

**GC - 13 - 01****Start Serialnumber: 8661 03000****PCB: 01-515050-1****USB pendrive with GC Mashinesoftware: 01-533901-1**

Edition 2013 – 03



This manual is intended for internal use. Any adjustment and maintenance work described in this document may only be carried out by service technicians who have been trained by HOBART. Any kind of reproduction, even in part, requires the written approval of HOBART GmbH.

Table of contents

1	GENERAL SAFETY INSTRUCTIONS	5
1.1	SYMBOLS.....	5
1.2	SAFETY INSTRUCTIONS AND WARNINGS.....	6
1.3	BASIC SAFETY INSTRUCTIONS	6
1.4	PERSONNEL QUALIFICATION.....	7
1.5	PRODUCT-SPECIFIC DANGERS	8
2.	MODEL OVERVIEW.....	9
2.1	MODEL OVERVIEW WITH EQUIPMENT FEATURES.....	9
2.2	EXPLANATION OF MACHINE DESIGNATION.....	9
2.3	EQUIPMENT FEATURES PROFI / PREMAX.....	9
3	PROGRAM OVERVIEW / SYMBOLS.....	10
3.1	TECHNICAL DATA	10
3.2	INSTALLATION DIMENSIONS	10
3.2.1	GC.....	10
4.	INSTALLATION.....	11
4.1	ELECTRICAL CONNECTION	11
4.2	WATER CONNECTION	11
4.3	DRAIN.....	11
5	CONTROL ELEMENTS / LOGIN PART1.....	12
6	INITIAL COMMISSIONING / SETTINGS.....	13
6.1.1	LANGUAGE.....	13
6.1.2	DATE (EXAMPLE 12 06 2012 DD.MM.YYYY)	13
6.1.3	TIME (EXAMPLE 12 : 30)	14
6.1.4	WATER HARDNESS AND FILLING THE SALT TANK (S models only).....	14
6.1.5	CHEMICALS / PRIMING.....	14
6.1.6	SWITCHING ON THE MACHINE.....	14
6.1	GENERAL SYMBOLS.....	15
7.	HYDRAULIC DIAGRAMS	16
7.1	EXPLANATIONS OF THE HYDRAULIC DIAGRAMS.....	16
7.2	HYDRAULIC DIAGRAMS: GC / GCS	17
7.2.1	GC WITHOUT SOFTENER.....	17
7.2.2	GC WITHOUT SOFTENER.....	17
7.3	HYDRAULIC DIAGRAMS GCP	18
7.3.1	GCP WITHOUT SOFTENER	18
8.	COMPONENTS	19
8.1	WATERBREAK (01-297510-1 -2 / SERVICE KIT 01-297695-1)	19
8.2	PRESSURE TRANSMITTER B3 / B4	20
8.2.1	ZERO POINT ADJUSTMENT PRESSURE TRANSMITTER.....	20
8.3	DOSING UNITS / CHEMICALS	21
8.3.1	DOSING UNITS	21
8.3.2	CHEMICAL MONITORING	22
8.4	WATER SOFTENING WITH ONE-COLUMN SOFTENER 01-515030-1	23
8.4.1	COMMISSIONING:	23
8.4.2	SOFTENER CAPACITY IN LITRES	23
8.4.3	REGENERATING FUNCTION	24
8.5	PROCEDURE FOR THE SOFTENER TEST.....	24
8.6	BOOSTER BOOSTERCONNECTION PIECE	25
8.6.1	BOOSTER DESIGN / VOLUME.....	25
8.7	WASH TANK / TEMPERATURE SENSOR / RINSE PUMP / DRAIN PUMP	25
8.7.1	TANK	25
8.7.2	TEMPERATURE SENSOR BOOSTER / TANK	25
8.7.3	RINSE PUMP:.....	26
8.7.4	DRAIN PUMP:	26
8.9	WASH PUMP	27
8.10	GENIUSX ² / FLIPPER	28
8.11	WASH ARMS / RINSE ARMS.....	29
8.12	DRYINGASSIST / VAPOSTOP GP / FP	30

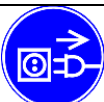
9.	PROGRAMS.....	31
9.1	FILL PROGRAM.....	31
9.2	SHORT / STANDARD / INTENSIVE / PROGRAM.....	31
9.3	COLD PROGRAM WITH BOILER TEMPERATURE <35°C.....	32
9.4	COLD PROGRAM WITH BOILER TEMPERATURE >35°C.....	32
9.5	HYGIENE- (H) WITH HYGIENE TABS / DESCALING PROGRAM.....	33
9.6	BASIC CLEANING PROGRAM.....	34
10	DISPLAY	35
10.1	MENU NAVIGATION GENERAL / LOGIN PART 2.....	35
10.2	MENU NAVIGATION CUSTOMER MENU.....	36
10.2.1	GENERAL SETTINGS.....	36
10.2.2	CHEMICALS ADJUSTMENT / EXTERNAL WATER TREATMENT / DRYING ASSISTANT.....	37
10.2.3	HYGIENE DATA / TIMER /	38
10.2.4	HYGIENE DATA.....	39
10.2.5	LOG PART 1.....	39
10.2.6	LOG PART 2.....	40
10.2.7	EXAMPLE FOR A PROTOCOL.....	41
10.3	MENU NAVIGATION EXTERNAL CHEMICALS.....	42
10.4	MENU NAVIGATION SERVICE.....	43
10.4.1	PARAMETERS / ACTIVATING PROGRAMS.....	43
10.4.2	SERVICE INTERVAL / SOFTWARE UPDATE / MACHINE TYPE / MACHINE PROGRAM NUMBER.....	44
10.4.4	DIAGNOSIS MODE / INPUTS - OUTPUTS.....	45
10.4.5	SOFTENING AGENT TEST PROGRAM.....	46
10.4.6	FAILURE MEMORY.....	47
10.4.7	SOFT START / IMPELLER / UNLOCK IN CASE OF LACK OF SALT.....	48
11	CONTROL SYSTEM	49
11.1	MAIN CIRCUIT BOARD 01-515050-1.....	49
11.1.1	SOFTWARE REVISION STATUS.....	49
11.1.2	SOFTWARE LOADING AFTER REPLACING THE PCB.....	50
11.2	ADDITIONAL CIRCUIT BOARD 01-515051-1.....	51
11.2.1	SPARE CONTACTS ON THE ADDITIONAL CIRCUIT BOARD.....	51
12.1	PIN ASSIGNMENT A1 / A3 PART 1.....	52
12.2	PIN ASSIGNMENT A1 / A3 PART 2.....	53
13	RESERVE.....	54
14	ERROR MESSAGES.....	55
14.1	GENERAL DESCRIPTION.....	55
14.2	DEPICTION OF ERROR MESSAGES.....	55
14.3	POSSIBLE ERROR MESSAGES.....	56

14.3.1	Message 001 Temperature booster sensor exceeded	56
14.3.2	Message 002 Temperature too low temperature probe booster	56
14.3.3	Message 003 Thermostop booster in filling program exceeded	56
14.3.4	Message 004 Thermostop booster in washing program exceeded	57
14.3.5	Message 005 Booster heating not enabled	57
14.3.6	Message 006 Temperature tank sensor exceeded	57
14.3.7	Message 007 Temperature tank sensor underrun	58
14.3.8	Message 008 Thermostop tank in filling program exceeded	58
14.3.9	Message 009 Thermostop tank heating in washing program exceeded	58
14.3.10	Message 010 Tank heating not enabled	59
14.3.11	Message 011 Temperature washing space sensor exceeded	59
14.3.12	Message 012 Temperature washing space sensor undercut	59
14.3.13	Message 013 Thermostop washing space in washing program exceeded	59
14.3.14	Message 014 Limit pressure sensor boiler exceeded	60
14.3.15	Message 015 Limit pressure sensor boiler underrun	60
14.3.16	Message 016 Limit pressure sensor tank exceeded	60
14.3.17	Message 017 Limit pressure sensor tank underrun	60
14.3.18	Message 018 Overflow protection pressure sensor tank	61
14.3.19	Message 019 not used	61
14.3.20	Message 020 Filling program monitoring pressure sensor tank	61
14.3.21	Message 021 Wash tank draining during the pump out program pressure sensor tank	61
14.3.22	Message 022 Wash tank draining during the washing program pressure sensor tank	62
14.3.23	Message 023 not used	62
14.3.24	Message 024 Analogue current of turbidity sensor exceeded	62
14.3.25	Message 025 Analogue current of turbidity sensor underrun	62
14.3.26	Message 026 Calibration value deviation turbidity sensor exceeded	62
14.3.27	Message 027 Calibration turbidity sensor failed	62
14.3.28	Message 028 Calibration turbidity sensor failed repeatedly	62
14.3.29	Message 029 Program interruption by door/hood switch	62
14.3.30	Message 030 Door/hood switch (E01) does not switch	62
14.3.31	Message 031 Filling monitoring by impeller sensor	63
14.3.32	Message 032 Filling monitoring by water level measurement in boiler	63
14.3.33	Message 033 Filling valve monitoring	63
14.3.34	Message 034 Service interval	64
14.3.35	Message 035 Strainer not fitted	64
14.3.36	Message 036 Lack of cleaning agent	64
14.3.37	Message 037 Lack of rinsing agent	65
14.3.38	Message 038 Input voltage of control system too high	65
14.3.39	Message 039 Hood / door open during filling program	65
14.3.40	Message 040 Hygiene program request	66
14.3.41	Message 041 Capacity external water treatment exhausted	66
14.3.42	Message 042 Service life prefilter osmosis exceeded	66
14.3.43	Message 043 Regenerating salt exhausted	67
14.3.44	Message 044 Critical error lack of salt	67
14.3.45	Message 045 Lock machine in case of lack of salt	67
14.3.46	Message 046 not used	67
14.3.47	Message 047 Malfunction USB	68
14.3.48	Message 048 USB stick not recognised	68
14.3.49	Message 049 Malfunction of communication STE with BAE	68
14.3.50	Message 050 Zero point adjustment pressure transmitter B3 failed	68
14.3.51	Message 051 Zero point adjustment pressure transmitter B4 failed	68
15	SPECIAL FEATURES	69
15.1	ADD ONS TO INSTALL A HYDROLINE PURE RO-I	69
16	CHANGE INDEX	69

1 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.

	immediately threatening danger: leads to serious personal injuries or death
	potentially dangerous situation: may lead to serious personal injuries or death
	potentially dangerous situation: may lead to minor personal injuries or death
	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

GC				-	10	A
GC	S			-	20	A
GC				-	90	A
GCP				-	10	A

2.2 EXPLANATION OF MACHINE DESIGNATION

G	GlassWASHER
C	Compact version (glasswasher 700mm high)
P	Premax version
S	Machine with integrated softener
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	X
Automatic documentation	---	X
Plain text display	X	X
Scroll mode	X	X
Standard water consumption / rack	1,9	1,9
Film control panel	blue	black
Drying assistant	---	X
Vapostop	---	X
Softener	Option	---
Clip in rinsing arms	X	X
Integrated chemicals tanks	Retrofit	Retrofit
Tank-empty sensor (chemicals)	X	X
Strainer detection	X	X
Filter system	Genius X ²	Genius X ²
Standby position of front door	X	X

3 PROGRAM OVERVIEW / SYMBOLS

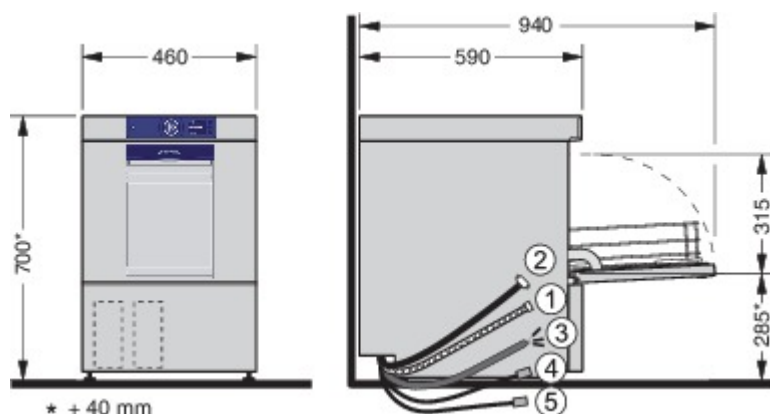
	S77 = 1	S77 = 2	GC-10A	GCS-20A	GC-90A	GCP-10A
1	KURZ		75	75	75	75
2	STANDARD		120	120	120	120
3	INTENSIV		120	120	120	120
4	KALT		120	---	---	120
5	HYGIENE		600 ¹	600 ¹	600 ¹	600 ¹
6	GRUNDREINIGUNG		X	X	X	X
7	ENTKALKUNG		X	X	X	X

3.1 TECHNICAL DATA

Equipment	Control system Visiotronic / USB interface / Soft start Thermostop-induced wash time extension / Drain pump Self-cleaning program during tank draining Built-in water softening system as option
Basket output/h (theoretical)	48 / 30
Basket size	400 x 400 mm
Rack height	315 mm
Type of protection	IP X4
Fresh water feed	Minimum flow pressure 0.5 bar upstream of the solenoid valve, maximum pressure 10 bar Minimum flowpressure at machines with integrates softener 0,8bar For machines without softener 0-3°d, for machines with softener max. 30°d
Water hardness	5 l/min
Flow rate filling valve	Standard: 1.9 l, / Intensive: 3,2l
Rinsing water amount	4.0l
Boiler content	4,2kW (3P 16A); 1,4kW (1Ph 13A); 2,0kW (1Ph 16A); 4,1kW (1Ph 25A)
Boiler heating	65 °C, for cold rinsing programs, Cold
Boiler temperature	0.8kW standard / 2.5kW for machines with cold water rinsing or Marineversion
Tank heating	appr. 55°C
Tank temperature	8
Tank content	Output 0.59 kW
Pump motor	140l/min
Circulating capacity	60 dB (A)
Sound level	

3.2 INSTALLATION DIMENSIONS

3.2.1 GC



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:

Connection to soft, as warm as possible water up to max. 3°d total hardness (0.5 mmol/l, max. 60°C) possible.
Connect machines with separate cold rinsing system to soft cold water.

Machines with softener:

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.

Machines with softener **must** be adjusted to the water's degree of hardness.

The flow pressure of all machine types should be between 0.5 (0,8bar on "S" models) 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.

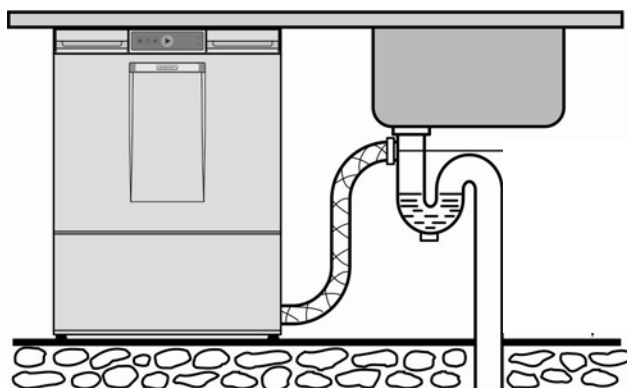
Do not kink or cut feed hose.

A possible extension of the hose must be produced with a suitable pressure hose e.g. 324088-1.

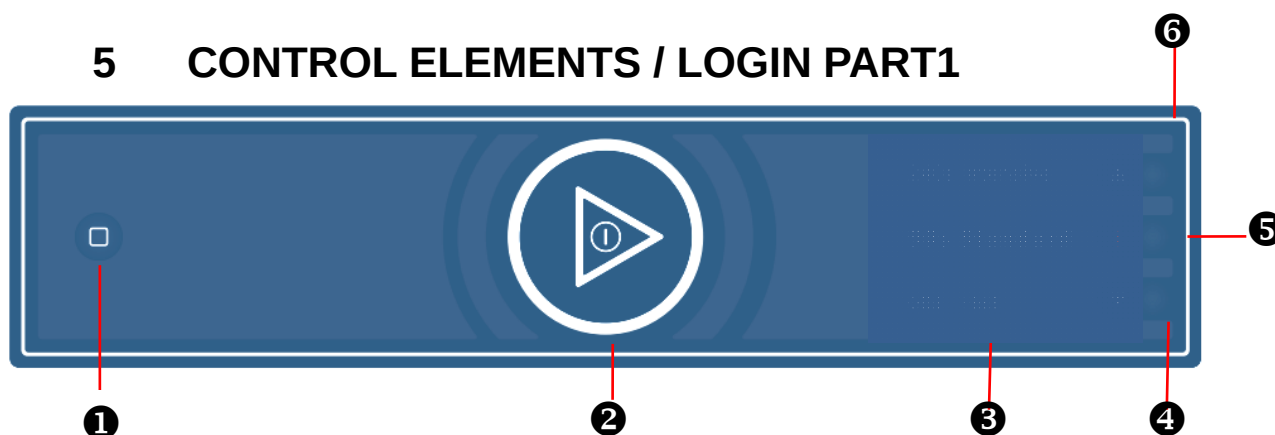
Low temperatures < 5°C during transport/storage may lead to frost damage to water-carrying components.
Store the machine at room temperature (min. 15°C) for 24h.

4.3 DRAIN

The connection between machine and on-site drain may not exceed a maximum height of **0.65 m**. Do not lay drain hose loosely on the floor and do not kink.



5 CONTROL ELEMENTS / LOGIN PART1



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. **Pressing and hold the button for 5 seconds you get to the login level. 1111 customer / 9999 chemical / 0022 Service. The machine is still live after switch off!!**

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 filling and heating
GREEN (permanent)	= Machine is ready for operation
BLUE (sectors)	= Dishwashing program is running
RED (permanent)	= Critical error (see page 56ff)
GREEN/RED (alternating)	= Non-critical error (see page 56ff)

Pressing and holding (3 sec.) activates the automatic sequence of draining and self-cleaning program. 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 in the appropriate 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 a time of 5sec

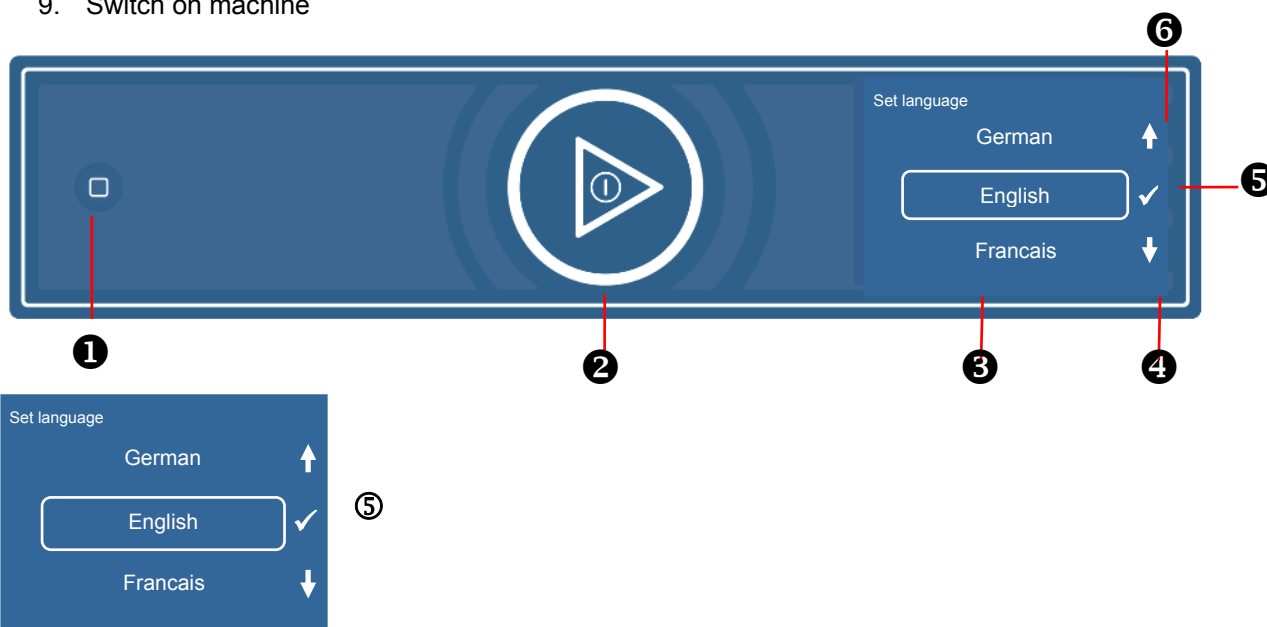
6 INITIAL COMMISSIONING / SETTINGS

6.1.1 LANGUAGE

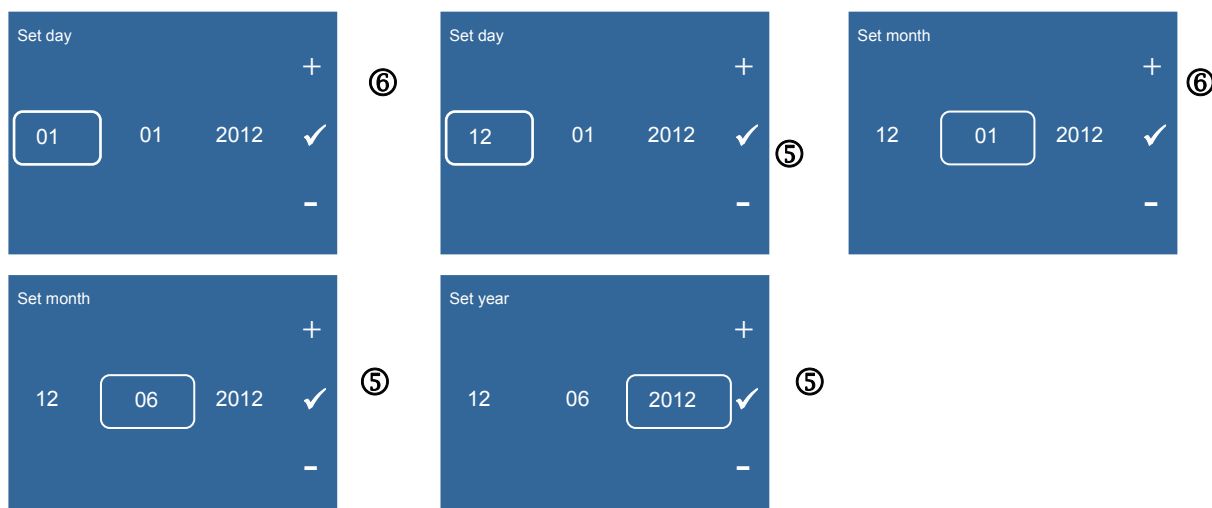
When the machine is delivered, the switching function **S 73** (request initial commissioning) is set to "1".
When the start button ② is pressed for the first time (in switched-off state), the language selection is displayed (English is standard).

Procedure

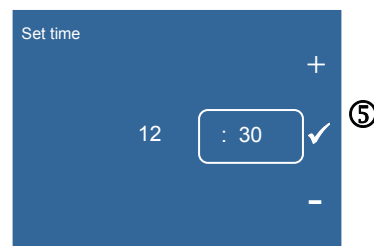
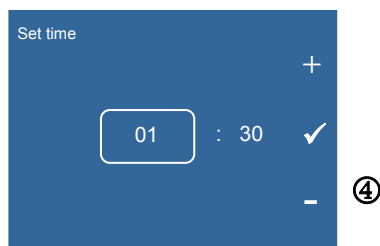
1. Set language
2. Set date (day / month / year)
3. Set time
4. Set water hardness (only on machines with the optional softener S)
5. Fill salt tank (1.5kg coarse regenerating salt), afterwards fill the salt tank with water with the aid of a funnel (only on machines with the option softener S)
6. Fill 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



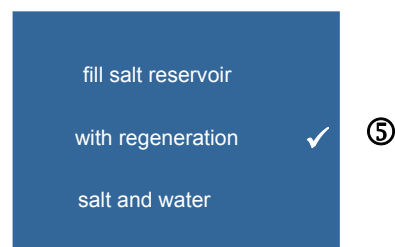
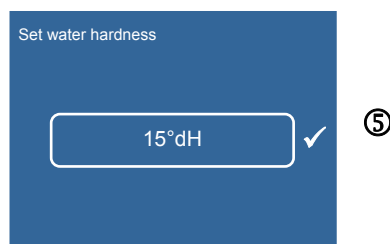
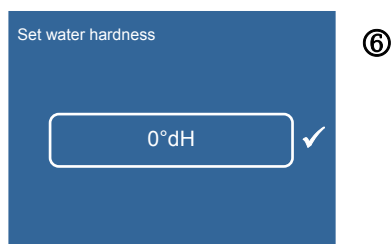
6.1.2 DATE (EXAMPLE 12 06 2012 DD.MM.YYYY)



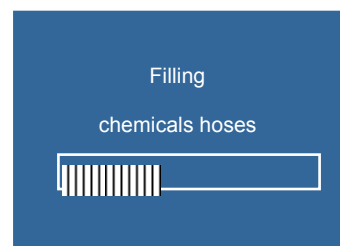
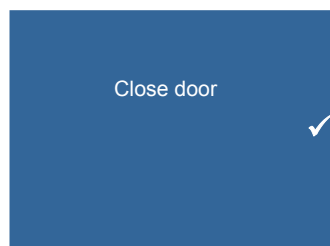
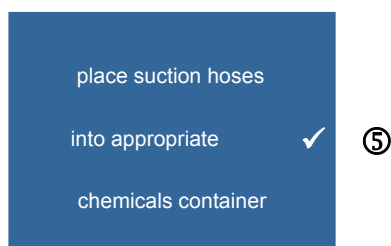
6.1.3 TIME (EXAMPLE 12 : 30)



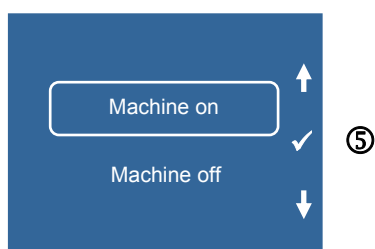
6.1.4 WATER HARDNESS AND FILLING THE SALT TANK (S models only)



6.1.5 CHEMICALS / PRIMING



6.1.6 SWITCHING ON THE MACHINE



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	
Temperature failure	

Shift is on the program representation in the customer menu (see page 36) or with the parameter S77 on "2".

7. HYDRAULIC DIAGRAMS

7.1 EXPLANATIONS OF THE HYDRAULIC DIAGRAMS

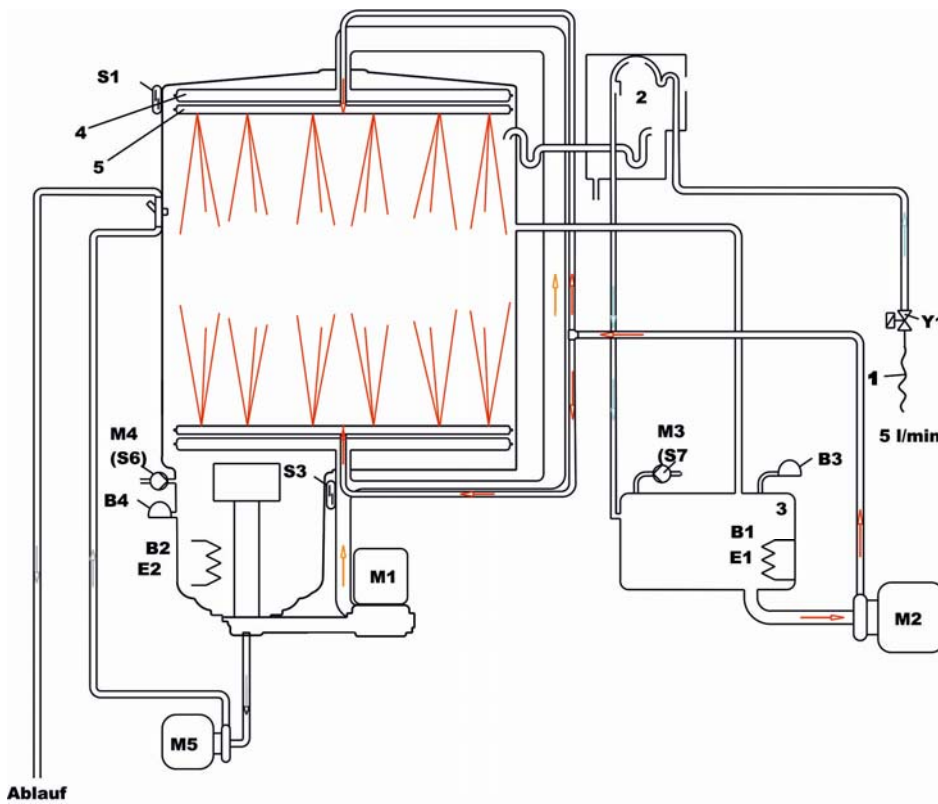
B1	TEMPERATURE SENSOR BOILER
B2	TEMPERATURE SENSOR TANK
B3	PRESSURE TRANSMITTER BOILER
B4	PRESSURE TRANSMITTER TANK
B8	TURBIDITY SENSOR
E1	HEATING BOILER
E2	HEATING TANK
E3	HEATING DRYER
M1	WASH PUMP
M2	RINSING PUMP
M3	DOSING PUMP RINSING AGENT
M4	DOSING PUMP CLEANING AGENT
M5	DRAIN PUMP
M6	VAPOUR FAN
S1	REED SWITCH DOOR
S2	FLOW METER WATER BREAK ¹
S3	REED SWITCH TANK STRAINER
S4	LACK OF SALT SWITCH ²
S5	COVER HEATING DRYER
S6	REED SWITCH DETERGENT (CONTAINER)
S7	REED SWITCH RINSE AID (CONTAINER)
S11	RACK SENSOR
Y1	FILLING VALVE
Y10.1	SOFTENER VALVE SALTING
Y10.2	SOFTENER VALVE BOILER
Y10.3	SOFTENER VALVE DRAIN
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

¹ COMPLETE PART WATER BREAK

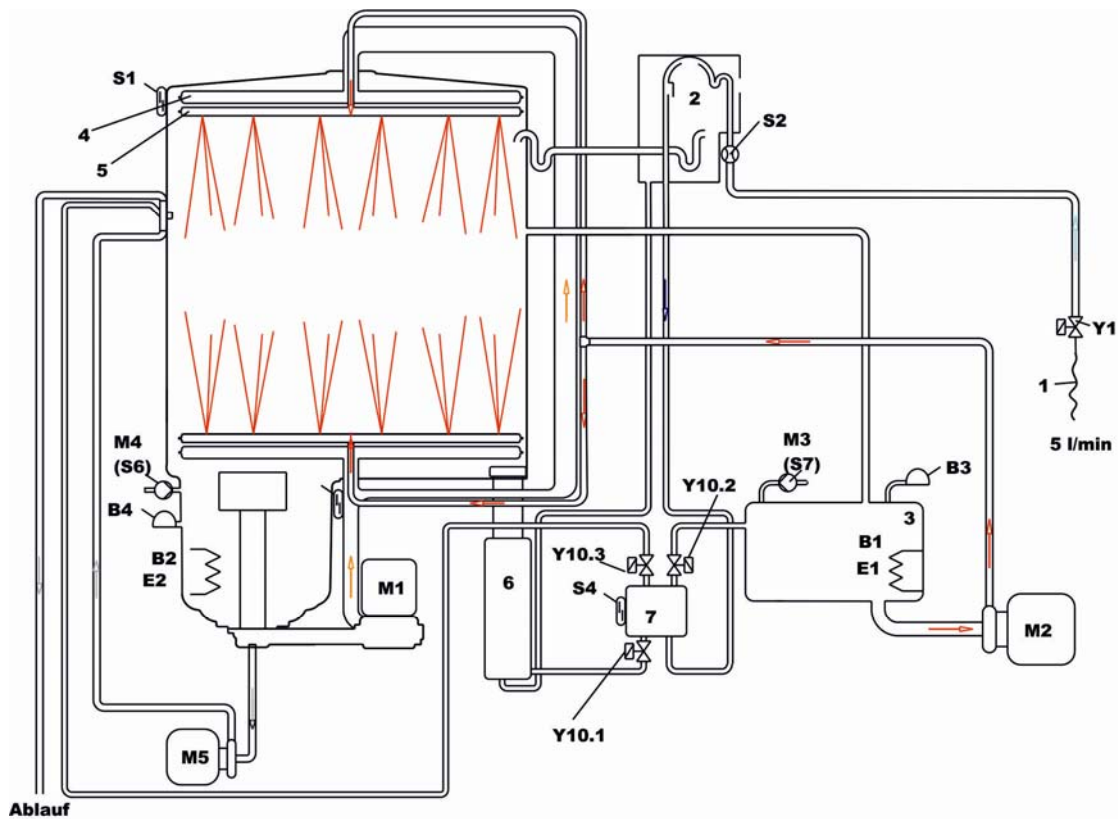
² COMPLETE PART SOFTENER DISPENSER

7.2 HYDRAULIC DIAGRAMS: GC / GCS

7.2.1 GC WITHOUT SOFTENER

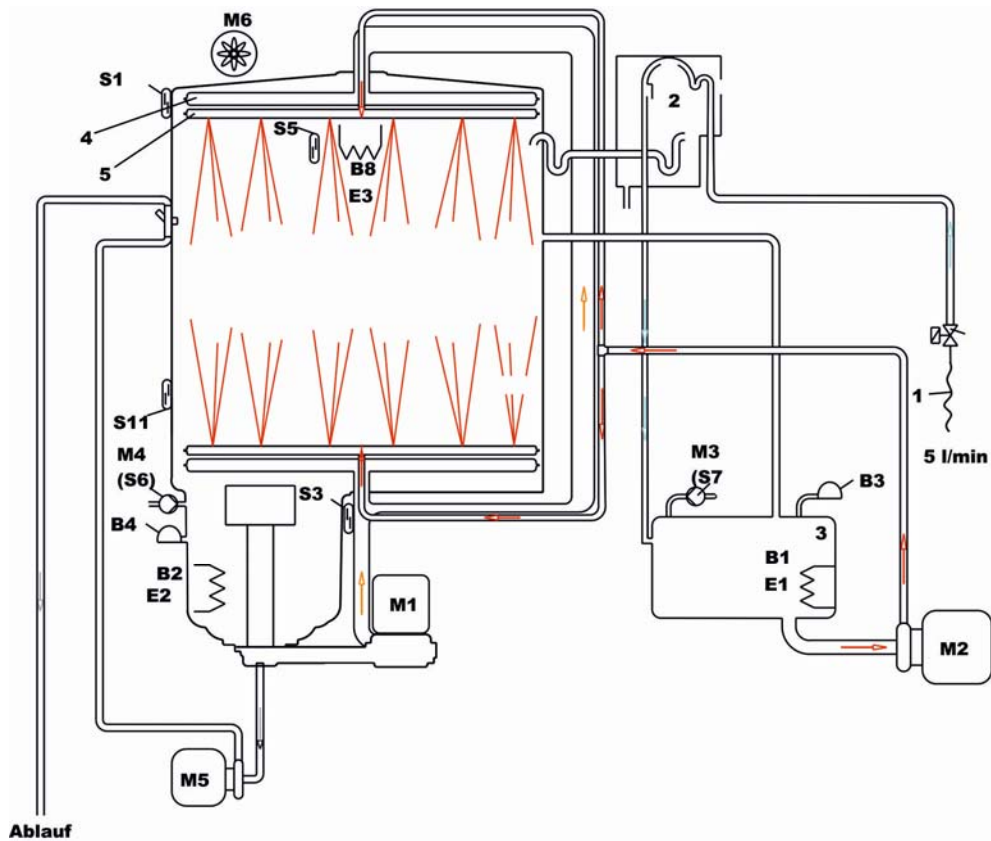


7.2.2 GC WITHOUT SOFTENER



7.3 HYDRAULIC DIAGRAMS GCP

7.3.1 GCP WITHOUT SOFTENER



8. COMPONENTS

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



The flow meter reed switch S2 is activated by magnet on the impeller.

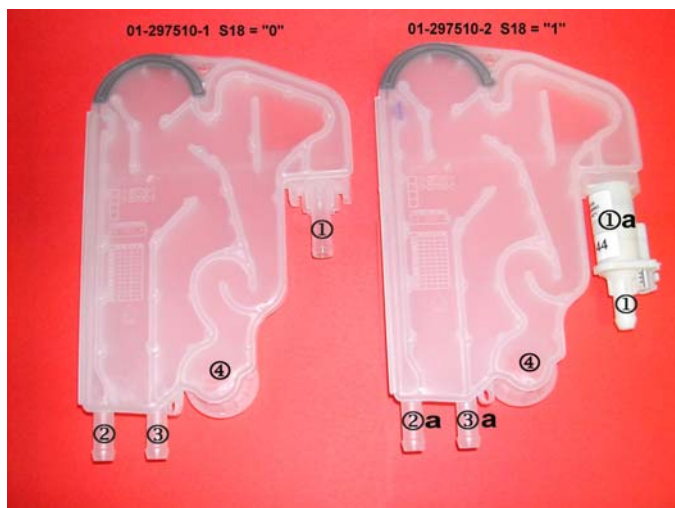
The control system counts the switching contacts of the reed switch. **208 pulses** correspond to approx. **1 l of water**.

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

1. To test the flowmeter S2 go to the servicemenu page 48.
2. Visual inspection whether the LED 2 on the main circuit board is rapidly pulsing (see page 49).

Remark:

After 20 minutes of inactivity during stand by, the fill valve and the booster 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 |
| 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**, but via the length of **time** fill valve (**Y1**) is open (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).

ANALOGUE INPUTS:

AE1 = 85 AE5 = 0:00
 AE2 = 63 AE6 = 000
 AE3 = 0.50
 AE4 = 0.50

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 Rinselevel	Heating on	Voltage change Fill level monitoring
Parameters	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 rise vertically above tank or booster level (no trap, 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 45) 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 60 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 generate.

8.3 DOSING UNITS / CHEMICALS

8.3.1 DOSING UNITS



Dosing units Premax

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

Rinse aid 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

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

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

Dosing amount

Dosing of detergent, all models = preset to **3.0g/l** / **0-9.5g/l** are possible
Dosing of rinse aid = preset to **0.3g/l** / **0-2.0g/l** are possible

Detergent dosing: Predosing is always carried out in parallel to the rinsing pump M2.
The wash dosing is after the Genius X²

Rinse aid 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 rinse.
Subsequent dosing **after** cold program.

Hose filling and preset dosing amounts in g/l see customer menu page 37

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 Dosing Containers** but retrofitting is possible.
Installation Kit – Dosing Containers 01-515190-001

8.3.2 CHEMICAL MONITORING

Parameters chemicals monitoring

S20 Assignment without the chemicals sensor

0 = no monitoring

1 = Chemicals monitored with reed switch (with Dosing Containers)

2 = Chemicals monitored with chemicals sensor (without Dosing Containers)

S21 Signal in case of lack of chemicals

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

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

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 **Standard**

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

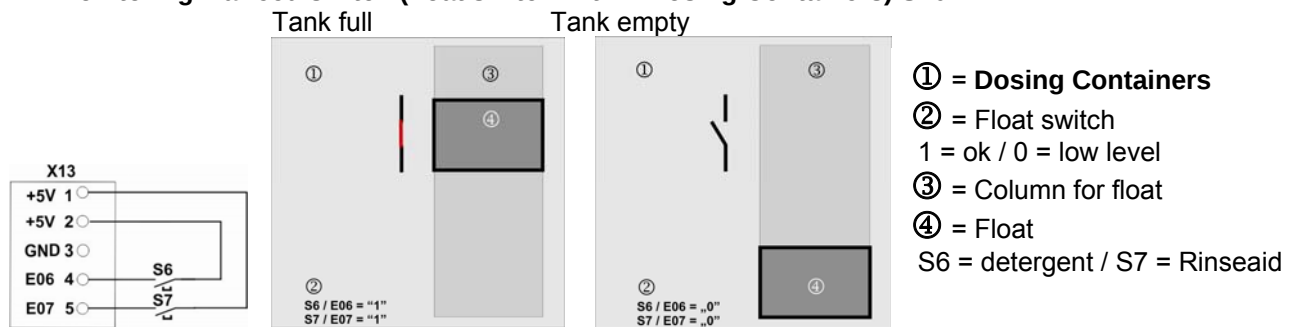
2 = only E06 (lack of cleaning agent) enabled

3 = only E07 (lack of rinsing agent) enabled

Note:

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

Monitoring via reed switch (float switch within Dosing Containers) S20 = "1"



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

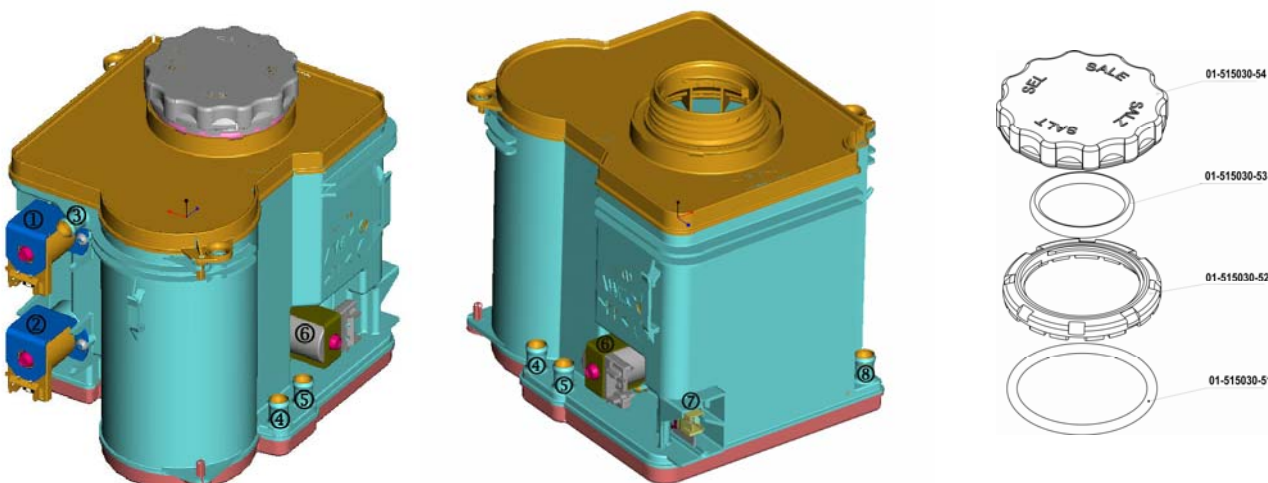
8.4.1 COMMISSIONING:

- 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 37)
- Fill salt tank with **1.5 kg** coarse **regenerating salt** (2-8mm), afterwards fill up with water:

Special tool Fastening nut **Softener 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 drain | ③ Output soft water |
| ④ Input hard water (fill-up water) | ⑤ Input regeneration / salting | ⑥ Y10.1 Salting valve |
| ⑦ Lack of salt switch S4 | ⑧ Regenerating salt connection to the drain (via ventilation valve) | |

8.4.2. SOFTENER CAPACITY IN LITRES

Total hardness	at 10°d	at 20°d	at 30°d
Capacity with one saltfilling	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 (after this, the salt water has been completely drained from the softener)
- Remove hose to the multifunctional part
- Place machine onto its left-hand side
- Dismantle bottom panel
- Dismantle softener 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 not 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 float switch S4

8.5 PROCEDURE FOR THE SOFTENER 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 refilled 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 function:

If the softener 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 very high, **e.g. 3000 µS (= 3 mS)**, it can be deduced that the softener is not functioning correctly!!

CAUTION:

If the above measurements seriously deviate from the ideal values, the softener test program must be activated (see also page 46). Remove the side panels before doing so.

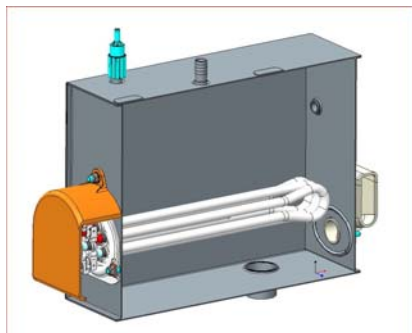
The softener test program should on no account be carried out at the beginning of the softener test, as salt will inevitably be washed in. If this has occurred, thoroughly rinse the booster (fill and drain several times) to remove the high chloride content (corrosion-inducing).

8.6 BOOSTER BOOSTERCONNECTION PIECE

8.6.1 BOOSTER DESIGN / VOLUME



Standard heating capacity: 4,2kW 01-294044-1



Booster volume 4,0; standard rinsing volume: 1,9; possible rinsing volume: 3.2l maximum 3,5l

Replacement of boiler heating

- Completely pump out machine
- Then separate from the mains
- Dismantle back panel / left sidepanel
- Replace the cover
- After replacing the secure measurement

8.7 WASH TANK / TEMPERATURE SENSOR / RINSE PUMP / DRAIN PUMP



8.7.1 TANK

Tank volume: 8,0l

Tank heating standard 0.8kW

Tank heating machines with cold rinsing 2.5kW:

Air trap tank:

Viton O-ring for air trap:

01-240247-1

01-294390-1

01-515236-1

276903-63

8.7.2 TEMPERATURE SENSOR BOOSTER / TANK

Part number:

Temperature sensor boiler **B1** =

775612-1

Temperature sensor tank **B2** =

775612-1

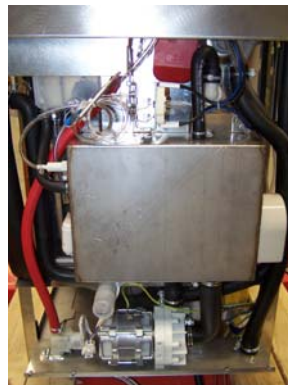
Temperature measuring range: The NTC thermal resistors are temperature-dependent semiconductor resistors. They have a strongly negative temperature coefficient (TK).

min. -40°C max. +125°C possible error messages temperature sensor see page 56

8.7.3 RINSE PUMP:

**Technical Data:**

Part number for 50Hz: 01-515260-1
Part number for 60Hz: 01-515260-2
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 a plastic clip in: The electrical connection is via plug.

8.7.4 DRAIN PUMP:

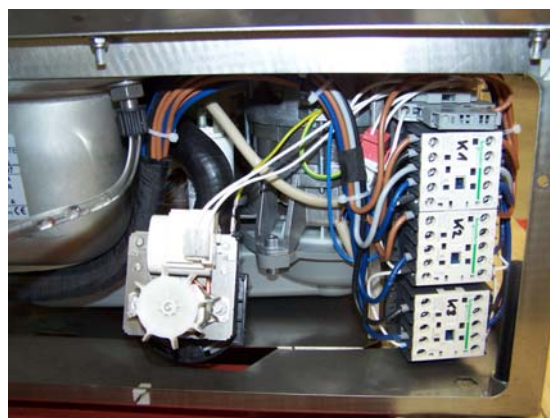
**Technical data:**

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.

**Removal of the pump:**

Electrical connections to the drain pump disconnect. get to the tab on 9am (gray plastic latch on the wash pump) Press the lock to the rear. To release the bayonet fitting the pump 45 degrees clockwise. Pump pull back away.

8.9 WASH PUMP

Wash water circulation: The washing water is distributed via the top and bottom wash arms during the washing cycle. The wash water that is flowing back is filtered through the metal and plastic strainer first then to the Genius X filter system, finally 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!

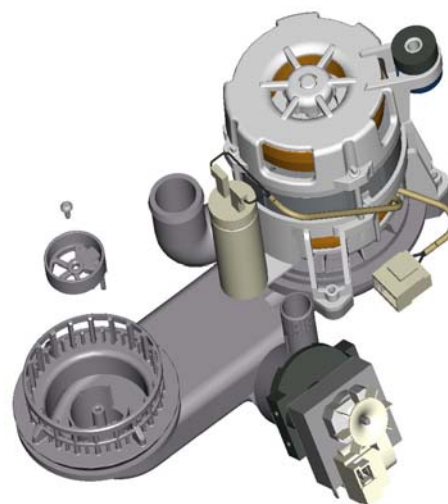
Designation of spare parts	Part number
Capacitor 8µF	226568-14
O-ring	01-240298-1
Kit support shim, O-ring, slide ring seal	01-240374-1
Impeller 50Hz GC	01-240300-3
Special tool	01-240303-3
Transition nut for special tool	609939

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.

- Remove front panel and plastic cover
- Remove the drain pump by turning clockwise (release the lock of the drain pump beforehand)
- Undo the fastening nut with the special tool
- Remove the right-hand side panel
- On "S" machines, dismantle the transparent hose at the water break and drain completely.
- remove of the softener cap; drain transparent hose once again completely, refit the softener cap
- Refasten the softener dispenser cover.
- Place the machine onto its left-hand side
- Remove the bottom plate
- Unplug the electrical connection of the wash pump
- Disconnect the wash and rinse pipes
- Remove additional fastening on the tank floor (by means of rubber buffer)
- Take out the wash pump



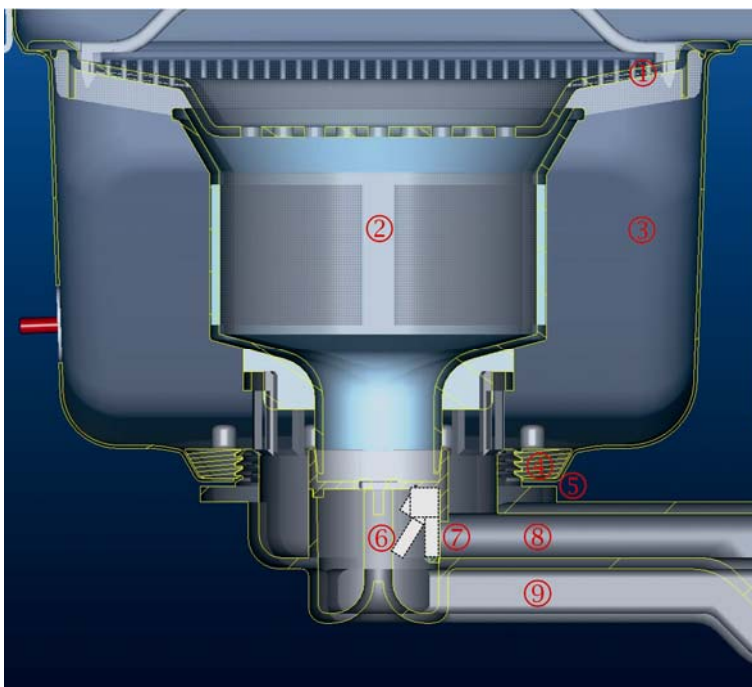
8.10 GENIUSX² / FLIPPER

Drain system: Serves to partly pump out soiled wash water after approx. 10 sec (**Genius X²**) during the washing program, and to completely drain the wash tank. On the drain side, the dirty wash water is taken via a hose system then via antisiphon 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 antisiphon valve must be checked for soiling.

Sectional drawing Genius X²



remove the flipper



- 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 WASH ARMS / RINSE 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

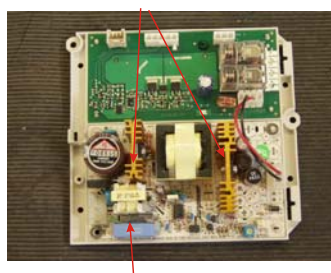
8.12 DRYINGASSIST / VAPOSTOP GCP

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 removes the steam from the wash tank.

The exhaust opening is located inside the door frame (upper left).

If the machine is fitted (supervised by Reedschalter **S11** and Reedschalter **S5**) with basket reconnaissance with a special wire basket, an auxiliary heater switches **E3** during the drying process.

Drying process with basket reconnaissance: Heating **E3** (until 30 sec before drying end) a M6 at the beginning and at the end of the process. Part number **E3: 01-294430-1** /safety temperature delimiter: **01-294435-1**.

Drying process without basket reconnaissance: **M6 without E3**

Miscellaneous: Starting the washing program switches off all drying functions

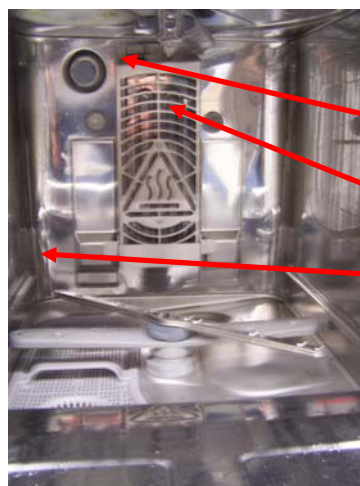
Deactivation possible via the customer menu (see page 37)

Condition: Machine "On" and door closed

Maintenance see separate maintenance instructions

Special tools: Vapour extraction: **01-240303-2** or special tool for wash pump **01-240303-3**

- Open Hex nut and fixing nut
- Unclip black fan, unplug the wiring from the second fan
- Complete unit remove and clean if necessary the halves unfold



Position of the reed switch **S5** (Covering Heating element)

E3 Heating Element Dryer

S11 rackcontrol

9. PROGRAMS

9.1 FILL PROGRAM

Prerequisite:

- The wash tank temperature must be >45°C in Standby mode. If the tank is full but the temperature <45°C, the machine pumps out

Rinse time filling	T43
Boiler filling start temperature	A21

Function

Program sequence filling

- 1 Fill valve Y1 opens, water flows into the booster via the water air break either directly or in the case of "S" machines via the softener (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 Booster heats to set temperature
- 5 Rinse pump M2 pumps the Booster water via the rinse system into the wash tank at the same time drain pump runs to calibrate the turbidity sensor
- 6 The wash 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 Waschpump starts one more time
- 10 Predosing rinsing agent

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

9.2 SHORT / STANDARD / INTENSIVE / PROGRAM

Prerequisite:

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

Parameters	SHORT	STANDARD	INTENSIVE
Washing time	T1	T2	T3
Rinse time	T23	T24	T25
Switching function	S25	S26	S27
Rinse temperature	A1	A2	A3
Washing temperature	A28	A29	A30

Function:

Program sequence SHORT / STANDARD / INTENSIVE / PROGRAM

- 1 Soft start M1 (washing); rinse aid dosing (only subsequent to COLD or PROGRAM); (if necessary filling of the boiler) Heating the boiler to rinsing temperature (is thermostop-controlled)
- 2 Genius X²
- 3 Detergent (after GeniusX²)
- 4 Dripping time (Vapostop)
- 5 Intermediate pump out (Vapostop)
- 6 Rinsing
- 7 End of program

9.3 COLD PROGRAM WITH BOILER TEMPERATURE <35°C

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

	Parameters
Washing time	T7
Rinse 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); rinse aid dosing (if necessary filling of the boiler)
- 2 Genius X²
- 3 Detergent (after GeniusX²)
- 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

9.4 COLD PROGRAM WITH 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 Detergent (after GeniusX²)
- 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

9.5 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.

9.6 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.

10 DISPLAY

10.1 MENU NAVIGATION GENERAL / LOGIN PART 2

Program info and selection		1111 customer menu	9999 Customer menu + External chemicals	0022 Customer menu + External chemicals + Service menu
⑤				
Info / maintenance	Temperatures	LOGIN		
machine type operating data maintenance Back	Temperature display	PIN 1111	PIN 9999	PIN0022
		Customer menu	External chemicals	Service menu
		Page 36	Page 42	Page 43
	Commissioning DD.MM.YYYY	common settings	Detergent control	Parameter
		Language Date Time Date format Time format Temperature unit Back		
		Page 36	Page 42	Page 43
	Attended time till next maintenance	Display indication	Rinseaid conceontrol	programs Activate - deactivate
		program representation Display brightness Display Contrast Back		
		Page 36	Page 42	Page 43
	Attended time overall	Acoustic signal	Detergent rinseaid sensor	Reset service indication
		Page 37	Page 42	Page 44
	Rinse cycles overall	Chemical settings	Chemical container	Software version
		rinseaidconcentration detergentconcentrati Filling chemicals hoses Back		
		Page 37	Page 42	Page 44
	Water consumption overall	External water treatment	Signal if chemical deficiency	Software update
		Setting the counters Resetting the counters Residual water quantity Back		
		Page 37		Page 44
	Attended time delay	Degree of hardness		Machine type
		Page 37		Page 45ff
	rinse cycles day	Drying aid		Diagnostics
		Page 37		Inputs - outputs Softener Failure memory Soft start Impeller Back
	water consumption day	Operational / Hygiene data		Page 48
		operating data hygiene data Report Back		Unlock if salt deficiency
		Page 38		
	Remaining water quantity external water treatment (S19) 14000l	Timer		
		Weekly timer Daily timer Activate / deactivate Back		
	HOBART SERVICE			
	Back	Back	Back	Back

10.2.1 GENERAL SETTINGS

LEVEL 3		LEVEL 4		LEVEL 5		LEVEL 6	
CUSTOMER MENU	⑤	Common settings	⑤	Language	⑤	see commissioning	
			⑥				
			Date	⑤	see commissioning		
			④				
			Time	⑤	see commissioning		
			④				
			Date Format	⑤	YYYY.MM.DD ⑤ ⑥ DD.MM.YYYY ⑤ ④ MM.DD.YYYY ⑤ back		
	④		④				
			Time Format	⑤	24h ⑤ ④ 12h ⑤ back		
			④				
	Temperature unit	⑤	°C ⑤ ④ °F ⑤ back				
	④						
	back						
	Display indication	⑤	Program representation	⑤	Text based representation ⑤		
		④		④ Symbol based representation ⑤			
		Display brightness	⑤	Display + ⑤ Set brightness - ⑤			
		④					
④		Display contrast	⑤	Display + ⑤ Set contrast - ⑤			
		④					
		back					
		Acoustic signal	⑤	⑤			
④				⑤			

10.2.2 CHEMICALS ADJUSTMENT / EXTERNAL WATER TREATMENT / DRYING ASSISTANT

LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
CUSTOMER MENU	Chemical settings	⑤ Rinsing aid concentration	⑤ Set rinse aid concentration dosing 0.3 m/l + ⑤ -
		⑥	
		Detergent concentration	⑤ Set Detergent concentration dosing 3.0 m/l + ⑤ -
		④	
		Filling chemicals hoses	⑤ Priming suction hose detergent no ④ ⑤ yes ⑤
		④	
		back	
			Priming suction hose rinse aid no ④ ⑤ yes ⑤
			⑤
			Filling the chemicals hoses
	④	⑤	
		set counter	⑤ set counter (C43) + ⑤ -
		⑥	
		reset counter	⑤ reset counter no ④ yes
		remaining water quantity	⑤ remaining water quantity external water treatment xxxxxl
	Degree of hardness	⑤ setting the water hardness	+ ⑤ see Chapter 6 Commissioning -
	Drying aid	⑤ set drying aid activate ④ deactivate	⑤ ⑤

10.2.3 HYGIENE DATA / TIMER /

LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
CUSTOMER MENU	Operational / hygiene data	⑤ Operational data ④ Hygiene data ④ report ④ back	⑤ see commissioning page 40 ⑤ see Appendix Part 1 Page 44 ⑤ see Appendix Part 2 Page 45
	timer	⑤ weekly timer ④	⑤ Monday ④ Tuesday ④ ⑤ -- : -- 12 : -- 12 : 00 ⑤ + ⑤ - + ⑤ -
		④ Daily timer ④	⑤ 01 01 2012 01 01 2012 01 01 2012 -- : -- 12 : -- 12 : 00 ⑤ + ⑤ - + ⑤ - + ⑤ - + ⑤ -
		④ activate / deactivate	⑤ Weekly timer on ④ Daily timer on ④ Weekly and daily timer on ④ Timer off ⑤

10.2.4 HYGIENE DATA

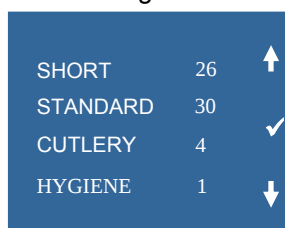
This menu item lists different events, hygiene data and messages. The list starts with the current date and the event that has occurred last on that day. Then follow the subsequent events of that day, then the events of the previous days. Started washing programs are listed at the end of the list. Data 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 38

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



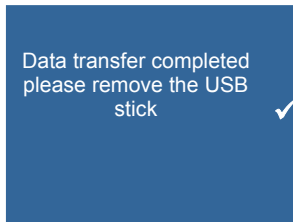
This is confirmed by pressing the button ⑤ and then the program switches to the next display. The machine automatically checks whether a USB pen-drive has been detected and starts to transfer the data.



10.2.6 LOG PART 2

The transfer is carried out into a separate file and is saved on the USB pen-drive (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:

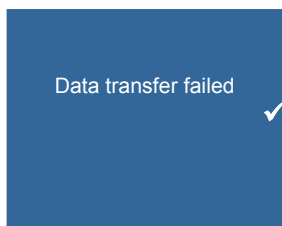


Pressing button ⑤ takes you back to the customer menu page 36.

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 38.

Pressing button ⑤ takes you back to the customer menu

12.2.7 EXAMPLE FOR A PROTOCOL

Hobart operational/hygiene-Protokoll

beginning 04.12.2012
end 05.12.2012

General Data

05.12.2012 date of data-transfer
16:21:01 time of data-transfer
FPS-10A machine type
866610001 serial number
05.12.2012 commissioning
0 attended time till next maintenance
0 attended time overall
0 rinse cycles overall
10 water consumption overall
00:00 attended time day
0 rinse cycles day
10 water consumption day
150 remaining water quantity external water treatment

Events in the washprocess

05.12.2012	10:33	draining program
05.12.2012	10:32	salt deficiency
05.12.2012	10:31	filling program
05.12.2012	10:28	salt deficiency
05.12.2012	10:27	filling program
05.12.2012	10:12	filling program
05.12.2012	10:11	draining program
05.12.2012	10:03	filling program
05.12.2012	09:58	draining program
04.12.2012	09:37	salt deficiency remedied
04.12.2012	09:23	washing aborted by User
04.12.2012	09:23	washing aborted by User
04.12.2012	09:22	salt deficiency
04.12.2012	09:22	washing aborted by User

Programs since installation

201 Short
100 Standard
15 Intensive
52 Eco
0 Steam wash
300 Intensive with steam + chemistry
314 Cold rinse
20 High pressure
255 Fill + dump
517 Continuous
20 Cutlery
17 Hygiene
300 Basic clean
35 Deliming
60 Coffee Cups

10.3 MENU NAVIGATION EXTERNAL CHEMICALS

LEVEL 3		LEVEL 4		LEVEL 5		LEVEL 6	
External chemicals	⑤	Detergent concentration	⑤	no control	⑤		
				④			
				control from HOBART	⑤		
				④			
				parallel with rinse pump M2	⑤		
		④		④			
				parallel with wash pump M1	⑤		
				④			
				Parallel with fill valve Y1	⑤		
		Rinse aid concentration	⑤	no control	⑤		
				④			
				control from HOBART	⑤		
				④			
				parallel with rinse pump M2	⑤		
		④		④			
				parallel with wash pump M1	⑤		
				④			
				Parallel with fill valve Y1	⑤		
		Detergent / rinse aid sensor	⑤	Sensor deactivated	⑤		
				④			
				Sensor activated for detergent and rinse aid	⑤		
				④			
				Sensor activated for detergent	⑤		
		④		④			
				Sensor activated for rinse aid	⑤		
		Chemicals container	⑤	Integrated	⑤		
				⑥			
				external	⑤		
		④		④			
				External with level switch	⑤		
		Signal if chemical deficiency	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 ④ and ⑥ can be used to change the value of the selected parameters in the parameters list at the defined increment.

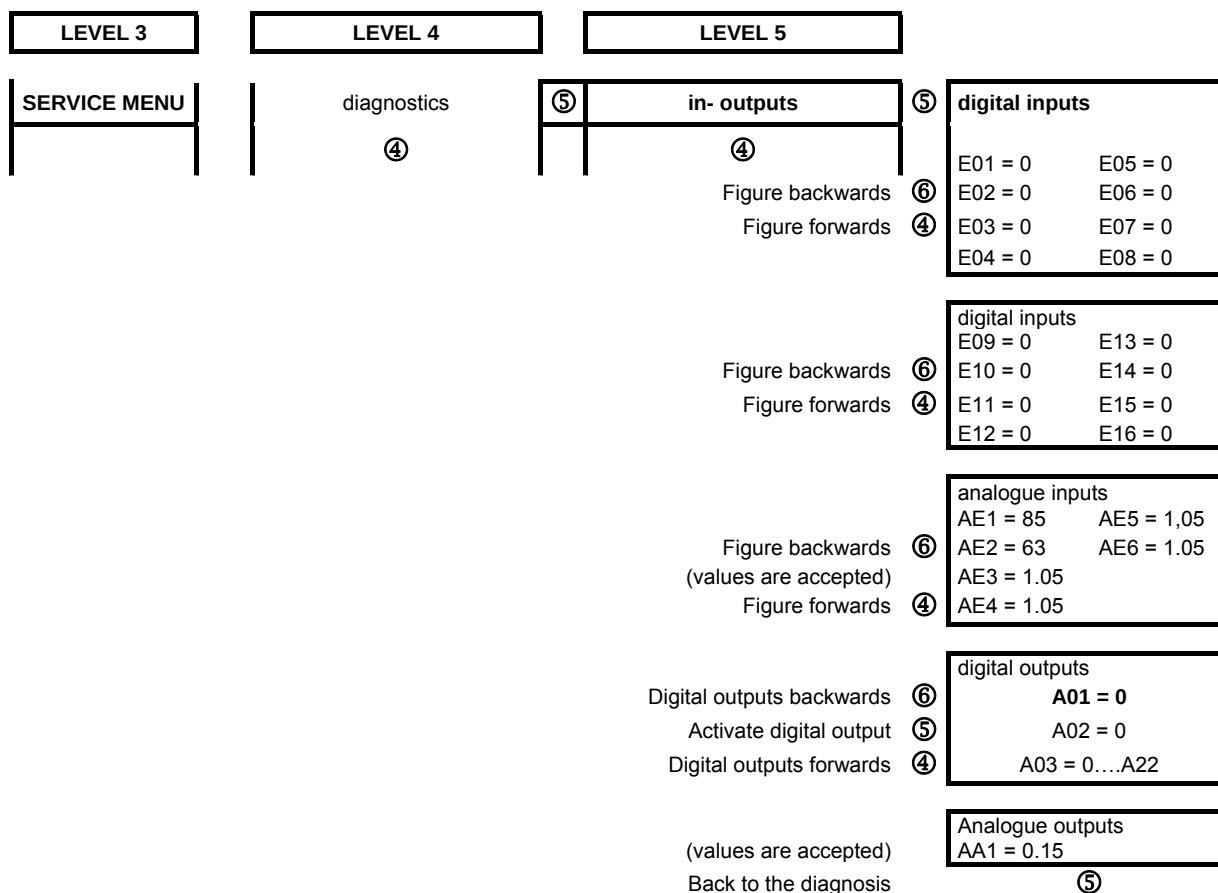
LEVEL 3		LEVEL 4		LEVEL 5		LEVEL 6	
SERVICE MENU	⑤	parameter	⑤	T1 Washing time SHORT program 59 SEC	⑥ Parameters upwards		
				⑤	④ Parameters downwards		
				T1 Washing time SHORT program 59 SEC	⑥ Parameter value downwards		
				⑤	④ Parameter value upwards		
				save change exit menu	⑤ The changed parameter 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 exit 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 change exit menu	⑤ Return to parameter		
		program activate / deactivate	⑤	Short Standard Intensive back	⑥ Program display backward		
				⑤	④ Program display forwards		
				activate deactivate	⑤ Return to customer menu		
					Activate program display		
		④	⑤		④ Deactivate program display		

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

LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
SERVICE MENU	Reset service indication	⑤ Yes No	⑤ Reset service interval and return to parameter ⑤ Do not reset service interval and return to parameter
	④ software display 002-0001.000	⑤ Return to service menu	
	④ software update (see also page 55) USB 01-533901-1	⑤ plug in the USB pen-drive for software update	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 pen-drive not detected
		If during the "test time", one or several software files are detected, these are shown on the display	
	④	002.0001.000 002.0002.000 002.0003.000	⑥ Software files upwards ④ Software files downwards
		⑤ File is preselected	
		Please do not interrupt loading. Machine will be switched off subsequently	Loading is identified by a rotating line. (after the loading load also the machine type)
	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
		machine type loaded 001	

Maschine	Pnr.	Anschlussversion	Parametereinstellungen
GC-10A	001	A, B	---
GC-10A 1P/50/3/N 25A	001	D	S9=0
GCS-20A	002	A	
GCP-10A	003	A, B	
GC-90A	004	A, B, D	A1 = 82, A2 = 82, A3 = 82
GCP-90A	005	A, B	A1 = 82, A2 = 82, A3 = 82
GCS-20A	006	B, C, D	
GCP-10A	007	D	
GC-90A	008	C	A1 = 82, A2 = 82, A3 = 82
GCP-90A	009	D	A1 = 82, A2 = 82, A3 = 82

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	Rackcontrol
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	Covering heating dryer
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
AE4	X 10 : 9	Pressure wash tank
AE5	X 7 : 3	Turbidity
AE6	X 12 : 4/6	Pressure reserve / Temperature washing space

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
	X 7 : 1	LED turbidity sensor

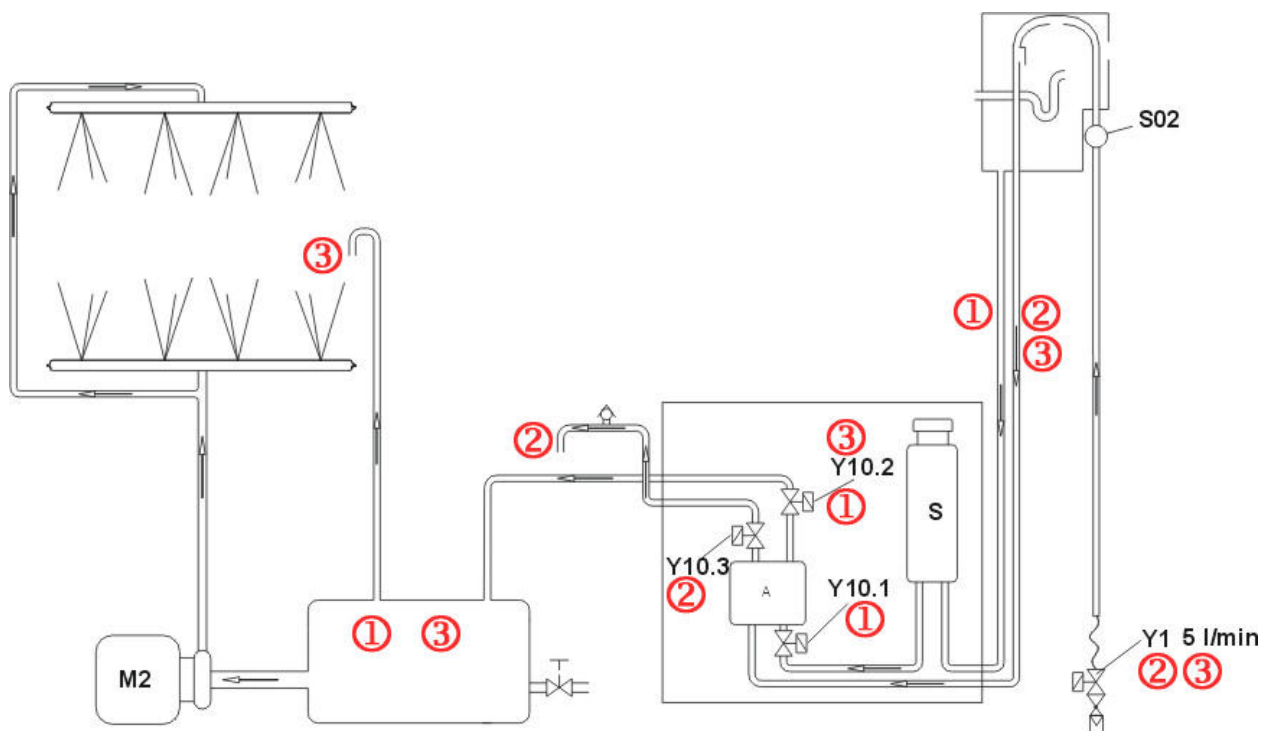
10.4.5 SOFTENING AGENT TEST PROGRAM

LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
SERVICE MENU	Diagnosis	Softener ④	⑤ start test program Softener ⑤ test program Active

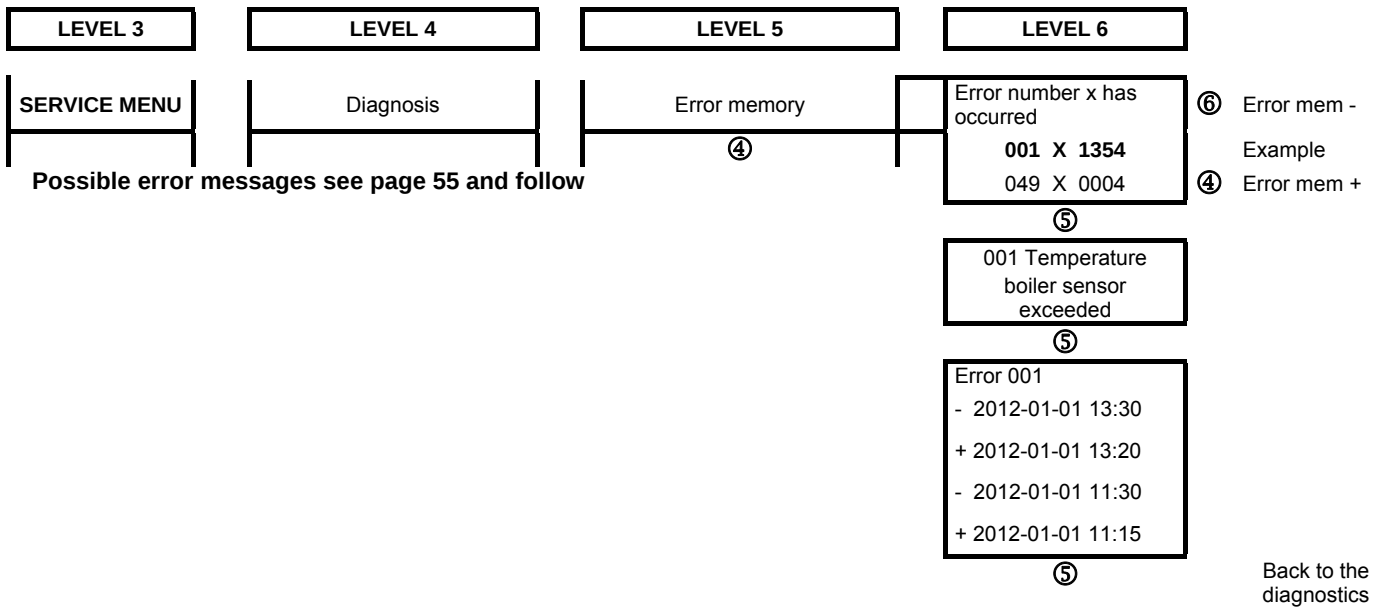
	Sequence test program	Active outputs	Time	Pulses	Effect
1	salt solution 1 to the booster	Y10.1 + Y10.2	5s		Water level of storage chamber water break and transparent hose is dropping. ①
2	break 1		3s		
3	salt solution 2 to the booster	Y10.1 + Y10.2	5s		
4	break 2		3s		
5	wash out 1 to drain	Y1 + Y10.3		50	Filling water is conveyed into the discharge ②
6	break 3		3s		
7	wash out 2 to drain	Y1 + Y10.3		50	
8	break 4		3s		
9	filling booster 1	Y1 + Y10.2		50	When boiler full, the filling water runs out of the boiler overflow ③
10	break 5		3s		
11	filling booster 2	Y1 + Y10.2		50	

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

Hydraulic diagram for the softener test program



10.4.6 FAILURE MEMORY



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

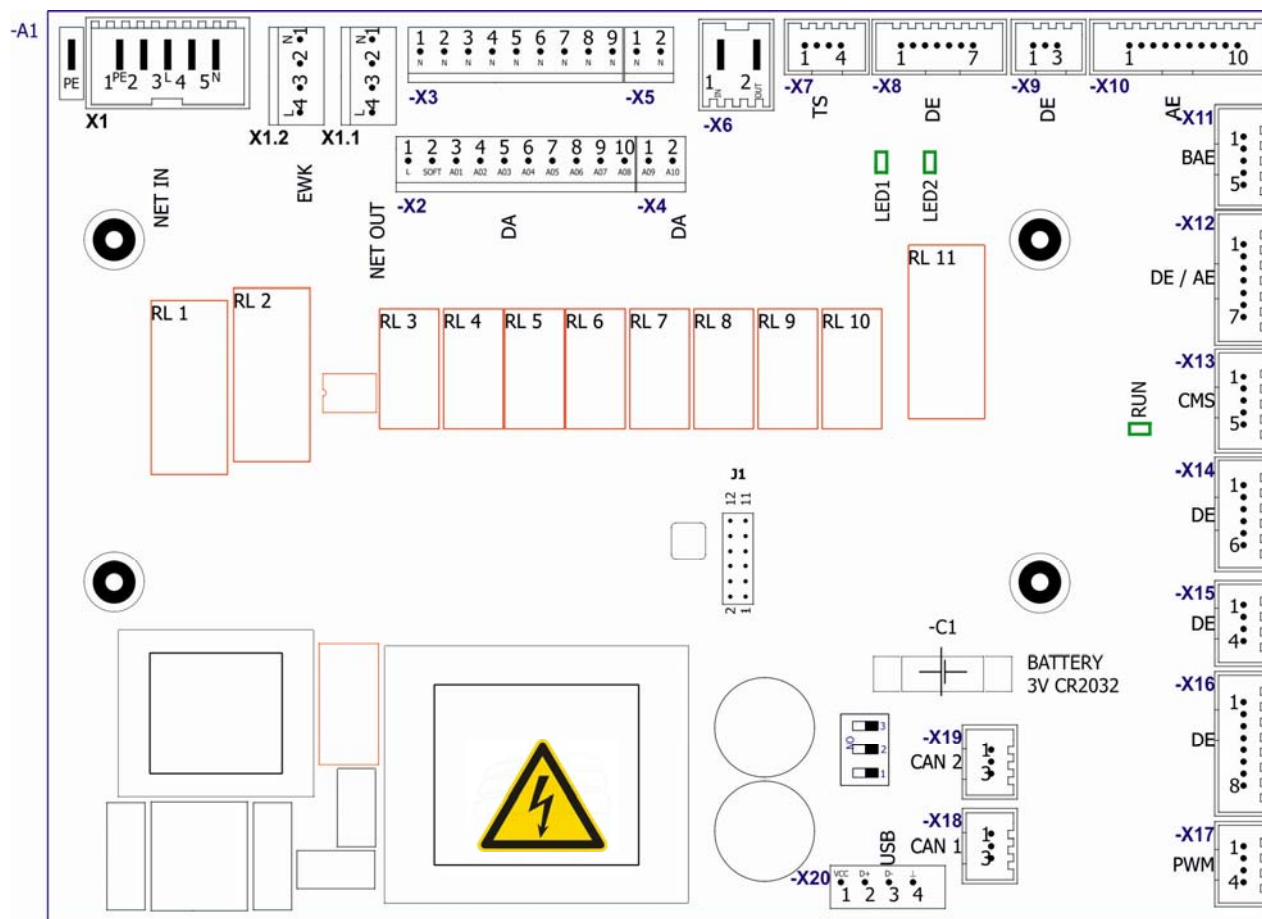
LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6
SERVICE MENU	Diagnostics	soft start 0/1	⑤ For activation, the button must be pressed permanently.
		back	
	④	④	
		impeller	⑤ Return to service menu
		No	④
		Yes	⑤ Activation of the filling valve and softening agent valve boiler for a total of 15 seconds. During activation, the display shows a bar chart.
		Measured pulses	⑤ After an activation time of 5 seconds, the pulses of the impeller are counted for the remaining 10 seconds. The flow rate in litres per minute is calculated from the counted pulses. The impeller sensor supplies 208 pulses per litre. The result is shown on the display.
		e.g. 150	⑤ Return to service menu
		Flow rate	
		4.3l/min	
	Unlock in case of lack of salt	⑤	⑤ Return to service menu (no acknowledgement)
		No	④
		Yes	⑤ Pressing the button 041 resets the error message 041 and takes you back to the diagnosis
	⑤ Back		

11 CONTROL SYSTEM

11.1 MAIN CIRCUIT BOARD 01-515050-1



residual voltage see page 56



LED 1 for hood switch:

LED 2 for the impeller sensor:

RUN LED for processor function:

LED on

LED is blinking

LED on

=

=

=

Hood closed

flickers if water is running (pulses)

voltage available, processor is running

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

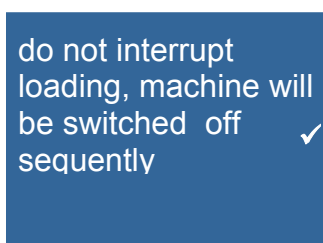
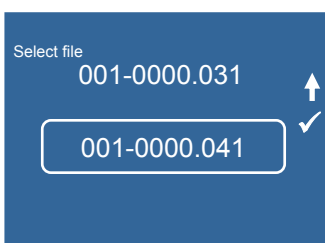
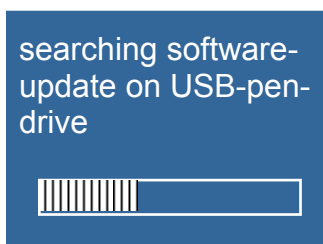
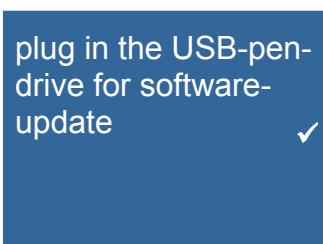
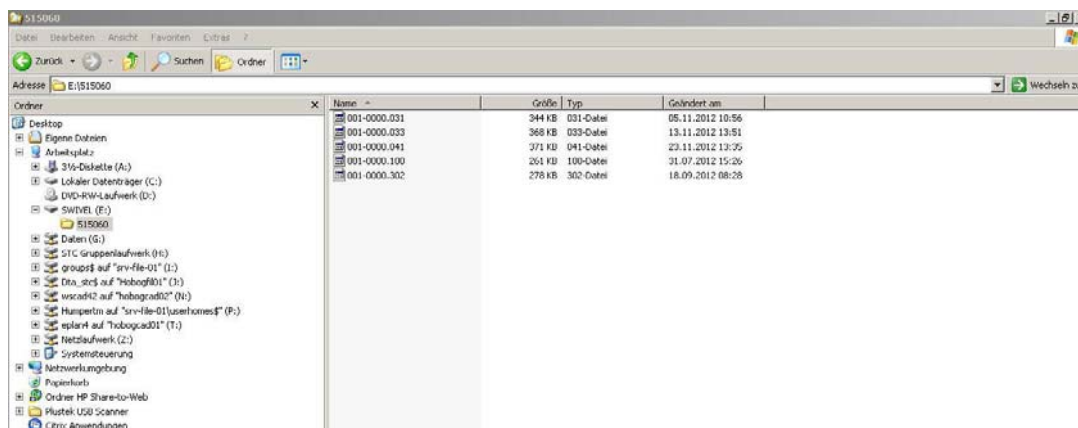
01-515060 002- 03 05. 000
01-515060 Software - Basic number

002 Software bar number (e.g. for all GC machines)
03 Releases with program changes
05 Releases with parameter changes
000 No development revision
Loading the software after replacing a board.

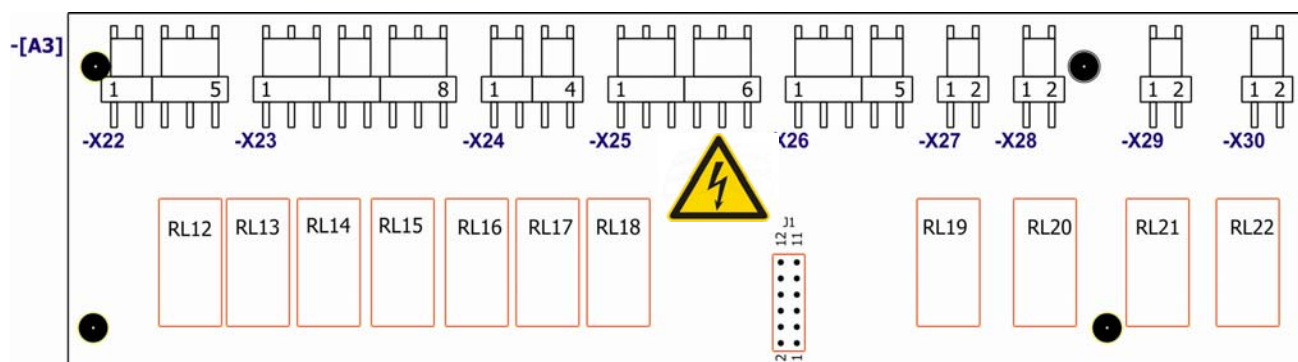
11.1.2 SOFTWARELOADING AFTER REPLACING THE PCB

The file folder structure on the **USB-pendrive 01-533901-1** must be arranged as shown below (please follow the procedure):

- Create a new file folder on the USB pendrive (rightclick on the USB –pendrive)
- Rename the file folder **515060**
- Make copies from the machinesoftware in the new file folder 515060 on the pendrive (in the example below there are 5 different software versions)
- Then the follow invitation appears: **plug in the USB-pendrive for softwareupdate** (accept with ⑤)
- searching software- update on USB-pen-drive (red Start-Button)
- Plug in the USB-pendrive in the slot in the frame (when not the message USB-pen-drive detected)
- Select the machinesoftware accept with ⑤
- Mesasage do not interrupt loading..... accept with ⑤
- Charging watch (until rotating bar stops) / after the loading process the Start-Button ② is **half blue / and half grey**
- Unplug the USB stick
- **Load the machineprogram new (page 49)!!**



11.2 ADDITIONAL CIRCUIT BOARD 01-515051-1



11.2.1 SPARE 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 (X28) / S70 relay 21 A21 (X29) / S71 relay 22 A22 (X30)

Two pole plug 2 pins : 322791-2 / pin contacts : 298553-99

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



In individual cases, to the pins of the 230 outputs, a residual voltage caused by discharge of the capacitor of the RC combination can be tapped to control and expansion card when touched. A risk and vulnerability analysis showed that these, occurring only in isolated cases, residual voltage, there is no danger of people. As you would know, for example, but by electrostatic discharge, the voltage tapping this feel uncomfortable, and could possibly lead to terrifying reactions. This residual voltage can occur in X2, X3, X4, X5 on the motherboard as well as X22-X30 on the additional board.

12.1 PIN ASSIGNMENT A1 / A3 PART 1

Terminal	Pin	I/O		Component
X1	1			Power supply N
X1	2			
X1	3			Power supply L
X1	4			---
X1	5			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 (drainpump)
X3	8			N (rinsepump)
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	A11	RL12	Tank heating (OUT)

Terminal	Pin	I/O		Component
X7	1			---
X7	2	AA1		---
X7	3	AE5		---
X7	4			---

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

12.2 PIN ASSIGNMENT A1 / A3 PART 2

	Pin	I/O	Component
X12	1		5V
X12	2	DE5	Coverplate Drying Heater
X12	3		5V
X12	4	AE6	reserve
X12	5		---
X12	6	AE6	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 - detergent
X13	5	DE7	Lack of chemicals - rinseaid

X14	1		5V
X14	2	DE8	
X14	3		5V
X14	4	DE9	---
X14	5		5V
X14	6	DE10	---

X15	1		
X15	2	DE11	Rackcontroll
X15	3		5V
X15	4	DE12	---

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 (VCC)
X20	2		USB (D+)
X20	3/4		USB (D-) Gnd

	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			---

X25	1	A16	RL16	---
X25	2	A17	RL17	---
X25	3			---
X25	4			---
X25	5			---
X25	6			---

X26	1	A18	RL18	---
X26	2			---
X26	3			---
X26	4			---
X26	5			---

X27	1	A19	RL19	---
X27	2	A19	RL19	---

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

X29	1	A21	RL21	PFR. contact 2 IN
X29	2	A21	RL21	PFR. contact 2 OUT

X30	1	A22	RL22	PFR. contact 3 IN
X30	2	A22	RL22	PFR. contact 3 OUT

13 RESERVE

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 ② in green and red while the machine is in standby mode

Reaction 2 in case of malfunctions:

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

14.3.1 Message 001 Temperature booster sensor exceeded

Error description	001 Temperature boiler sensor exceeded		
Trigger	The temperature at the AE1 is $\geq 115^{\circ}\text{C}$		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 too low temperature probe booster

Error description	002 Temperature too low temperature probe booster		
Trigger	The temperature at the AE1 is $\leq 0^{\circ}\text{C}$		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 booster 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	e.g. temperature not reached. Inform service.		
Acknowledgement	Pressing the display navigation button  acknowledges the message. Machine remains in active mode.		Delay
			-

14.3.4 Message 004 Thermostop booster 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	e.g. temperature not reached. Inform service.		
Acknowledgement	Pressing the display navigation button  acknowledges the message. The machine remains in active mode.		Delay
			-

14.3.5 Message 005 Booster 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 enabling level.		Delay
			-

14.3.6 Message 006 Temperature tank sensor exceeded

Error description	006 Temperature tank sensor exceeded		
Trigger	The temperature at the AE2 is $\geq 115^{\circ}\text{C}$		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 wash tank. Inform service.		
Acknowledgement	Pressing the display navigation button  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 $\leq 0^{\circ}\text{C}$		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 wash tank. Inform service.		
Acknowledgement	Pressing the display navigation button  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	e.g. temperature not reached. Inform service.		
Acknowledgement	Pressing the display navigation button  acknowledges the message. The machine remains in active mode.		Delay
			-

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	e.g. temperature not reached. Inform service.		
Acknowledgement	Pressing the display navigation button  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 $\geq 115^{\circ}\text{C}$		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 washing space. Inform service.		
Acknowledgement	Pressing the display navigation button  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 $\leq 0^{\circ}\text{C}$		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 washing space. Inform service.		
Acknowledgement	Pressing the display navigation button  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	e.g.: disinfection cannot be guaranteed. Inform service.		
Acknowledgement	Pressing the display navigation button  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	e.g.: malfunction pressure sensor boiler. Inform service.		
Acknowledgement	Pressing the display navigation button  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	e.g.: malfunction pressure sensor boiler. Inform service.		
Acknowledgement	Pressing the display navigation button  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	e.g.: malfunction pressure sensor wash tank. Inform service.		
Acknowledgement	Pressing the display navigation button  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	e.g.: malfunction pressure sensor tank. Inform service.		
Acknowledgement	Pressing the display navigation button  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 $\geq$ 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 $\leq$ A91.	
Locked	Filling program / washing program	
Enable	Pump out program	
Message on the display	e.g.: malfunction in the filling or discharge system. Inform service.	
Acknowledgement	By pressing the display navigation button  if the voltage at AE5 $\leq$ A91. The machine remains in active mode.	Delay -

14.3.19 Message 019 not used

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 $\leq$ (A95 + saved initial value), the error is triggered. If during the filling program, the voltage at AE4 $\geq$ (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	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  .	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 $\geq$ 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	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 $\leq$ A93. Only then will it be possible to acknowledge the message by pressing the display navigation button  .	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 $\leq$ 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	e.g.: malfunction in the filling or discharge system. If necessary, clean discharge hose.	
Acknowledgement	Pressing the display navigation button 5 acknowledges the message. The machine remains in active mode.	Delay -

14.3.23 Message 023 not used

14.3.24 Message 024 Analogue current of turbidity sensor exceeded

14.3.25 Message 025 Analogue current of turbidity sensor underrun

14.3.26 Message 026 Calibration value deviation turbidity sensor exceeded

14.3.27 Message 027 Calibration turbidity sensor failed

14.3.28 Message 028 Calibration turbidity sensor failed repeatedly

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	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 5 . 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 $\geq$ 1 times within 20 washing programs. No error analysis in case of S49 (autostart) $\neq$ 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 $\rightarrow$ 1 or 1 $\rightarrow$ 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 (A05) 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 (A05) remains activated.	
Locked	-	
Enable	No restrictions	
Message on the display	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  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 AE3 ≤ A59 within the time ≤ T84 with switched-on filling valve (A05)	Delay T84
Reaction of the start button	2	Priority
Machine reaction	The filling valve (A05) remains activated.	
Locked	-	
Enable	No restrictions	
Message on the display	e.g.: malfunction in filling system. Check water intake.	
Acknowledgement	If the voltage change at AE3 > A59 within the time ≤ T84 with switched-on filling valve (A05) or if the display navigation button  is pressed, the message will be acknowledged. The machine remains in active mode.	Delay -

14.3.33 Message 033 Filling valve monitoring

Error description	14.3.33 Message 033 Filling valve monitoring	
Trigger	The filling valve (A05) 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. e.g.: malfunction in filling system. Inform service.	
Acknowledgement	Pressing the display navigation button  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 5 . e.g.: service interval due. Inform service.		
Acknowledgement	Via the service menu item page 44		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 E03 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	e.g.: correctly fit tank cover strainer.		
Acknowledgement	Pressing the display navigation button 5 acknowledges the message if before that the input E03 = 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 5 . 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. 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 ≥ 10 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  . 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	e.g. filling program interrupted. Close door.		
Acknowledgement	By pressing the display navigation button  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 ⏏ . 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 ⏏ . e.g.: external water treatment exhausted. Replace.	
Acknowledgement	Via the customer menu see page 37	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 ⏏ . e.g.: osmosis prefilter exhausted. Replace.	
Acknowledgement	Via the customer menu see page 37	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 E04 = 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 ⑤. e.g.: lack of salt. Refill regenerating salt.	
Acknowledgement	If the input E04 = 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 E04 = 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 ⑤. SYM48 + 044 + text 125.1 e.g.: lack of salt. Refill regenerating salt.	
Acknowledgement	If the input E04 = 0 for > 5 seconds or S11 and 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 E04 = 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 48	Delay

14.3.46 Message 046 not used

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 SPECIAL FEATURES

15.1 Add ons to Install a HYDROLINE PURE RO-I

For the above mentioned machines please consider the following changes:
use screws M12 instead of M10 / go to X1.1 and use adapter 01-515374-001

* In case of an older software carry out update

	GC/GCP Software : 002-0001-000*	
	S18 = 1 (without impeller)	S18 = 1 (with impeller)
T84	30 → 150	30
T122	120 → 420	
A100	3,0 → 1,0	3,0
C43	14000	
S8	-	
S11	0/1 → 0	
S19	0/1 → 1	
S82	0/1 → 1	
Internal connection	*3)	

*3) internal electrical connection not possible for:

Latest every 6 months (respectively the message 042 on the display) as well as after a throughput of max. 14000 liter pure water (message 041 on the display).

Reset the counters according item 8.9 of the manual of the machine

16 CHANGE INDEX



... a company of the *ITW* Group

SERVICE TRAINING CENTRE