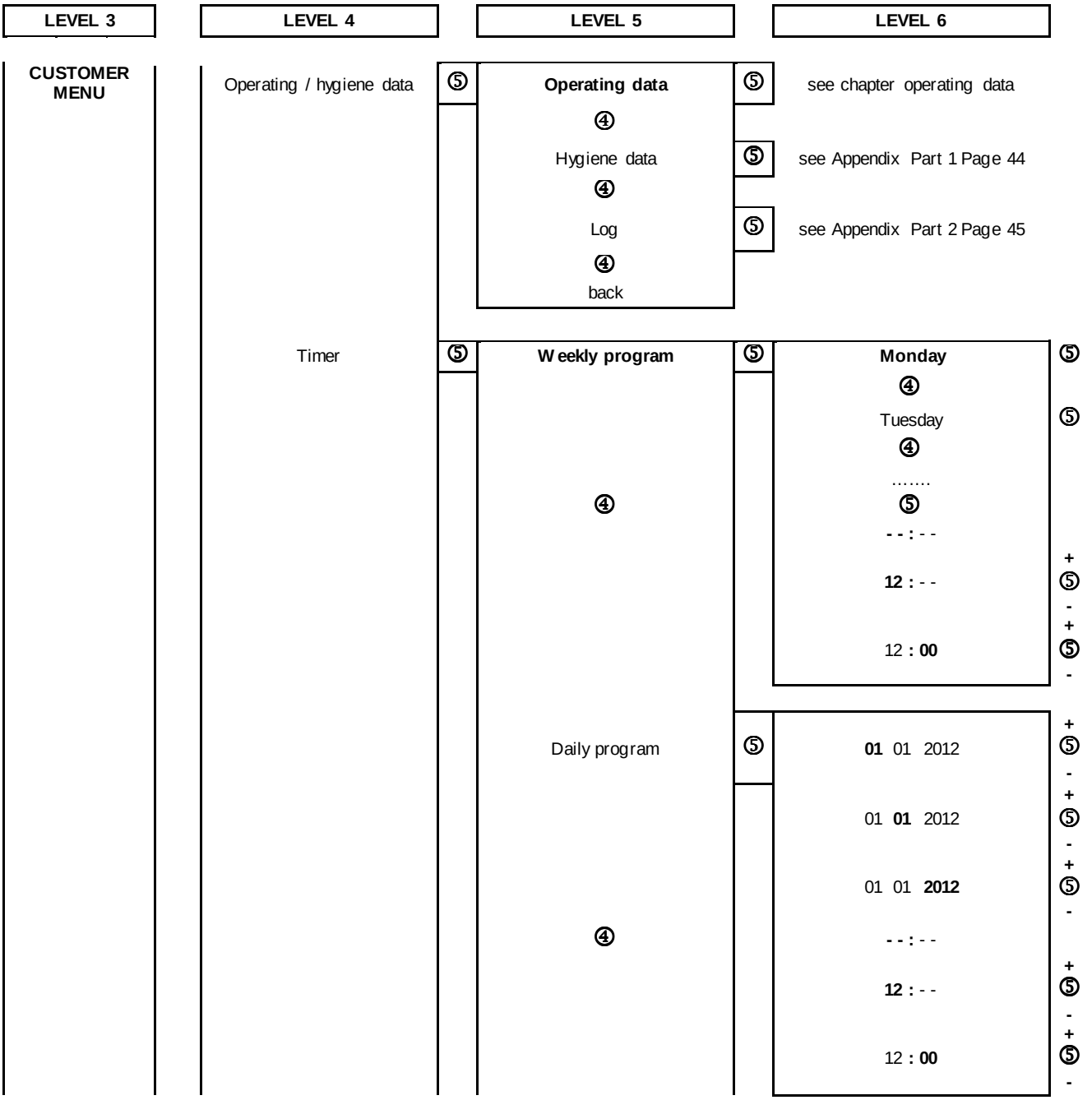


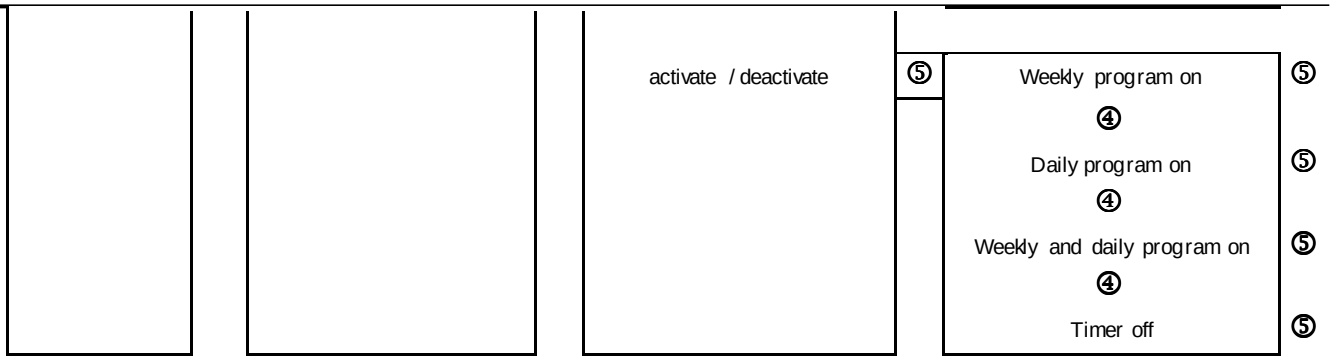
10.2.2 CHEMICALS ADJUSTMENT / EXTERNAL WATER TREATMENT / DRYING ASSISTANT





10.2.3 HYGIENE DATA / TIMER /





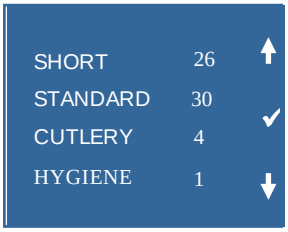
10.2.4 HYGIENE DATA

This menu item lists different events, hygiene data and messages. The list starts with the current date and the event that has occurred last on that day. Then follow the subsequent events of that day, then the
events of the previous days. Started washing programs are listed at the end of the list.
Data are saved for the last 30 days. Older records are overwritten.

Figure 1 shows an example of a display on this menu level. 2 messages with date and time in the set format are shown per display. With the navigation buttons ④ and ⑤ it is possible to scroll through the recorded data. Scrolling causes a change of the entire display and two further messages are shown.

Figure 1

The washing programs are listed at the end of the list. Contrary to the hygiene data, messages and events, these are not listed with date and time. The figure below shows an example of a display. Programs that were not started are not listed. With the navigation buttons ④ and ⑤ it is possible to scroll through the individual programs.

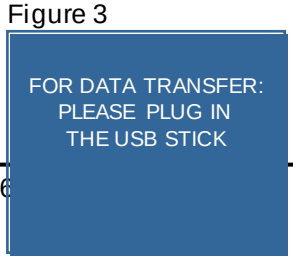


Pressing button ⑤ takes you back to the menu level "Operating and hygiene data" page 45

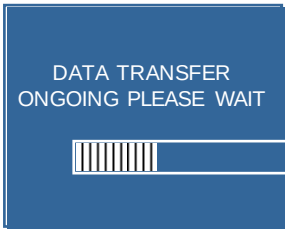
10.2.5 LOG PART 1

Figure 3 shows an example of a display on this menu level with the request to plug in the USB stick for data transfer.

Figure 3



This is confirmed by pressing the button ⑤ and then the program switches to the next display. The machine automatically checks whether a USB stick has been detected and starts to transfer the data.



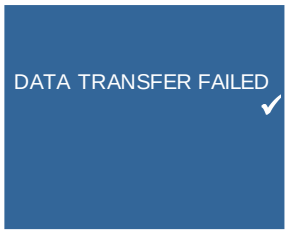
10.2.6 LOG PART 2

The transfer is carried out into a separate file and is saved on the USB stick (folder name is HOB-DATA, file name is always the current date e.g. **121105** (2012/05/11).
After successful data transfer, the display shows:

Pressing button ⑤ takes you back to the customer menu page 43.

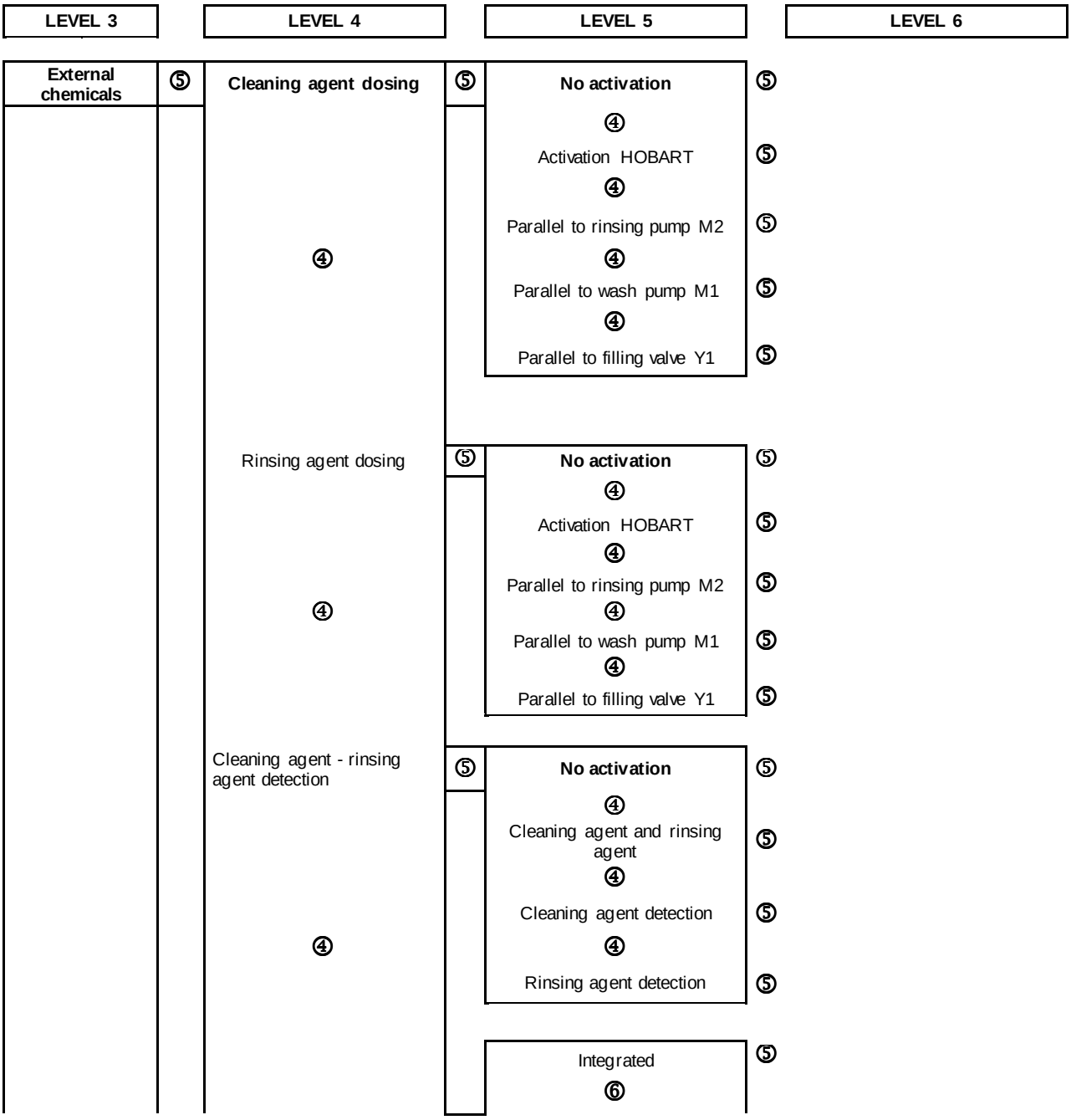
A sample log is shown below.
A separate log is to be generated for every day.

If no USB stick has been detected after some time or if the data transfer could not be carried out completely, the following note is shown



Pressing button ⑤ takes you back to the mode see page 45.
Pressing button ⑤ takes you back to the customer menu

10.3 MENU NAVIGATION EXTERNAL CHEMICALS



	Chemicals tank	⑤	**External**	⑤
			④	
	④		External with level switch	⑤
	Signal in case of lack of chemicals	⑤	**0**	⑤
			1	⑤

10.4 MENU NAVIGATION SERVICE

10.4.1 PARAMETERS / ACTIVATING PROGRAMS

Parameters: Parameters that have been enabled in the parameters list for the level service menu are displayed. The navigation buttons are used to scroll through the individual parameters. The designation of the set value and the unit are automatically shown for the selected parameter. The buttons ❹ and ❻ can be used to change the value of the selected parameters in the parameters list at the defined increment.

LEVEL 3		LEVEL 4		LEVEL 5		LEVEL 6
SERVICE MENU	⑤	**Parameters**	⑤	**T1** Washing time SHORT program 59 SEC	⑥	Parameters downwards
					④	Parameters upwards
				⑤		
				T1 Washing time SHORT program **59 SEC**	⑥	Parameter value downwards
					④	Parameter value upwards
				⑤		
				Save Change Quit menu	⑤	The changed parameter value is saved. The display stands at the parameter that was selected last. The value that is actually in the memory is shown.
		④		④		
				Save **Change** Quit menu	⑤	The system switches back without saving the changed parameter. The display stands at the parameter that was selected last. The value that is actually in the memory is shown.
				④		
				Save N Change **Quit menu**	⑤	Return to parameter

	Activate / deactivate programs		Short	⑥ Program display forward
		⑤	**Standard**	
			Intensive	④ Program display backwards
			.....	
			back	⑤ Return to customer menu
			⑤	
			Activate	Activate program display
			Deactivate	④ Deactivate program display
	④		⑤	

10.4.2 SERVICE INTERVAL / SOFTWARE UPDATE / MACHINE TYPE / MACHINE PROGRAM NUMBER

LEVEL 3	LEVEL 4		LEVEL 5		LEVEL 6
SERVICE MENU	Reset service display	⑤	**Yes**	⑤	Reset service interval and return to parameter
			No	⑤	**Do not** reset service interval and return to parameter
	④ Version display 0001:01:01:00	⑤	Return to service menu		
	④ Software update	⑤	For a software update please plug in the USB stick	⑤	Confirmation of the USB stick with subsequent testing of the stick and the software across a certain period (bar display). In case of an error there is a message **USB stick not recognised / software file not recognised**
			If during the "test time", one or several software files are detected, these are shown on the display		
	④		**001.03.01.01** 005.00.01.03 002.00.01.02	⑥	Software files upwards
				④	Software files downwards
			⑤ File is preselected		
			Please do not interrupt the loading. Machine is switched off afterwards		Loading is identified by a rotating line.
	Select machine type	⑤	**001** 002	⑥	Program number downwards
				④	Program number upwards
			⑤		Load program number Program number / parameter When loading the same number, remanent parameters are retained, with another number however, the entire parameter list is initialised
			loaded machine type 001		

GX-10A 001 **FXL-10A 013** **FX-81A 015** **FP-10A 025**

GXH-10A	001	FX-72A	013	FXL-81A	015	FP-90A	025
GXS-10A	002	FXMar-70A	013		016	FPS-10A	026
GXHS-10	002	FXMar-71A	013		017	FP-10A	027
GXHK-10A	003	FXMar-72A	013	FXCV-70A	018	FP-90A	027
GP-10A	004	FXMar-73A	013	FXCV-71A	018	FPS-10A	028
GPS-10A	005	FXMar-74A	013	FXCV-72A	018	FPCV-70A	029
Baraid500-10A	006	FXMar-75A	013	FXLSBäko-10A	019	FPCV-72A	029
Baraid500S-10A	007	FXMar-76A	013	FX-90A	020		030
Baraid800-10A	008	FXMar-77A	013	FP-10A	021		031
Baraid800S-10A	009	FXS-10A	014	FP-90A	021		
FXSTD-10A	010	FXLS-10A	014	FPS-10A	022		
FXSTD-10A	011	FXSNav-10A	014	FP-10A	023		
FXSTD-11A	012	FX-80A	015	FP-90A	023		
FX-10A	013	FXL-80A	015	FPS-10A	024		

10.4.4 DIAGNOSIS MODE / INPUTS - OUTPUTS

Inputs	Terminal : pin	Assignment
E01	X 8 : 2	Door switch
E02	X 8 : 4	Impeller sensor
E03	X 8 : 7	Strainer switch
E04	X 9 : 2	Lack of salt
E05	X 12 : 2	Reserve
E06	X 13 : 4	Lack of cleaning agent
E07	X 13 : 5	Lack of rinsing agent
E08	X 14 : 2	Reserve
E09	X 14 : 4	Reserve
E10	X 14 : 6	Reserve
E11	X 15 : 2	Reserve
E12	X 15 : 4	Reserve

E13	X 16 : 2	Reserve
E14	X 16 : 4	Reserve
E15	X 16 : 6	Reserve
E16	X 16 : 8	Reserve
AE1	X 10 : 1	Temperature boiler
AE2	X 10 : 3	Temperature wash tank
AE3	X 10 : 6	Pressure boiler
		Turbidity
		Pressure reserve /

10.4.5 SOFTENING AGENT TEST PROGRAM

LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
		④	
SERVICE MENU	Diagnosis	Softener dispenser ④	⑤ Test program Softener dispenser Start
			⑤
			Test program Active

	Sequence test program	Active outputs	Time	Pulses	Effect
1	Salting 1 into the boiler	Y10.1 + Y10.2	5s		Water level of storage chamber water break and transparent hose is dropping. ①
2	Pause 1		3s		
3	Salting 2 into the boiler	Y10.1 + Y10.2	5s		
4	Pause 2		3s		
5	Washing out 1 into discharge	Y1 + Y10.3		500	Filling water is conveyed into the discharge ②
6	Pause 3		3s		
7	Washing out 2 into discharge	Y1 + Y10.3		500	
8	Pause 4		3s		
9	Boiler filling 1	Y1 + Y10.2		500	When boiler full, the

Dig

Activate digital output A02 = 0 ⑤

Digital outputs forwards ④ A03 ... A22

Analogue inputs (values are accepted) AA1 = 0.15

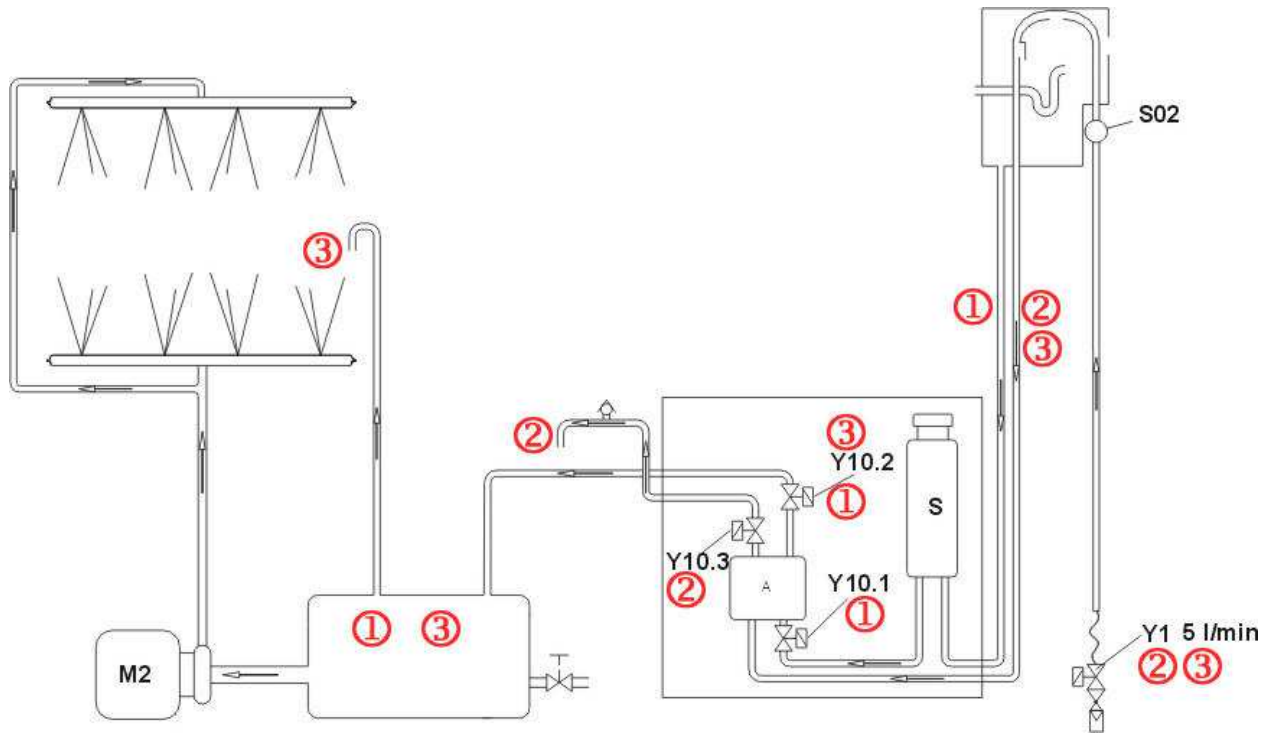
Back to the diagnosis ⑤

Outputs	Terminal : pin	Assignment
A01	X 2 : 3	Wash pump direct
A02	X 2 : 4	Reserve
A03	X 2 : 5	Cleaning agent dosing pump
A04	X 2 : 6	Rinsing agent dosing pump
A05	X 2 : 7	Filling valve
A06	X 2 : 8	Discharge pump
A07	X 2 : 9	Rinsing pump
A08	X 2 : 10	Boiler heating
A09	X 4 : 1	Drying power supply on
A10	X 4 : 2	Drying fan 1+2 on
A11	X 6 : 1 / 2	Tank heating
A12		Softener valve (salting)
A13		Softener valve (discharge)
A14		Softener valve (boiler)
A15		Reserve
A16		Reserve
A17		Reserve
A18		Reserve
A19		Reserve
A20		PFR contact 1
A21		PFR contact 2
A22		PFR contact 3
AA1	X 7 : 1	LED turbidity sensor

10	Pause 5			3s		filling water runs out of the boiler overflow ③
11	Boiler filling 2		Y1 + Y10.2	500		

At the end of the test program, the system skips to the menu item Diagnosis.

Hydraulic circuit diagram for the softening agent test program



10.4.6 ERROR MEMORY

LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
SERVICE MENU	Diagnosis	Error memory ④	Error number x has occurred **001 X 1354** 049 X 0004 ⑤ 001 Temperature boiler sensor exceeded ⑤ Error 001 - 2012-01-01 13:30 + 2012-01-01 13:20 - 2012-01-01 11:30 + 2012-01-01 11:15 ⑤

⑥ Error mem - Example

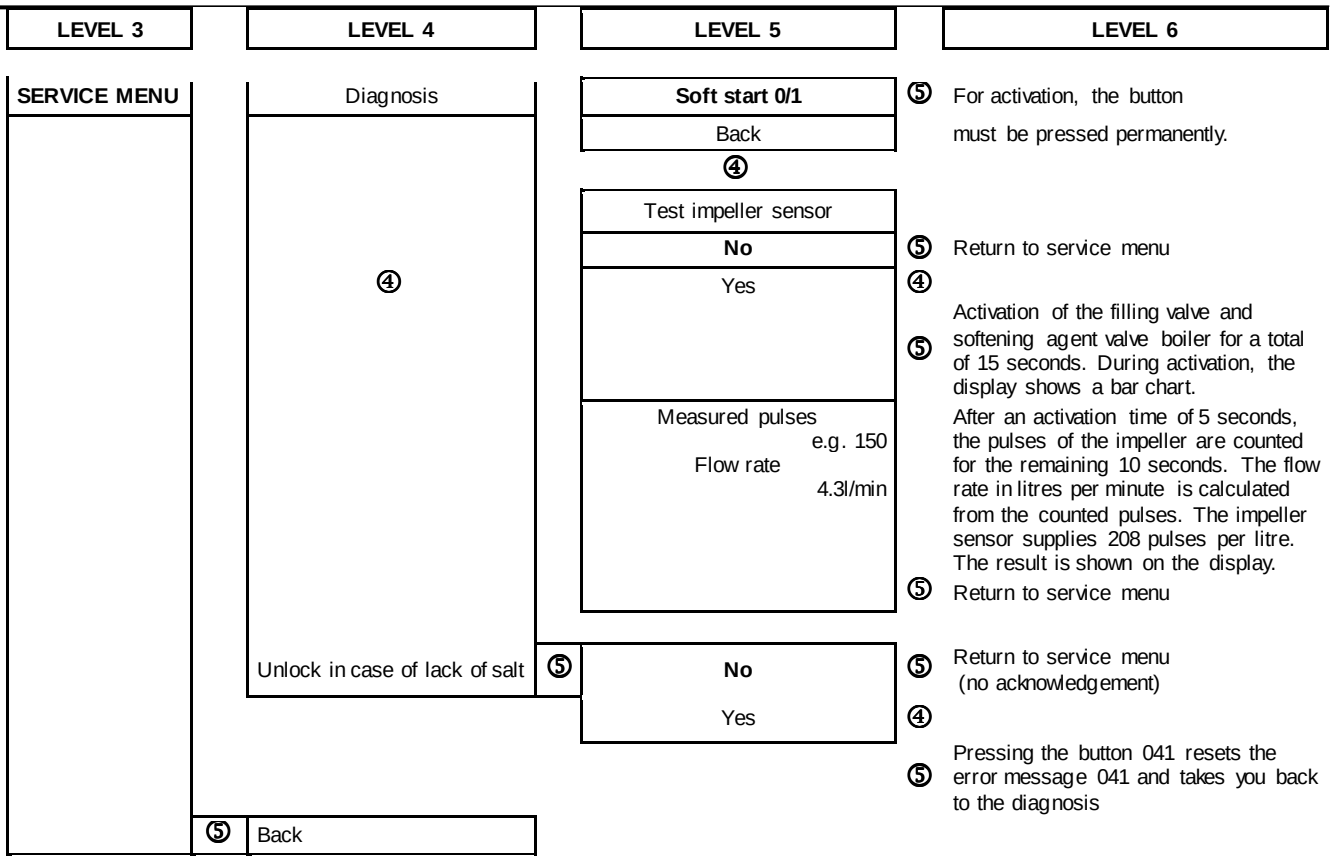
④ Error mem +

Back to the diagnosis

Possible error messages

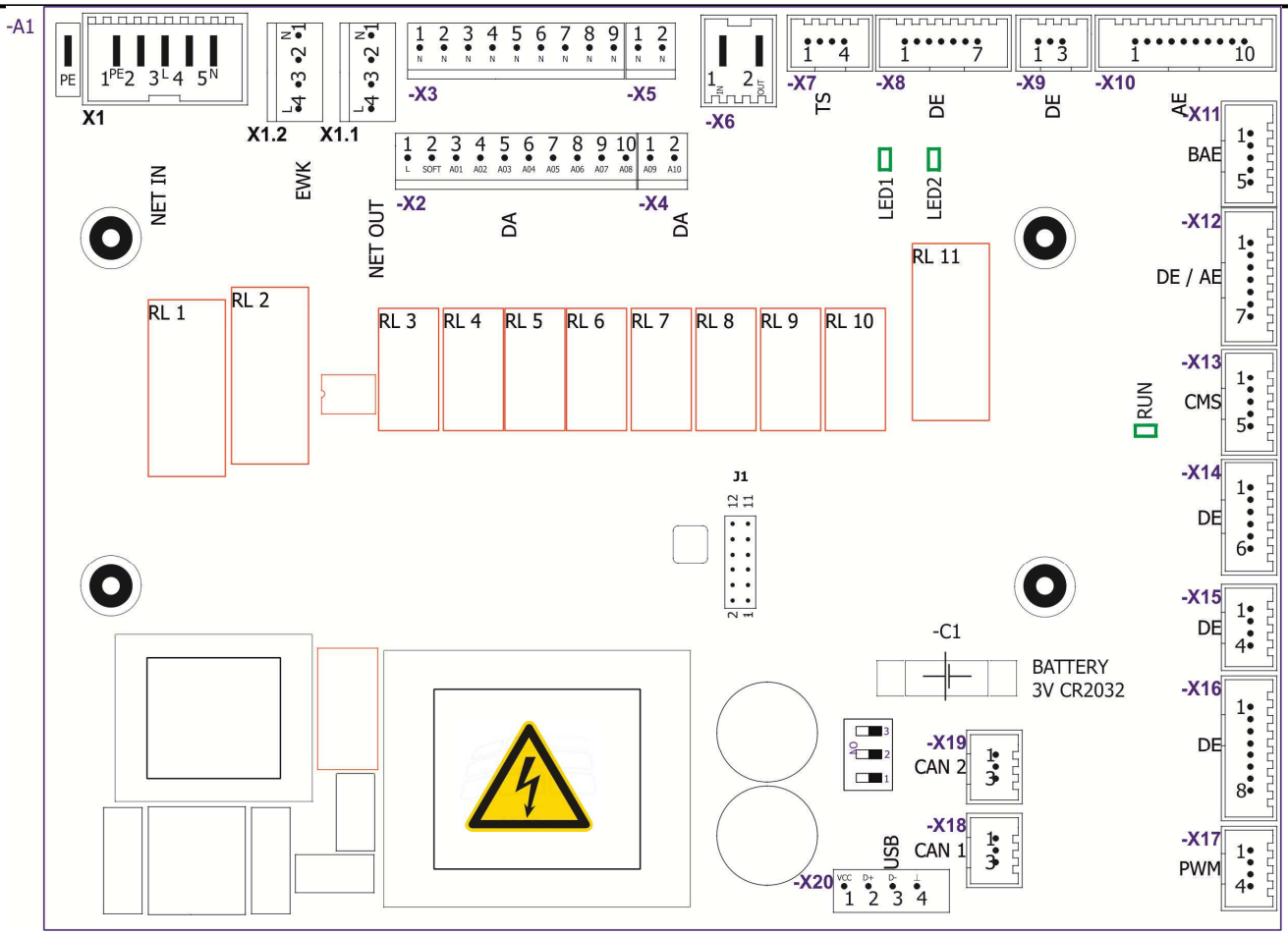
001 Temperatur Boilersensor überschritten
002 Temperatur Boilersensor unterschritten
004 Thermostopp Boiler im Waschprogramm überschritten
005 Keine Boilerheizungsfreigabe
006 Temperatur Tanksensor überschritten
007 Temperatur Tanksensor unterschritten
008 Thermostopp Tank im Füllprogramm überschritten
009 Thermostopp Tankheizung im Waschprogramm überschritten
010 Keine Tankheizungsfreigabe
011 Temperatur Waschraumsensor überschritten
012 Temperatur Waschraumsensor unterschritten
013 Thermostopp Waschraum im Waschprogramm überschritten
014 Grenzwert Drucksensor Boiler überschritten
015 Grenzwert Drucksensor Boiler unterschritten
016 Grenzwert Drucksensor Tank überschritten
018 Überlaufsicherung Drucksensor Tank
019 Unterdruckabschaltung Drucksensor Tank
020 Füllprogrammüberwachung Drucksensor Tank
021 Waschtankentleerung im Abpumpprogramm Drucksensor Tank
022 Waschtankentleerung im Waschprogramm Drucksensor Tank
023 Füllüberwachung externe Füllung Drucksensor Tank
024 Analogstrom des Trübungssensor überschritten
025 Analogstrom des Trübungssensor unterschritten
026 Kalibrierwertabweichung Trübungssensor überschritten
027 Kalibrierung Trübungssensor fehlgeschlagen
028 Kalibrierung Trübungssensor mehrfach fehlgeschlagen
029 Programmunterbrechung durch Tür-/Haubenschalter (E01=0)
030 Tür-/Haubenschalter (E01) schaltet nicht
031 Füllüberwachung durch Flügelradsensor
032 Füllüberwachung durch Wasserstands Messung im Boiler
033 Füllventilüberwachung
034 Serviceintervall
035 Sieb nicht eingesetzt
036 Reinigermangel
037 Klarspülermangel
038 Eingangsspannung der Steuerung zu hoch
039 Haube/Tür offen im Füllprogramm
040 Hygieneprogrammaufforderung
041 Kapazität externe Wasseraufbereitung erschöpft
042 Haltbarkeit Vorfilter Osmose überschritten
043 Regeneriersalz erschöpft
044 Kritischer Fehler Salzmangel
045 Maschine sperren bei Salzmangel
046 Störung CAN Bus
047 Störung USB
048 USB Stick nicht erkannt
049 Störung der Kommunikation STE mit BAE
050 Nullpunktabgleich Drucktransmitter B3 fehlgeschlagen
051 Nullpunktabgleich Drucktransmitter B4 fehlgeschlagen

10.4.7 SOFT START / IMPELLER / UNLOCK IN CASE OF LACK OF SALT



11 CONTROL SYSTEM

11.1 MAIN CIRCUIT BOARD 01-515050-1



LED 1 *for hood switch:* *LED on* = *Hood closed*
LED 2 *for the impeller sensor:* *flickers if water is running (pulses)*
RUN LED *for processor function:* *LED is blinking* = *voltage available, processor is running*
LED on = *Voltage available, processor does not run*

Remark:
Only the **fully equipped circuit board 01-515050-1** is available as spare part.

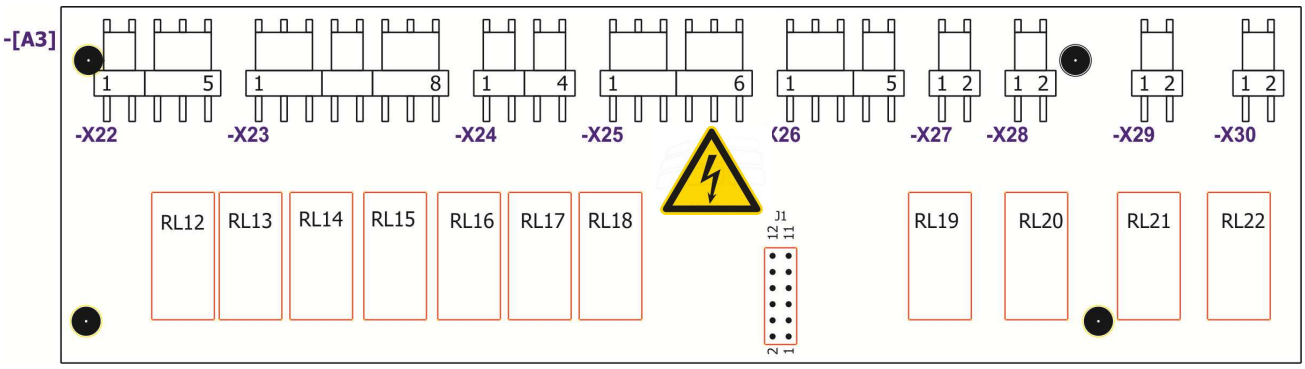
If new software is available due to a software change, the procedure as described in the service menu or service software must be followed.

11.1.1 SOFTWARE REVISION STATUS

01-515060 001- 03 05. 000
01-515060 Software - Basic number

001 Software bar number (e.g. for all FX machines)
03 Releases with program changes
05 Releases with parameter changes
000 No development revision

11.2 ADDITIONAL CIRCUIT BOARD 01-515051-1



11.2.1 FLOATING CONTACTS ON THE ADDITIONAL CIRCUIT BOARD

The additional circuit board has three floating contacts PFK1, PFK2, PFK3 which can each be allocated to different functions by means of a switching function S69, S70, S71.

S69 relay 20 A20
S70 relay 21 A21
S71 relay 22 A22

0	Output deactivated
1	Output activated if machine is ready for operation
2	Output activated if filling program or pump out program are active
3	Output activated if actual temperature tank or boiler below setpoint temperature
4	Output activated if filling program SHORT or STANDARD are active
5	T136 is started after every rinsing time. The output is activated during this time.
6	Output activated if filling program is active
7	Output activated in case of information message
8	Output activated in case of error
9	Output activated in case of warning message or error
10	Output activated if SHORT or STANDARD, ... CUTLERY or BASIC CLEANING or COFFEE CUPS active
11	Output activated if pump out program active
12	Output activated if HYGIENE or DESCALING active
13	Output activated if machine is off
14	Output activated if tank or boiler heating active
15	Free

12.1 PIN ASSIGNMENT A1 / A3 PART 1

Terminal	Pin	I/O		Component
X1	1			Power supply N
X1	2			Power supply N
X1	3			---
X1	4			---
X1	5			Power supply L
X1	6			Power supply L
X1	7			---
X1	8			---
X1	9			Power supply PE
X1	10			Power supply PE
X1.1	1			OUT N
X1.1	2			---
X1.1	3			---
X1.1	4			OUT L
X1.2	1			EWK N
X1.2	2			---
X1.2	3			---
X1.2	4			EWK L
X2	1			L (STE)
X2	2			Soft start
X2	3	A01	RL1	Wash pump direct
X2	4	A02	RL2	2. output
X2	5	A03	RL3	Cleaning agent pump
X2	6	A04	RL4	Rinsing agent pump
X2	7	A05	RL5	Filling valve
X2	8	A06	RL6	Discharge pump
X2	9	A07	RL7	Rinsing pump
X2	10	A08	RL8	Boiler heating
X3	1			N (reserve)
X3	2			N (wash pump direct)
X3	3			N (2. output)
X3	4			N (cleaning agent pump)
X3	5			N (rinsing agent pump)
X3	6			N (filling valve)
X3	7			N (discharge pump)
X3	8			N (rinsing pump)
X3	9			N (boiler heating)
X4	1	A09	RL9	Drying
X4	2	A10	RL10	Drying
X5	1			N (drying)
X5	2			N (drying)
X6	1			Tank heating (IN)
X6	2			Tank heating (IN)
X6	3	A11	RL12	Tank heating (OUT)
X6	4	A11	RL12	Tank heating (OUT)

12.2 PIN ASSIGNMENT A1 / A3 PART 2

Terminal	Pin	I/O		Component
X7	1			---
X7	2	AA1		Turbidity sensor OUT
X7	3	AE5		Turbidity sensor IN
X7	4			5V
X8	1			6V
X8	2	DE1		Door switch
X8	3			5V
X8	4	DE2		Impeller sensor
X8	5			GND
X8	6			5V
X8	7	DE3		Strainer monitoring
X9	1			---
X9	2	DE4		Lack of salt
X9	3			5V
X10	1	AE1		Temperature boiler
X10	2			GND
X10	3	AE2		Temperature tank
X10	4			GND
X10	5			5V
X10	6	AE3		Pressure boiler
X10	7			GND
X10	8			5V
X10	9	AE4		Pressure tank
X10	10			GND
X11	1			BAE - 6V
X11	2			BAE - Data Hi
X11	3			BAE - GND
X11	4			BAE - Data Lo
X11	5			BAE - switch

	Pin	I/O	Component
X12	1		5V
X12	2	DE5	Reserve
X12	3		5V
X12	4	AE6	Pressure (reserve)
X12	5		---
X12	6	AE6	Temperature (reserve)
X12	7		GND
X13	1		Lack of chemicals - 5V
X13	2		Lack of chemicals - 5V
X13	3		Lack of chemicals - GND
X13	4	DE6	Lack of chemicals - cleaning agent
X13	5	DE7	Lack of chemicals - rinsing agent
X14	1		5V
X14	2	DE8	Hood lift - button
X14	3		5V
X14	4	DE9	Hood lift - hood up
X14	5		5V
X14	6	DE10	Hood lift - hood down
X15	1		5V
X15	2	DE11	Basket detection 1
X15	3		5V

	Pin	I/O		Component
X22	1			Power supply N
X22	2			---
X22	3			---
X22	4			Power supply L
X22	5			Power supply L
X23	1	A12	RL12	Softener valve 1 (salting) / osmosis filling valve
X23	2	A13	RL13	Softener valve 2 (discharge) / osmosis pump
X23	3	A14	RL14	Softener valve 3 (boiler)
X23	4			---
X23	5			---
X23	6			N softener valve 1 (salting) / osmosis filling valve
X23	7			N softener valve 2 (discharge) / osmosis pump
X23	8			N softener valve 3 (boiler)
X24	1	A15	RL15	---
X24	2			---
X24	3			---
X24	4			N softener valve 4
X25	1	A16	RL16	Hood lift "OPEN"
X25	2	A17	RL17	Hood lift "CLOSED"
X25	3			---
X25	4			---

X15	4	DE12	**Basket detection 2**

X16	1	
X16	2	DE13
X16	3	
X16	4	DE14
X16	5	
X16	6	DE15
X16	7	
X16	8	DE16

X17	1	**PWM - signal 1**
X17	2	**PWM - GND external 1**
X17	3	**PWM - signal 2**
X17	4	**PWM - GND external 2**

X18	1	
X18	2	
X18	3	

X19	1	
X19	2	
X19	3	

X20	1		**USB**
X20	2		**USB**
X20	3/4		**USB**

X25	5			**N hood lift "OPEN"**
X25	6			**N hood lift "CLOSED"**

X26	1	A18	RL18	**Prespraying cleaning agent**
X26	2			**---**
X26	3			**---**
X26	4			**N Prespraying cleaning agent**
X26	5			**N (reserve)**

X27	1	A19	RL19	**High pressure (PFR.)**
X27	2	A19	RL19	**High pressure (PFR.)**

X28	1	A20	RL20	**PFR. contact 1 IN**
X28	2	A20	RL20	**PFR. contact 1 OUT**

X29	1	A21	RL21	**PFR. contact 2 / hood lift "OPEN" IN**
X29	2	A21	RL21	**PFR. contact 2 / hood lift "OPEN" OUT**

X30	1	A22	RL22	**PFR. contact 3 / hood lift "DOWN" IN**
X30	2	A22	RL22	**PFR. contact 3 / hood lift "DOWN" OUT**

13 PARAMETERS

13.1 COUNTERS

13.2 SWITCHING FUNCTIONS

13.2.1 SWITCHING FUNCTIONS PART 1

14 ERROR MESSAGES

14.1 GENERAL DESCRIPTION

The following describes the error analyses and the resulting reaction of the machine as well as the display for the customer. Basically, a difference is made between warnings, i.e. messages having a slight influence on the machine but not leading to a system failure and malfunctions, which as a rule lead to a program abortion or machine shut-down. In addition, there are internal messages which to the outside have no obvious effect on the machine but are stored in the error memory.

Reactions of the start button ②

Reaction 0 internal messages:

➔ No influence of the start button or no activation of the signal transducer.

Reaction 1 in case of warning messages:

➔ Alternative flashing of the start button ② in green and red while the machine is in standby mode

➔ If transducer **S63** = 1 is enabled, it is activated twice at a rate of 0.5s "On" and 0.5s "Off".

Reaction 2 in case of malfunctions:

➔ Red permanent light of the start button ② when the machine is switched on

➔ If transducer **S63** = 1 is enabled, it is activated for 5s.

14.2 DEPICTION OF ERROR MESSAGES

Displayed error messages are acknowledged with the display navigation button ⑤. They are displayed in the order of their assigned priority.

Acknowledged error messages where the error is still pending are initially masked to make it possible to display further messages.

If all error messages have been acknowledged but there are still errors pending, these messages are subsequently displayed again. The **Fehler! Verweisquelle konnte nicht gefunden werden.** shows an example of an error message display.

14.3 POSSIBLE ERROR MESSAGES

The following describes the error analyses and the resulting reaction of the machine as well as the display for the customer. Basically, a difference is made between warnings, i.e. messages having a slight influence on the machine but not leading to a system failure and malfunctions, which as a rule lead to a program abortion or machine shut-down. In addition, there are internal messages which to the outside have no obvious effect on the machine but are stored in the error memory.

Reaction 0 internal messages:

➔ No influence of the start button or no activation of the signal transducer.

Reaction 1 in case of warning messages:

➔ Alternative flashing of the start button ❷ in green and red while the machine is in standby mode

Reaction 2 in case of malfunctions:

Red permanent light of the start button ❷ when the machine is switched on.

14.3.1 Message 001 Temperature boiler sensor exceeded

Error description	**001 Temperature boiler sensor exceeded**		
Trigger	The temperature at the AE1 is ≥ 115°C		Delay 2 seconds
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off / display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	e.g.: malfunction temperature sensor boiler. Inform service.		
Acknowledgement	Pressing the display navigation button □ acknowledges the message. The machine remains in off mode.		Delay -

14.3.2 Message 002 Temperature boiler sensor underrun

Error description	**002 Temperature boiler sensor underrun**		
Trigger	The temperature at the AE1 is ≤ 0°C		Delay 2 seconds
Reaction of the start button	2	Priority	

Machine reaction	Machine is switched off / display remains switched on	
Locked	Filling program / washing program	
Enable	Pump out program	
Message on the display	e.g.: malfunction temperature sensor boiler. Inform service.	
Acknowledgement	Pressing the display navigation button □ acknowledges the message. The machine remains in off mode.	Delay -

14.3.3 Message 003 Thermostop boiler in filling program exceeded

Error description	**003 Thermostop boiler in filling program exceeded**	
Trigger	During the filling program, the setpoint temperature at the AE1 was not reached within the thermostop time 1 boiler **T54**. If **T54** = 0 or **S7** =0 or 1, this message is not triggered.	Delay **T54**
Reaction of the start button	1 Priority	
Machine reaction	Filling program is continued. The boiler heating continues to be monitored.	
Locked	Washing program	
Enable	Filling program, pump out program	
Message on the display	SYM47 + 003 + text 102.1 + text 18.1 e.g. temperature not reached. Inform service.	
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. Machine remains in active mode.	Delay -

14.3.4 Message 004 Thermostop boiler in washing program exceeded

Error description	**004 Thermostop boiler in washing program exceeded**	
Trigger	During the washing program, the setpoint temperature at the AE1 was not reached within the thermostop time 2 boiler **T55**. If **T55** = 0 or **S7** =0 or 1, this message is not triggered.	Delay **T55**
Reaction of the start button	1 Priority	
Machine reaction	Washing program is continued.	
Locked	Washing program, filling program	
Enable	Pump out program	
Message on the display	SYM47 + 004 + text 102.1 + text 18.1 e.g. temperature not reached. Inform service.	
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.	Delay -

14.3.5 Message 005 Boiler heating not enabled

Error description	**005 Boiler heating not enabled**	
Trigger	Setpoint temperature at the AE1 and heating enabling level at the AE3 underrun	Delay 240 seconds
Reaction of the start button	0 Priority	-
Machine reaction	Boiler level AE3 is checked. If this is within a valid range (no error code 014 or 015), the boiler is filled to the setpoint. An active regeneration may not be interrupted by this.	
Locked	-	
Enable	No restrictions	
Message on the display	-	
Acknowledgement	Internal acknowledgement by reaching the heating	Delay

	enabling level.	-

14.3.6 Message 006 Temperature tank sensor exceeded

Error description	**006 Temperature tank sensor exceeded**		
Trigger	The temperature at the AE2 is ≥ 115°C		Delay 2 seconds
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM36 + 006 + text 103.1 + text 18.1 e.g.: malfunction temperature sensor wash tank. Inform service.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.		Delay -

14.3.7 Message 007 Temperature tank sensor underrun

Error description	**007 Temperature tank sensor underrun**		
Trigger	The temperature at the AE2 is ≤ 0°C		Delay 2 seconds
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM36 + 007 + text 103.1 + text 18.1 e.g.: malfunction temperature sensor wash tank. Inform service.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.		Delay -

14.3.8 Message 008 Thermostop tank in filling program exceeded

Error description	**008 Thermostop tank in filling program exceeded**		
Trigger	During the filling program, the setpoint temperature at the AE2 was not reached within the thermostop time 1 tank **T57**. If **T57** = 0 or **S7** =0 or 2, this message is not triggered.		Delay **T57**
Reaction of the start button	1	Priority	
Machine reaction	The filling program is aborted. The machine goes into standby mode.		
Locked	Washing program		
Enable	Filling program / pump out program		
Message on the display	SYM47 + 008 + text 102.1 + text 18.1 e.g. temperature not reached. Inform service.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges		Delay

	the message. The machine remains in active mode.	-

14.3.9 Message 009 Thermostop tank heating in washing program exceeded

Error description	009 Thermostop tank heating in washing program exceeded		
Trigger	During the washing program, the setpoint temperature at the AE2 was not reached within the thermostop time 2 tank **T58**. If **T58** = 0 or **S7** =0 or 2, this message is not triggered.		Delay **T58**
Reaction of the start button	1	Priority	
Machine reaction	Washing program is continued		
Locked	Washing program		
Enable	Pump out program / filling program		
Message on the display	SYM47 + 009 + text 102.1 + text 18.1 e.g. temperature not reached. Inform service.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.		Delay -

14.3.10 Message 010 Tank heating not enabled

Error description	010 Tank heating not enabled		
Trigger	Setpoint temperature at the AE2 and heating enabling level at the AE4 underrun during thermostop time 1 / 2 (**T57 / T58)**).		Delay 240 seconds
Reaction of the start button	0	Priority	-
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display	-		
Acknowledgement	Internal acknowledgement by reaching the heating enabling level.		Delay

14.3.11 Message 011 Temperature washing space sensor exceeded

Error description	011 Temperature washing space sensor exceeded		
Trigger	The temperature at the AE6 is ≥ 115°C		Delay 2 seconds
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM36 + 011 + text 104.1 + text 18.1 e.g.: malfunction temperature sensor washing space. Inform service.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in off mode.		Delay -

14.3.12 Message 012 Temperature washing space sensor undercut

Error description	012 Temperature washing space sensor underrun		
Trigger	The temperature at the AE6 is ≤ 0°C		Delay 2 seconds
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		

Locked	Filling program / washing program	
Enable	Pump out program	
Message on the display	SYM36 + 012 + text 104.1 + text 18.1 e.g.: malfunction temperature sensor washing space. Inform service.	
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in off mode.	Delay -

14.3.13 Message 013 Thermostop washing space in washing program exceeded

Error description	**013 Thermostop washing space in washing program exceeded**		
Trigger	During the washing program, the setpoint temperature at the AE6 was not reached within thermostop time 3 washing space **T59**. If **T59** = 0 this message is not triggered.		Delay **T59**
Reaction of the start button	2	Priority	
Machine reaction	Thermostop is aborted, the washing program is continued up to the end. Display and reaction of the start button will take place during standby mode.		
Locked	Washing program		
Enable	Filling program / pump out program		
Message on the display	SYM47 + 013 + text 105.1 + text 18.1 e.g.: disinfection cannot be guaranteed. Inform service.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. Machine remains in active mode.		Delay -

14.3.14 Message 014 Limit pressure sensor boiler exceeded

Error description	**014 Limit pressure sensor boiler exceeded**		
Trigger	The voltage at the AE3 is ≥ 3.95 V		Delay 5 seconds
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM36 + 014 + text 106.1 + text 18.1 e.g.: malfunction pressure sensor boiler. Inform service.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.		Delay -

14.3.15 Message 015 Limit pressure sensor boiler underrun

Error description	**015 Limit pressure sensor boiler underrun**		
Trigger	The voltage at the AE3 is ≤ 0.30 V		Delay 5 seconds
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM36 + 015 + text 106.1 + text 18.1 e.g.: malfunction pressure sensor boiler. Inform service.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.		Delay -

14.3.16 Message 016 Limit pressure sensor tank exceeded

Error description	**016 Limit pressure sensor tank exceeded**		
Trigger	The voltage at the AE4 is ≥ 3.95 V		Delay 5 seconds
Reaction of the start button	2	Priority	

Machine reaction	Machine is switched off / display remains switched on	
Locked	Filling program / washing program	
Enable	Pump out program	
Message on the display	SYM36 + 016 + text 107.1 + text 18.1 e.g.: malfunction pressure sensor wash tank. Inform service.	
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.	Delay -

14.3.17 Message 017 Limit pressure sensor tank underrun

Error description	**017 Limit pressure sensor tank underrun**		
Trigger	The voltage at the AE4 is ≤ 0.30 V		Delay 5 seconds
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM36 + 017 + text 107.1 + text 18.1 e.g.: malfunction pressure sensor tank. Inform service.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.		Delay -

14.3.18 Message 018 Overflow protection pressure sensor tank

Error description	**018 Overflow protection pressure sensor tank**		
Trigger	The voltage at the AE4 is ≥ A92		Delay 5 seconds
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on A06 is switched on until the voltage at AE4 ≤ A91.		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM36 + 018 + text 108.1 + text 18.1 e.g.: malfunction in the filling or discharge system. Inform service.		
Acknowledgement	By pressing the display navigation button ❺ if the voltage at AE5 ≤ A91. The machine remains in active mode.		Delay -

14.3.19 Message 019 Vacuum cut-out pressure sensor tank

Error description	**019 Vacuum cut-out pressure sensor tank**		
Trigger	Monitoring only takes place during a washing program while A01 is switched on. No analysis takes place during the programs PB12 and PB13. If the voltage at AE4 drops to ≤ A90 for > T85 in the process, the message is triggered. Averaging yes/ no → check on the basis of processor speed that previous response delay: 0.2s The error analysis can be switched off via the parameter S62 = 0.		Delay T85
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM36 + 019 + text 109.1 e.g.: strainers dirty. Remove, clean and re-install.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges		Delay

	the message. The machine remains in active mode.	-

14.3.20 Message 020 Filling program monitoring pressure sensor tank

Error description	**020 Filling program monitoring pressure sensor tank**		
Trigger	On starting of the filling program, the voltage value at AE4 is saved internally. If after a number of **C58** rinsing steps the voltage at AE4 ≤ (**A95** + saved initial value), the error is triggered. If during the filling program, the voltage at AE4 ≥ (**A95** + saved initial value), the internally saved value is overwritten with the voltage that is now applied at AE4 as soon as the rinsing pump A10 switches off and monitoring starts afresh. With the end of the filling program or on reaching the tank full level **A78,** monitoring also ends. If the parameter **C58** or **A95** is set to 0, no monitoring is taking place.		Delay **C58**
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM36 + 020 + text 110.1 e.g.: malfunction pressure sensor wash tank. Pump out machine.		
Acknowledgement	A pump out program must be started, only then will it be possible to acknowledge the message by pressing the display navigation button ❺.		Delay -

14.3.21 Message 021 Wash tank draining during the pump out program pressure sensor tank

Error description	**021 Wash tank draining in the pump out program pressure sensor tank**		
Trigger	At the end of the pump out program, the voltage at AE4 ≥ **A93**		Delay -
Reaction of the start button	1	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM46 + 021 + text 111.1 e.g.: malfunction in the filling or discharge system. If necessary, clean		

	discharge hose and pump out machine again.	
Acknowledgement	A pump out program must be started and the voltage at AE4 must be ≤**A93**. Only then will it be possible to acknowledge the message by pressing the display navigation button ❺.	Delay -

14.3.22 Message 022 Wash tank draining during the washing program pressure sensor tank

Error description	**022 Wash tank draining during the washing program pressure sensor tank**		
Trigger	The specified voltage value **A84** at AE4 is not reached during the washing program while activating the discharge pump during the time ≤**T73**.		Delay **T73**
Reaction of the start button	1	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	Filling program / washing program		
Enable	Pump out program		
Message on the display	SYM46 + 022 + text 112.1 e.g.: malfunction in the filling or discharge system. If necessary, clean discharge hose.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.		Delay -

14.3.23 Message 023 Filling monitoring external filling pressure sensor tank

Error description	**023 Filling monitoring external filling pressure sensor tank**		
Trigger	If the filling valve for external filling A05 ≥ **T123** (holding time filling monitoring external filling) is activated, the voltage value at AE4 is saved. Afterwards, the measuring time filling monitoring external filling **T124** is started. If after ≥ **T124** the voltage at AE4 ≤ **A94** + the saved value, the error message is triggered. If the voltage at AE4 ≥ **A94** + the saved value, the voltage value at AE4 is saved again. The check is repeated after ≥ **T124**. Monitoring only takes place if **S16** = 2 (external filling with filling monitoring) and is carried out as long as A05 is activated.		Delay **T123 + T124**
Reaction of the start button	2	Priority	
Machine reaction	Machine is switched off Display remains switched on		
Locked	-		

Enable	No restrictions	
Message on the display	SYM45 + 023 + text 113.1 e.g.: malfunction in filling system. Feed quantity too low.	
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.	Delay -

14.3.24 Message 024 Analogue current of turbidity sensor exceeded

Error description	**024 Analogue current of turbidity sensor exceeded**		
Trigger	The current flowing at AA1 with switched-on turbidity sensor is >20mA.		Delay -
Reaction of the start button	0	Priority	
Machine reaction	AA1 is switched off.		
Locked	AA1 remains switched off up to the next calibration.		
Enable	No restrictions		
Message on the display	-		
Acknowledgement	By a successful calibration of the turbidity sensor.		Delay -

14.3.25 Message 025 Analogue current of turbidity sensor underrun

Error description	**025 Analogue current of turbidity sensor underrun**		
Trigger	The current flowing at AA1 with switched-on turbidity sensor is ≤4mA.		Delay -
Reaction of the start button	0	Priority	
Machine reaction	AA1 is switched off.		
Locked	AA1 remains switched off up to the next calibration.		
Enable	No restrictions		
Message on the display	-		
Acknowledgement	By a successful calibration of the turbidity sensor.		Delay -

14.3.26 Message 026 Calibration value deviation turbidity sensor exceeded

Error description	**026 Calibration value deviation turbidity sensor exceeded**		
Trigger	If the current flowing at AA1 deviates more than +/- **A128** % from the saved calibration value **A125**.		Delay -
Reaction of the start button	0	Priority	
Machine reaction	AA1 is switched off.		
Locked	AA1 remains switched off up to the next calibration.		
Enable	No restrictions		
Message on the display	-		
Acknowledgement	By a successful calibration of the turbidity sensor.		Delay -

14.3.27 Message 027 Calibration turbidity sensor failed

Error description	**027 Calibration turbidity sensor failed**		
Trigger	Calibration failed. See **Fehler! Verweisquelle konnte nicht gefunden werden.**		Delay -
Reaction of the start button	0	Priority	
Machine reaction	AA1 is switched off.		
Locked	AA1 remains switched off up to the next calibration.		
Enable	No restrictions		
Message on the display	-		
Acknowledgement	Successful calibration. See **Fehler! Verweisquelle konnte nicht gefunden werden.**		Delay -

14.3.28 Message 028 Calibration turbidity sensor failed repeatedly

Error description	028 Calibration turbidity sensor failed repeatedly		
Trigger	**C6** ≤ 0 See **Fehler! Verweisquelle konnte nicht gefunden werden.**		Delay -
Reaction of the start button	0	Priority	
Machine reaction	AA1 is switched off.		
Locked	AA1 remains switched off up to the next calibration.		
Enable	No restrictions		
Message on the display	-		
Acknowledgement	Successful calibration. See **Fehler! Verweisquelle konnte nicht gefunden werden.**		Delay -

14.3.29 Message 029 Program interruption by door/hood switch

Error description	Page 14 029 Program interruption by door / hood switch (E01=0)		
Trigger	Interruption of a running program by opening the door/hood (E01=0).		Delay -
Reaction of the start button	1	Priority	
Machine reaction	Program is interrupted.		
Locked	-		
Enable	No restrictions		
Message on the display	SYM36 + 029 + [text 114.1 (at S1=0) / text 114.2 (at S1=1)] e.g.: program interrupted. Close door.		
Acknowledgement	If the door/hood has been closed (E01=1) the message can be acknowledged by pressing the display navigation button ❺. The interrupted program is continued.		Delay -

14.3.30 Message 030 Door/hood switch (E01) does not switch

Error description	030 Door / hood switch (E01) does not switch		
Trigger	The input E01 must be opened ≥ 1 times within 20 washing programs. No error analysis in case of **S49** (autostart) ≠ 0.		Delay -
Reaction of the start button	0	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display	-		
Acknowledgement	Status change of input E01 (0→1 or 1→0).		Delay -

14.3.31 Message 031 Filling monitoring by impeller sensor

Error description	031 Filling monitoring by impeller sensor		
Trigger	Error analysis only at **S18** ≠ 0 and **T84** ≠ 0 If with switched-on filling valve (A08) the signal at input E02 (0→1 or 1→0) does not change within the specified time ≤ **T84**		Delay **T84**
Reaction of the start button	2	Priority	
Machine reaction	The filling valve (A08) remains activated.		
Locked	-		
Enable	No restrictions		
Message on the display	SYM45 + 031 + text 115.1 e.g.: malfunction in filling system. Check water intake.		
Acknowledgement	Status change of input E02 (0→1 or 1→0) or pressing display navigation button ❺ acknowledges the message. The machine remains in active mode.		Delay -

14.3.32 Message 032 Filling monitoring by water level measurement in boiler

Error description	**032 Filling monitoring by measuring the water level in the boiler**	
Trigger	Error analysis only at **S18** = 0, **T84** ≠ 0 and rinsing pump A10 not activated. If the voltage change at AE4 ≤ **A59** within the time ≤ **T84** with switched-on filling valve (A08)	Delay **T84**
Reaction of the start button	2 Priority	
Machine reaction	The filling valve (A08) remains activated.	
Locked	-	
Enable	No restrictions	
Message on the display	SYM45 + 032 + text 115.1 e.g.: malfunction in filling system. Check water intake.	
Acknowledgement	If the voltage change at AE4 > **A59** within the time ≤ **T84** with switched-on filling valve (A08) or if the display navigation button ❺ is pressed, the message will be acknowledged. The machine remains in active mode.	Delay -

14.3.33 Message 033 Filling valve monitoring

Error description	**14.3.33Message 033 Filling valve monitoring**	
Trigger	The filling valve (A08) is activated ≥ **T122**.	Delay **T122**
Reaction of the start button	2 Priority	
Machine reaction	Machine is switched off Display remains switched on	
Locked	Filling program / washing program	
Enable	Pump out program	
Message on the display	The display is suppressed if one of the two error messages 031 or 032 has triggered. SYM36 + 033 + text 116.1 + text 18.1 e.g.: malfunction in filling system. Inform service.	
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message. The machine remains in active mode.	Delay -

14.3.34 Message 034 Service interval

Error description	**034 Service interval**	
Trigger	The function is only active if **S66** = 1. Is triggered if counter **C46** ≤ 0.	Delay -
Reaction of the start button	0 Priority	
Machine reaction	-	

Locked	-	
Enable	No restrictions	
Message on the display	This message is only shown on the display when the machine is switched on. It is masked automatically after 10 seconds or by pressing the display navigation button ❺. SYM36 + 034 + text 117.1 + text 18.1 e.g.: service interval due. Inform service.	
Acknowledgement	Via the service menu item **Fehler! Verweisquelle konnte nicht gefunden werden. Fehler! Verweisquelle konnte nicht gefunden werden.**	Delay -

14.3.35 Message 035 Strainer not fitted

Error description	035 Strainer not fitted		
Trigger	Error analysis only at **S68** = 1 and closed door/hood (E01=1) if the input E04 for ≥ 5 seconds = "0"		Delay **T134**
Reaction of the start button	2	Priority	
Machine reaction	A washing program is aborted and the machine is switched ready for operation. A filling program is interrupted. Display remains switched on		
Locked	Filling program, washing program, pump out program		
Enable	-		
Message on the display	SYM43 + 035 + text 118.1 e.g.: correctly fit tank cover strainer.		
Acknowledgement	Pressing the display navigation button ❺ acknowledges the message if before that the input E04 = 1 for ≥ 1 seconds. The machine remains in active mode.		Delay 1 seconds

14.3.36 Message 036 Lack of cleaning agent

Error description	036 Lack of cleaning agent		
Triggering and acknowledgement			
Reaction of the start button	1	Priority	
Machine reaction	See "Triggering and acknowledgement"		
Locked	-		
Enable	No restrictions		
Message on the display	The message on the display can be masked for 10 washing programs by pressing the display navigation button ❺. SYM44 + 036 + text 119.1 e.g.: lack of cleaning agent. Refill cleaning agent.		

14.3.37 Message 037 Lack of rinsing agent

Error description	037 Lack of rinsing agent		
Triggering and acknowledgement			
Reaction of the start button	1	Priority	
Machine reaction	See "Triggering and acknowledgement"		
Locked	-		
Enable	No restrictions		
Message on the display	The message on the display can be masked for 10 washing programs by pressing the display navigation button. SYM44 + 037 + text 120.1 e.g.: lack of rinsing agent. Refill rinsing agent.		

14.3.38 Message 038 Input voltage of control system too high

Error description	038 Input voltage of control system too high		
Trigger	In case of "mains on", the input voltage is tested. If it is for ≥ XXX seconds > 253V, the message is triggered.		Delay -
Reaction of the start button	1 (at correct input voltage)	Priority	
Machine reaction	Machine is switched off		
Locked	Everything		
Enable	-		
Message on the display	This message is only shown on the display when the machine is switched on and the input voltage is correct. It is masked automatically after 10 seconds or by pressing the display navigation button ❺. SYM36 + 038 + text 121.1 e.g.: Input voltage too high! Machine was switched off.		
Acknowledgement	Mains off		Delay -

14.3.39 Message 039 Hood / door open during filling program

Error description	039 Hood/door open during filling program		
Trigger	Monitoring only at **S13** = 1 active. With open hood/door (E01=0) during the filling program		Delay 2 seconds
Reaction of the start button	1	Priority	
Machine reaction	Filling program is interrupted		
Locked	-		
Enable	No restrictions		
Message on the display	SYM36 + 039 + [text 122.1 (at S1=0) / text 122.2 (at S1=1)] e.g. filling program interrupted. Close door.		
Acknowledgement	By pressing the display navigation button ❺ with closed hood/door (E01=1). The filling program is afterwards continued.		Delay -

14.3.40 Message 040 Hygiene program request

Error description	Message 040 Hygiene program request		
Trigger	The function is only active as long as **S67** = 1. When parameter **S67** is set to 1, parameter **C95** is overwritten with the parameter value **C94**. Every start of the washing program (A01 =1) reduces the parameter **C95** by 1. At a counter reading **C95** ≤ 0 the error message is triggered.		Delay -
Reaction of the start button	0	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display	This message is only shown on the display when the machine is switched on. It is masked automatically after 10 seconds or by pressing the display navigation button ❺. SYM36 + 040 + text 123.1 e.g.: carry out hygiene program.		
Acknowledgement	By setting the parameter S67 to 0 or by starting a hygiene program. On starting the hygiene program, the parameter **C95** is overwritten with the parameter value **C94**.		Delay -

14.3.41 Message 041 Capacity external water treatment exhausted

Error description	**041 Capacity external water treatment exhausted**		
Trigger	Condition: The default value **C43** must be > 0. If the counter reading of the external water treatment **C44** ≤ 0, the message is triggered.		Delay -
Reaction of the start button	1	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display	The message on the display can be masked for 10 washing programs by pressing the display navigation button ❺. SYM36 + 041 + [text 124.1 (at S82=0) / text 124.2 (at S82=1)] e.g.: external water treatment exhausted. Replace.		
Acknowledgement	Via the customer menu see chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**		Delay -

14.3.42 Message 042 Service life prefilter osmosis exceeded

Error description	**042 Service life pre-filter osmosis exceeded**		
Trigger	Is the remaining time of the external water treatment **A122**≤ 0 and S82=1, the message is triggered.		Delay -
Reaction of the start button	1	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display	The message on the display can be masked for 10 washing programs by pressing the display navigation button ❺. SYM36 + 042 + text 124.2 e.g.: osmosis prefilter exhausted. Replace.		
Acknowledgement	Via the customer menu see chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**		Delay -

14.3.43 Message 043 Regenerating salt exhausted

Error description	**043 Regenerating salt exhausted**		
Trigger	Error analysis only at **S11** = 1 and **S14** ≠ 0 If the input E03 = 1 for ≥ **T134**		Delay **T134**
Reaction of the start button	1	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display	The message on the display can be masked for 10 washing programs by pressing the display navigation button ❺. SYM48 + 043 + text 125.1 e.g.: lack of salt. Refill regenerating salt.		
Acknowledgement	If the input E03 = 0 for > 5 seconds or **S11** or **S14** = 0		Delay 5 seconds

14.3.44 Message 044 Critical error lack of salt

Error description	044 Critical error lack of salt		
Trigger	Error analysis during a washing or filling program and only at **S11** = 1 and **S14** = 2/3 Triggered if the reverse counter **C8** ≤ 0 and input E02 = 1.		Delay -
Reaction of the start button	2	Priority	
Machine reaction	An already active washing and filling program will still be completed. The message will then be shown on the display during standby mode.		
Locked	Washing programs, filling programs, error 043 is suppressed.		
Enable	Pump out program		
Message on the display	The message on the display can be masked for 1 washing program by pressing the display navigation button ❺. SYM48 + 044 + text 125.1 e.g.: lack of salt. Refill regenerating salt.		
Acknowledgement	If the input E03 = 0 for > 5 seconds or **S11** or **S14** = 0		Delay 5 seconds

14.3.45 Message 045 Lock machine in case of lack of salt

Error description	045 Lock machine in case of lack of salt		
Trigger	Error analysis during a washing or filling program and only at **S11** = 1 and **S14** = 3. Triggered if the reverse counter **C10** ≤ 0 and input E02 = 1.		Delay -
Reaction of the start button	2	Priority	
Machine reaction	An already active washing and filling program will still be completed. The message will then be shown on the display during standby mode.		
Locked	Washing programs, filling programs, error 043+044 is suppressed.		
Enable	Pump out program		
Message on the display	SYM36 + 045 + text 126.1 + text 18.1 e.g.: number of rinsing cycles without regenerating salt exceeded. Inform service.		
Acknowledgement	Via the service menu see Chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**		Delay

14.3.46 Message 046 Malfunction CAN Bus

Error description	046 Malfunction CAN Bus		
Trigger			Delay -
Reaction of the start button	-	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display			
Acknowledgement			Delay

14.3.47 Message 047 Malfunction USB

Error description	047 Malfunction USB		
Trigger			Delay
Reaction of the start button	-	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display			
Acknowledgement			Delay

14.3.48 Message 048 USB stick not recognised

Error description	048 USB stick not recognised		
Trigger			Delay -
Reaction of the start button	-	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display			
Acknowledgement			Delay

14.3.49 Message 049 Malfunction of communication STE with BAE

Error description	049 Malfunction communication STE with BAE		
Trigger			Delay -
Reaction of the start button	-	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display			
Acknowledgement			Delay

14.3.50 Message 050 Zero point adjustment pressure transmitter B3 failed

Error description	050 Zero point adjustment pressure transmitter B3 failed		
Trigger	**A56** > 0.06V or **A56** < -0.06		Delay -
Reaction of the start button	0	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display	-		
Acknowledgement	-0,06V ≤ **A56** ≤ 0,06V		Delay

14.3.51 Message 051 Zero point adjustment pressure transmitter B4 failed

Error description	051 Zero point adjustment pressure transmitter B4 failed		
Trigger	**A96**> 0.06V or **A96** < -0.06		Delay -
Reaction of the start button	0	Priority	
Machine reaction	-		
Locked	-		
Enable	No restrictions		
Message on the display	-		
Acknowledgement	-0.06V ≤ **A96** ≤ 0.06V		Delay -

15 CHANGE INDEX

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