JOKER
with ST and MT CONTROL

SIZE: 6-23, 6-11, 6-43

ENERGY TYPE: ELECTRIC

Original Service and Training Manual

Subject to technical changes.

Read carefully before use.

Store for future use

Eloma GmbH | Otto-Hahn-Straße 10 | 82216 Maisach / Germany
Phone: +49 (0) 8141 395-0 | Fax: +49 (0) 8141 395-130 | info@eloma.com | www.eloma.com

Imprint

With the JOKER you have chosen a powerful compact device - thank you very much for your choice!

Eloma GmbH – A belly decision

Otto-Hahn-Str. 10

82216 Maisach

Germany

T. +49 (0) 8141 395-0

F. +49 (0) 8141 395-130

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Devices Type: .....

Equipment No.: .....

Dealer: **Installer:**

Date:..... Installed on: .....

Inhalt

Version: 1.0.1. 727

Important information!

This guide does *not* replace the installation guide!

In order to maintain the warranty claims and ensure a safe functioning of the device, the installation instructions and the conditions of the warranty must be observed!

1 General Information

Service work may only be carried out by Eloma-trained technicians.

Before working on electrical systems, the device must be switched off without voltage!

After repair/maintenance of electrical components, the device must be checked in accordance with the applicable regional and national standards and regulations and the electrical safety must be ensured!

After work on gas-carrying components and / or conversion of the connected gas type, a detailed exhaust gas analysis with the corresponding measuring instruments must be carried out. This may only be done by specially trained technicians. After work on gas-carrying components, all gas pipelines must be checked for safety.

When working with chemicals, wear proper protective clothing, gloves and goggles!

2 Overview and how it works

In this chapter, the functions of the main assemblies are presented in simplified form in block diagrams.

1. How the hydraulic system works

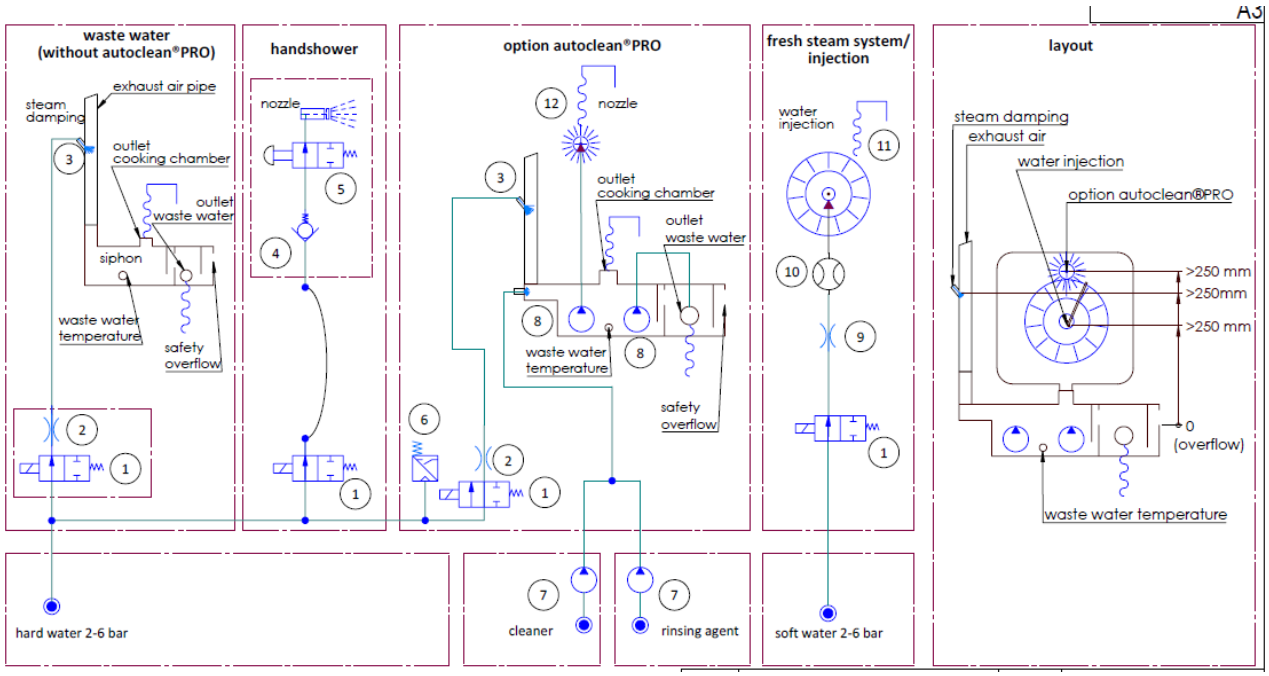


Figure 1: Hydraulic diagram

1	Valve
2	Flow restrictor
3	Pipe piece
4	Check valve
5	Shower head
6	Pressure switch
7	Pumps Cleaner/ Rinse aid
8	Emptying pump /Circulation pump
9	Flow restrictor
10	Flow meter
11	Water inlet pipe
12	Nozzle autoclean® with flange kpl.

The hydraulic components installed in the respective device depend on the device configuration and can therefore vary.

2.1 Block diagram

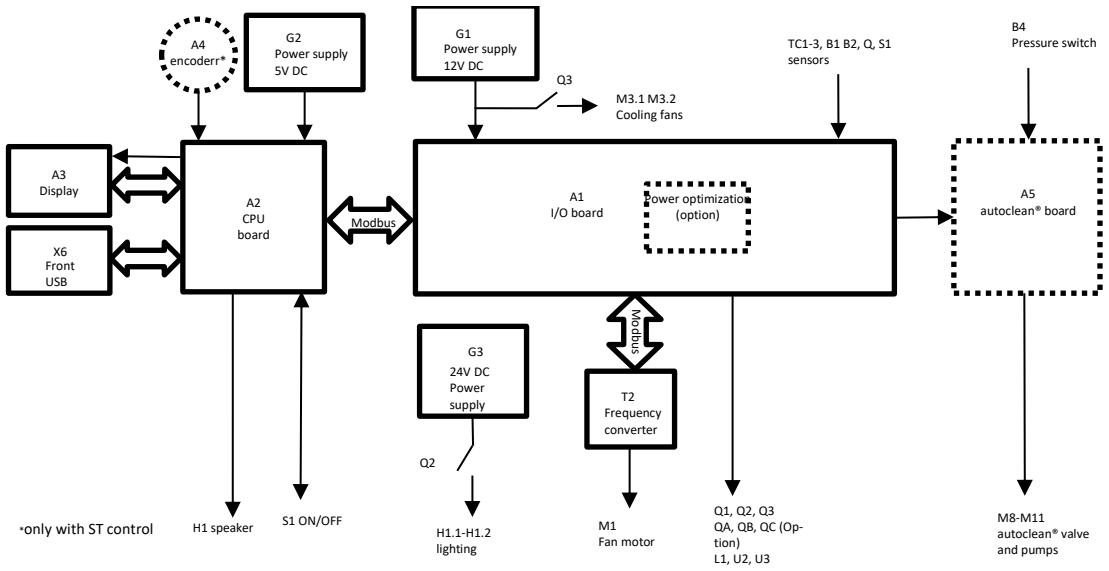


Figure 2: Block diagram

A2 CPU board:

The CPU board A2 (computing part) contains the SD card with the device software. Communication to the I/O Board A1 is carried out using the MODBUS communication protocol.

The display with touch control A3, the front USB port X6 for data transmission via USB stick, as well as the device loudspeaker H1 and the on/off button, are connected to the CPU board A2.

With an ST control, the rotary encoder is still connected to the CPU board for operation. The CPU board is supplied with a voltage of 5V DC by power supply G2.

A1 I/O board:

The I/O Platine A1 (power part) is responsible for the control of all actuators (except actuators for autoclean®). It receives sensor data and processes it further. The firmware contained on it can be updated via an update stick if necessary.

The frequency converter T2 for controlling the engine fan motor M1 is controlled via a MODBUS communication protocol through the I/O board.

The LED cooking room lighting is controlled indirectly via the Q2 relay. The relay Q switches the 24V DC from the power supply G2 to the LED lighting strips in the cooking room door. The power supply of the I/O board is provided by the power supply G1 with a voltage of 12V DC.

The Power Supply G1 is also responsible for the power supply of the cooling fans M3.1 and M3.2. These are controlled by the I/O board via the relay Q3.

A5 autoclean® board

The autoclean® board A5 is responsible for the control of the circulation pump M10 and the emptying pump M11. Furthermore, it regulates the control of the cleaner pump M8 and the rinse pump M9 for dosing the cleaning agents according to the respective cleaning stage. The pressure switch B4 signals the presence of a sufficient water pressure at the hard water connection to carry out a cleaning program

3 Electrical Assemblies

1. Assemblies behind the control panel

Important electrical modules are accessible after the control panel has been removed. These include the safety temperature limiter (STB), the main fuse as well as the I/O board and the autoclean® board (optional)

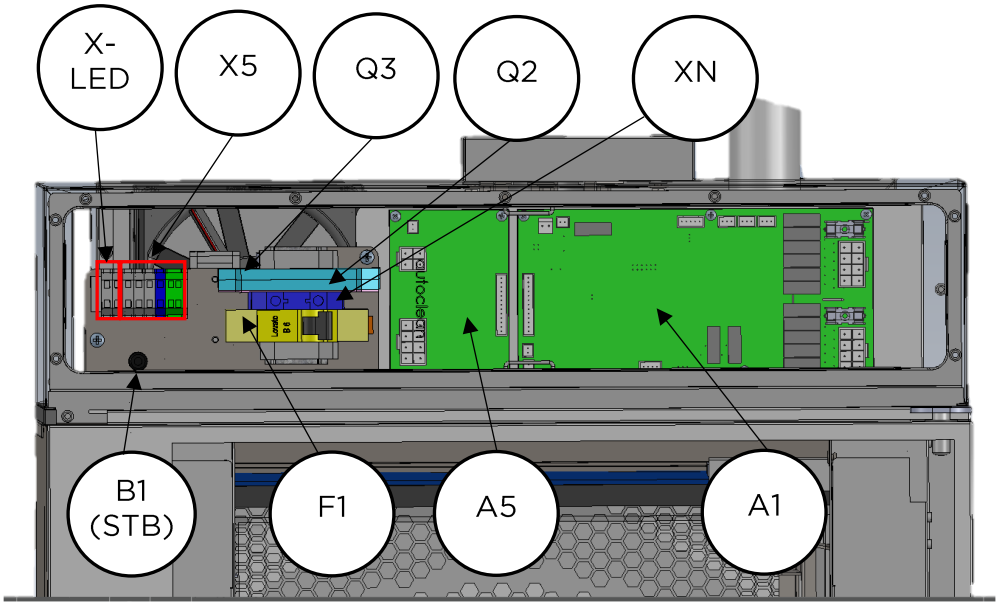


Figure 3: Front view with removed control panel (control above)

X-LED	Connection terminal LED lighting door
X5	Condensation hood connection terminal
Q3	Cooling fan relay
Q2	Relay for LED lighting door
XN	Terminal neutral
B1	Safety temperature limiter
F1	Main fuse

A5	autoclean® board
A1	I/O board

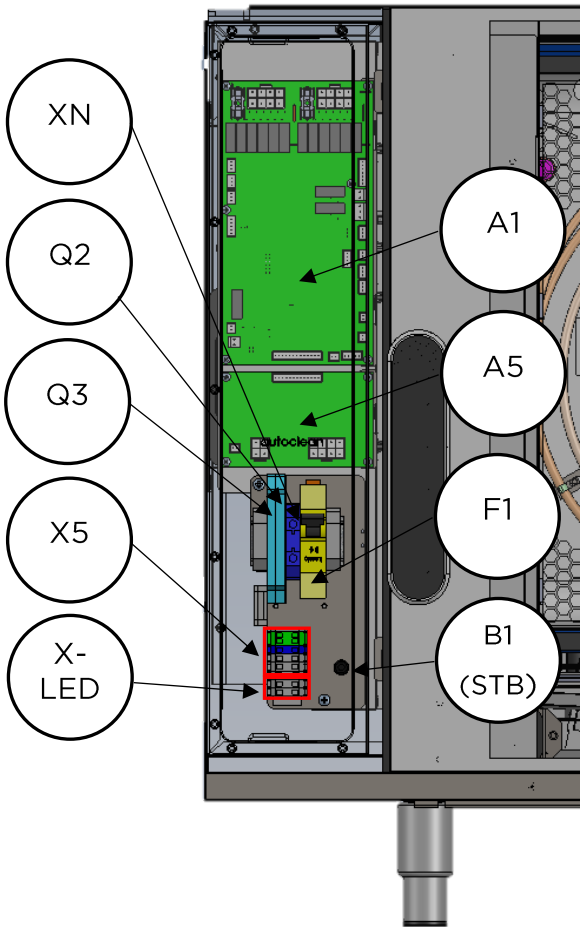


Figure 4: Front view with remote control panel (control on the left)

X-LED	Connection terminal LED lighting door
X5	Condensation hood connection terminal
Q3	Cooling fan relay
Q2	Relay for LED lighting door
XN	Terminal neutral
B1	Safety temperature limiter
F1	Main fuse
A5	autoclean® board
A1	I / O board

3.1.1 I/O board A1 and power optimization A6 (option)

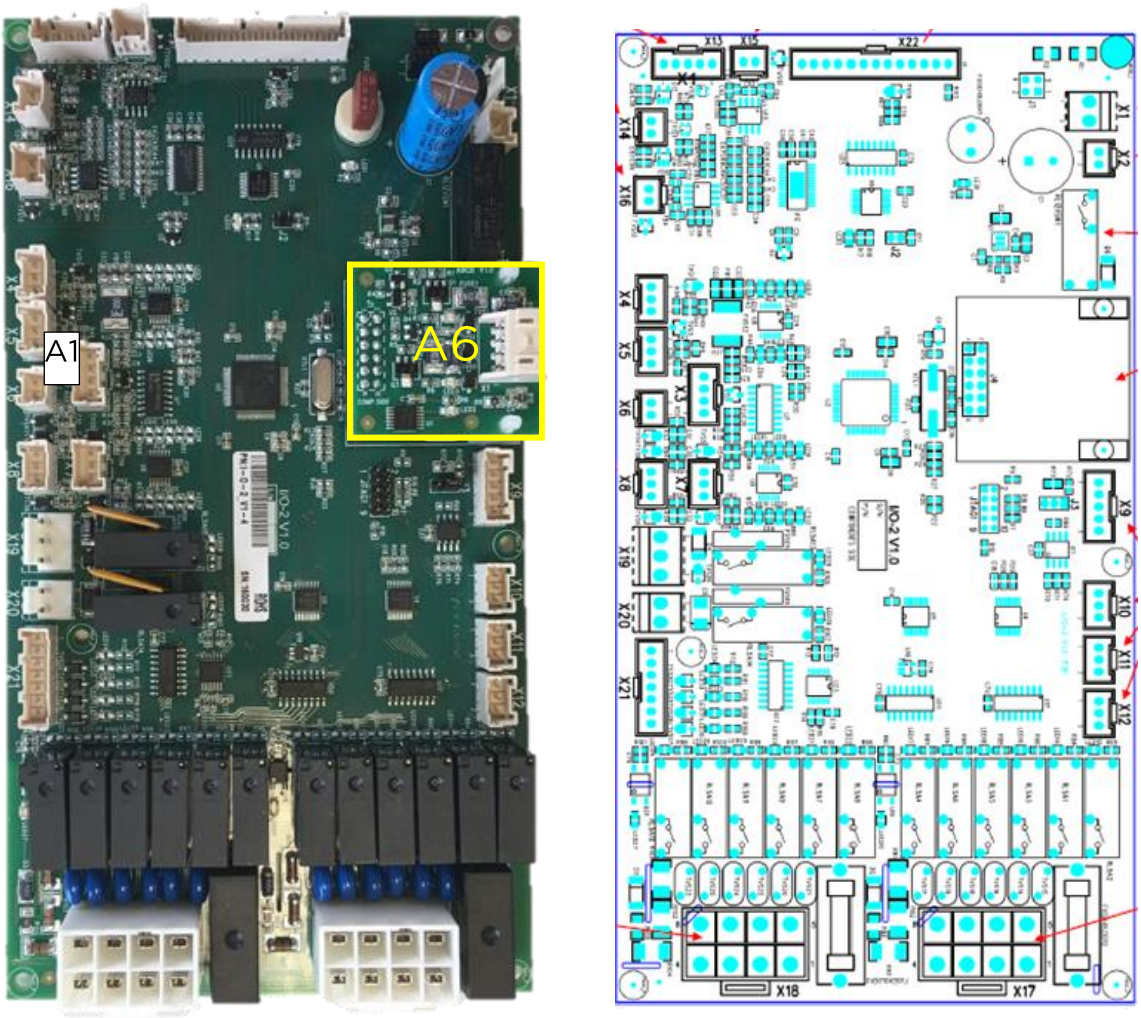


Figure 5: I/O board top view

A1:

connection	assembly / component
X1-1	+12 DC power supply G1
X1-2	neutral
X3	X TC2.1 *(option external meat probe)
X4-1	B5 +12 V DC
X4-2	B5 flow meter 1
X4-3	B5 neutral
X6-1	door contact B5 +12V
X6-2	door contact B5 signal input

X7-1	main contactor Q1 +12 VDC
X7-2	main contactor Q1 input
X7-3	main contactor Q1 input

X17-1	230V AC input
X17-2	relay Q2 chamber lighting
X17-3	condensation hood 1 (option)
X17-4	n.c.
X17-5	Steam discharge solenoid valve Y3
X17-6	Hand shower solenoid valve Y6
X17-7	condensation hood 2 (option)
X17-8	neutral

X18-1	230V AC input
X18-2	relay Q3 for cooling fans M3 and M4
X18-3	n.c.
X18-4	n.c.
X18-5	main contactor Q1
X18-6	solenoid valve Y1
X18-7	n.c
X18-8	neutral

X19-2	12V DC automatic door opener (option)
19-3	ground automatic door opener (option)

X20-1	12V DC air intake flap solenoid L1
X20-2	ground air intake flap solenoid L1

X21-1	+12V DC solid state relay U2 and U3
X21-2	heating circuit 1 / solid state relay input U2
X21-3	heating circuit 2 / solid state relay input U3
X21-4	n.c.
X21-5	n.c.
X21-6	n.c.
X21-7	n.c.

X22-1	+12 DC
X22-2	drainage pump M11
X22-3	rinse aid pump M9
X22-4	circulation pump M10
X22-5	solenoid valve Y3 waste water box
X22-6	cleaner pump M8
X22-7	fuse 1 status
X22-8	autoclean® water input pressure B4
X22-9	signal lamp 1 output
X22-10	signal lamp 2 output
X22-11	output external buzzer
X22-12	ground

X22-13	autoclean option detected input

X13-1	meat probe TC2 return line
X13-2	meat probe TC2 segment 1
X13-3	meat probe TC2 segment 2
X13-4	meat probe TC2 segment 3
X13-5	meat probe TC2 segment 4

X14-1	steam discharge sensor TC3
X14-2	steam discharge sensor + TC3
X15-1	thermocouple chamber TC1
X15-2	thermocouple chamber TC1

X9-1	CPU board A2 RS485 Data+
X9-2	CPU board A2 RS485 Data-
X9-3	ground
X9-4	remote switch + not used
X9-5	remote switch - not used

X10-1	frequency converter T2 RS485 Data+
X10-2	frequency converter T2 RS485 Data-
X10-3	ground

A6 (option):

X1-5	signal A (device on) to QA
X1-6	signal B (heat request) to QB
X1-7	signal A (heating clearance) to QC
X1-8	neutral

fuses of I/O2 board

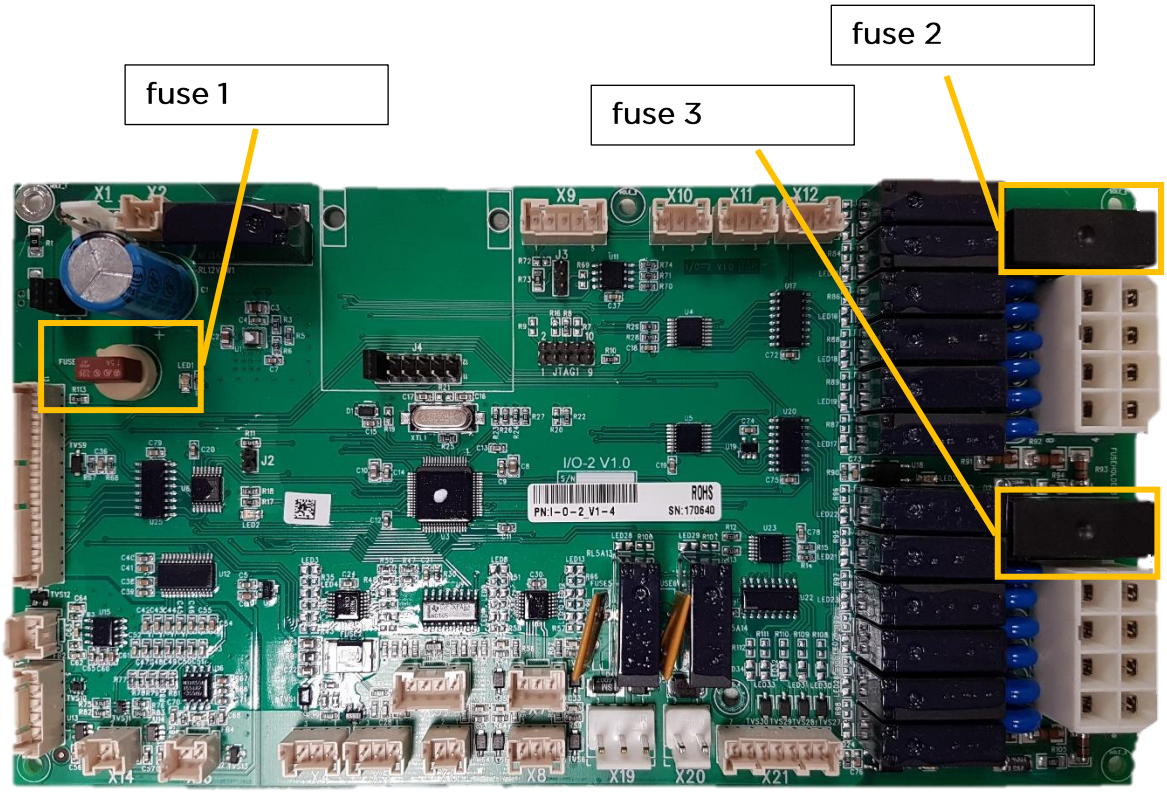


Figure 6: fuses of the I/O board

component	electrical consumer
fuse 1	• fuse holder1 5AT • I/O-board 12V DC input
fuse 2	• fuse holder2 4AT • Q2 relay lighting • Y3 solenoid valve steam dis-charge • Y6 solenoid valve hand shower • X5 condensation hood fast/slow
fuse 3	• fuse holder3 4AT • relay Q3 for cooling fan • Q1 main contactor • Y1 solenoid valve steam

Jumper position I/O board

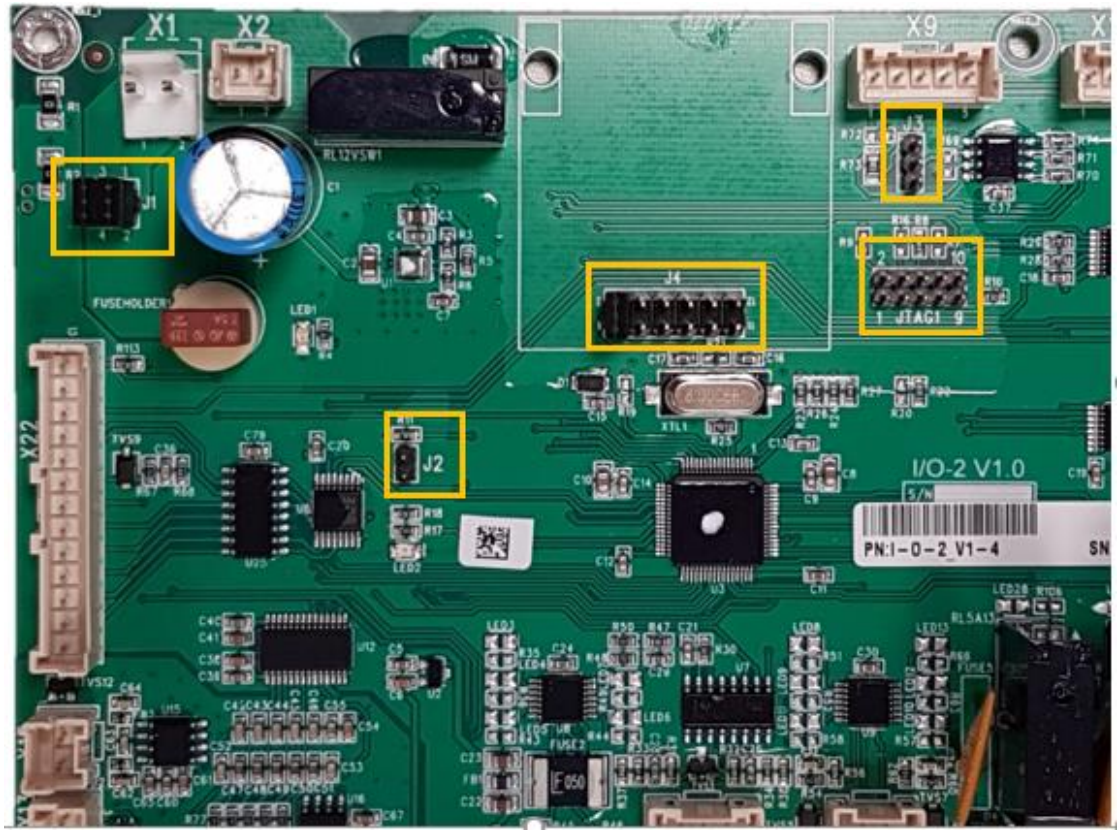


Figure 7: jumper positio I/O board

Jumper position	Jumper set at PIN	description
J1	1-2 3-4	jumper to connect the input voltage to X2 (CPU)
J2	Must not be set	Used for external test of the board
J3	Must not be set	Termination communication bus
J4	1-2	Heating clearance when used without additional board for power optimization
JTAG1	Must not be set	For external programming

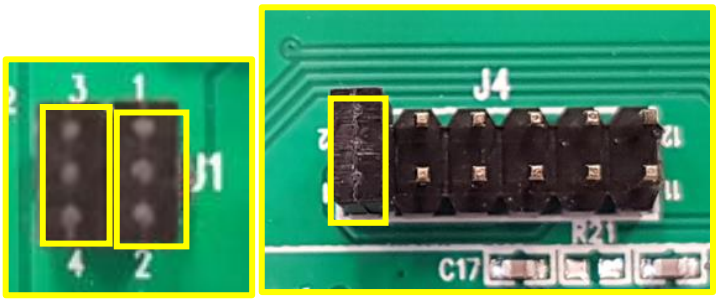


Figure 8: Jumper J1 und J4

LEDs on I/O board

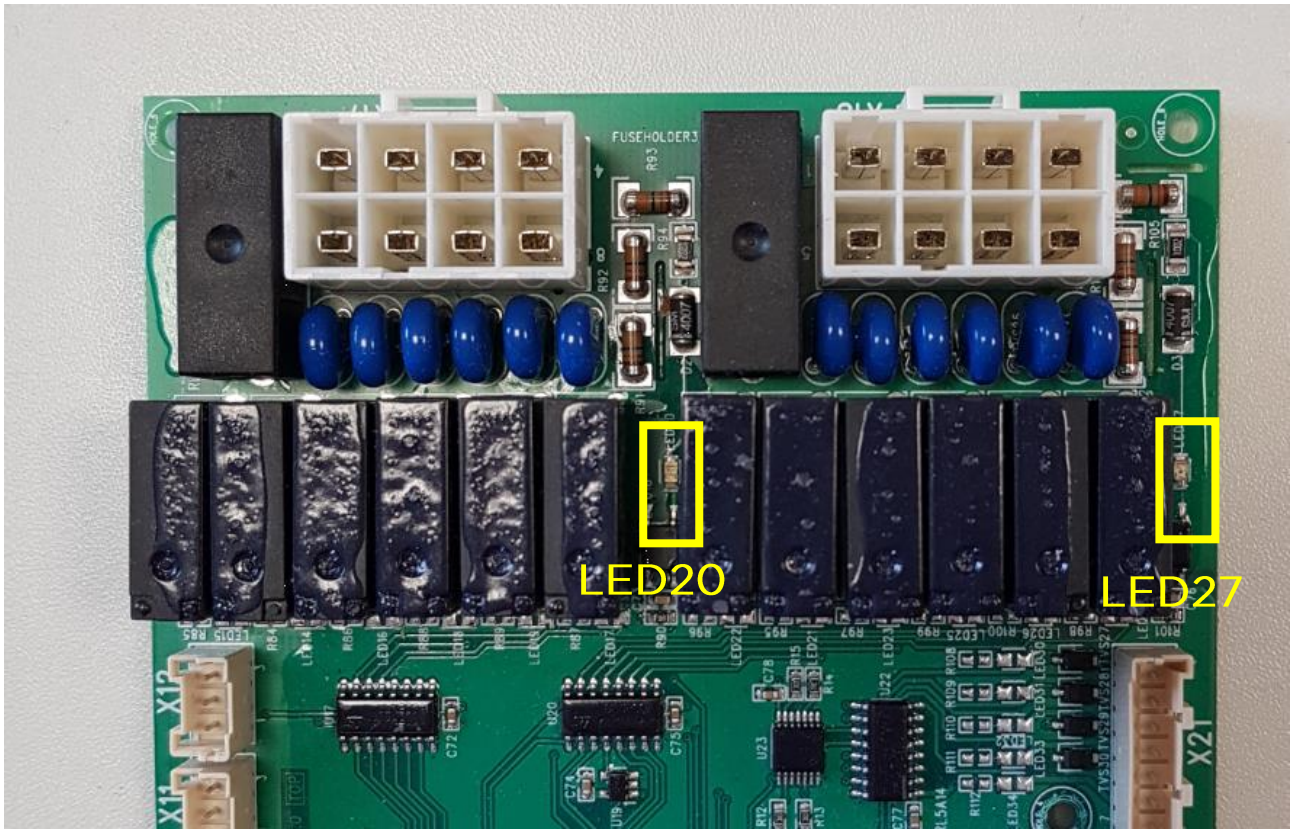
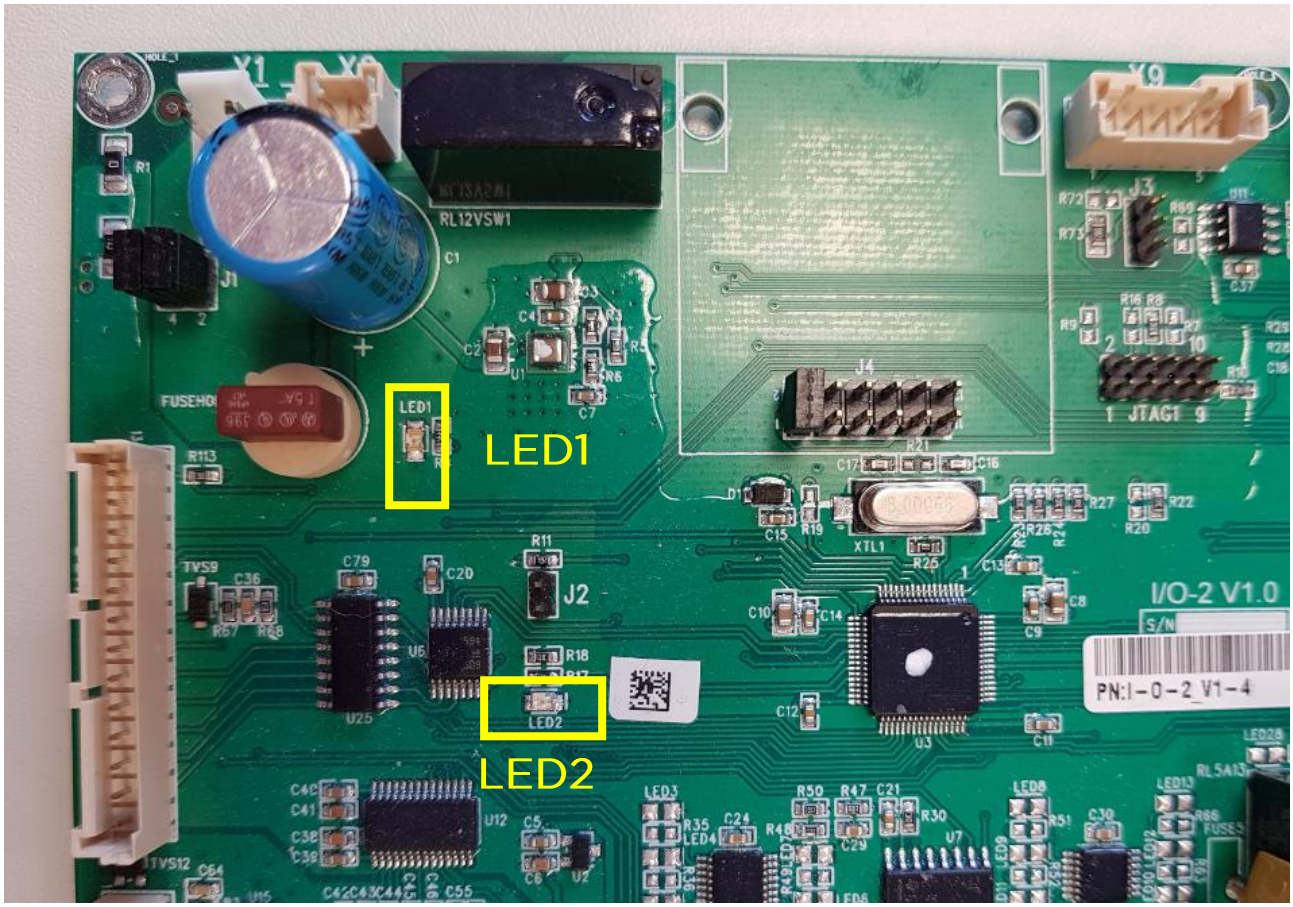


Figure 9: status LEDs on I/O board

LED	status	description
LED20	ON (yellow)	230V input voltage X17/1 available and Fuse2 (FUSEHOLDER2) ok
LED27	ON (yellow)	230V input voltage X18/1 available and Fuse3 (FUSEHOLDER3) ok



LED	status	description
LED1	ON (red)	12 Input voltage present at X1 and fuse1 (Fuseholder1) OK
LED2	blinking (green)	230V input voltage X18/1 available and fuse3 (FUSE-HOLDER3) OK

3.1.2 ABCD-addon board power optimization

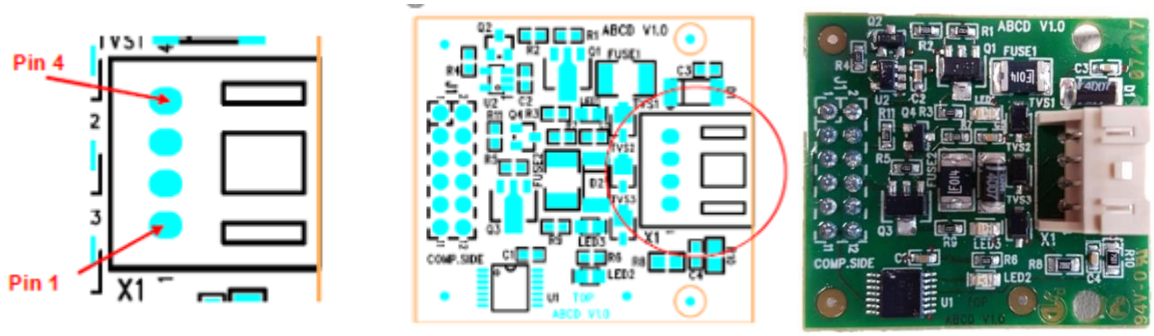


Figure 10: X1 connector and ABCD additional board for power optimization

Connector	description	voltage
X1-1	D-ground	GND
X1-2	C (input)-clearance power optimisation releases heating	12V DC
X1-3	B-(output) heating request	12V DC
X1-4	A-(output) device on Main contactor switched on	12V DC

The I/O2 board can only communicate with the power optimization if the ABCD add-on board is plugged into slot J4.

If the I/O2 board outputs the A signal, it means that the unit has been switched on.

If signal B is switched by the I/O2 board, the device requires the release for heating.

External energy optimization enables heating via connection C. This depends on the overall performance of the kitchen and the appliances controlled at this time on the energy optimization and on the individual programming of the system.

3.1.3 autoclean® and signal tower board

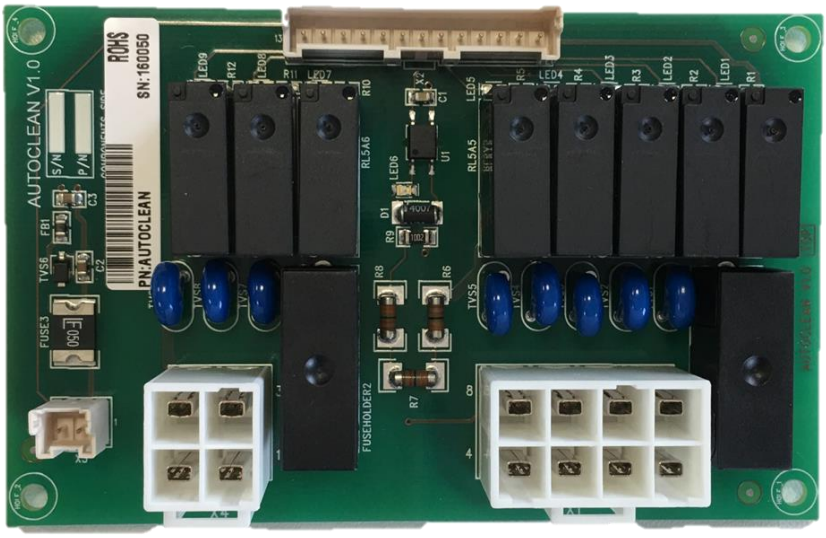


Figure 11: autoclean board

The autoclean® board is connected to the I/O2 board with a 1 to 1 cable connection between terminal X2 (autoclean® board) and terminal X22 (I/O board).

This board controls the actuators for autoclean® as well as a light tower, with which the status of the oven in a (large) kitchen can be visually displayed.

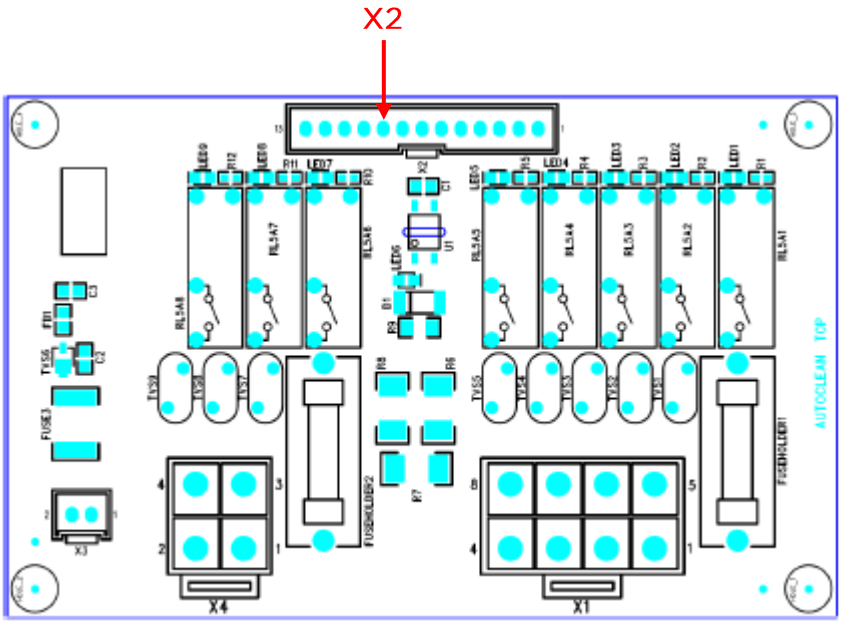


Figure 12: layout of the autoclean® board

X2 is the 13-pin communication connection to interface X22 of the I/O board

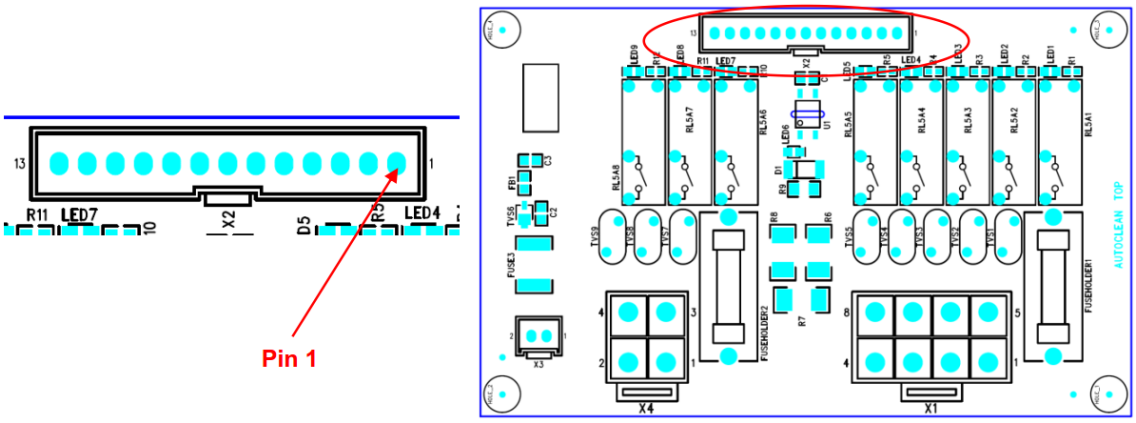


Figure 13: X2 Communication connection of the autoclean® board

Connector	Description
X2-1	+12 DC
X2-2	Drainage pump M11
X2-3	Rinse aid pump M9
X2-4	Circulation pump M10
X2-5	Solenoid valve Y3 waste water box
X2-6	Cleaner Pump M8
X2-7	Fuse 1 status
X2-8	autoclean® water pressure input B4
X2-9	Signal light 1 Output
X2-10	Signal light 2 Output
X2-11	Output of external signal generator
X2-12	neutral
X2-13	autoclean® option detected input

The plug X1 enables the connection of up to five 230V AC consumers. These are switched by 5A relays. The relays can manage the optional autoclean® functions.

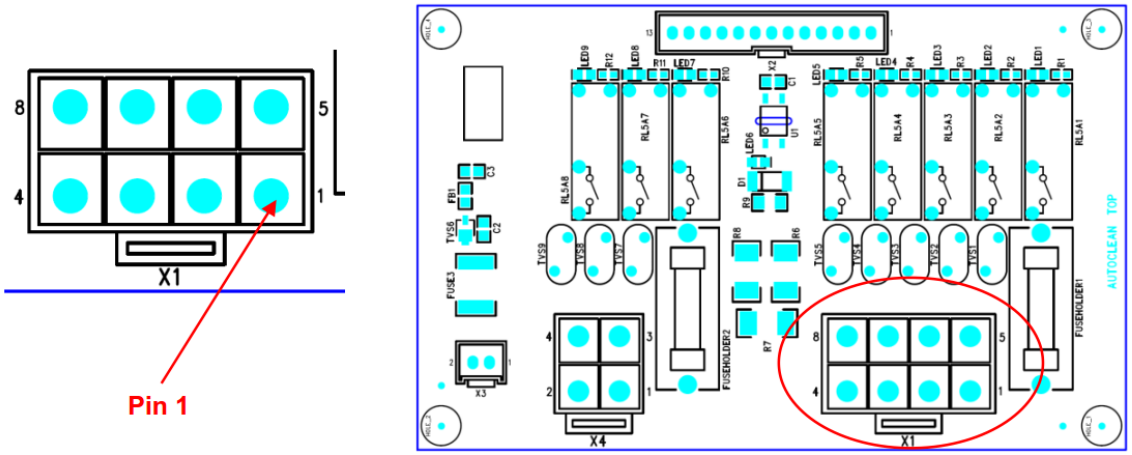


Figure 14: X1 autoclean® connection

Connector	Component/ description
X1-1	230V AC phase
X1-2	M8 cleaning pump
X1-3	Y3 valve autoclean®
X1-4	Not used
X1-5	M11 drain pump
X1-6	M9 rinse aid pump
X1-7	M10 circulation pump
X1-8	230V AC neutral

The plug contact X4 enables the connection of up to three 230VAC consumers. These are switched by 5A relays. These relays can manage the optional light tower functions.

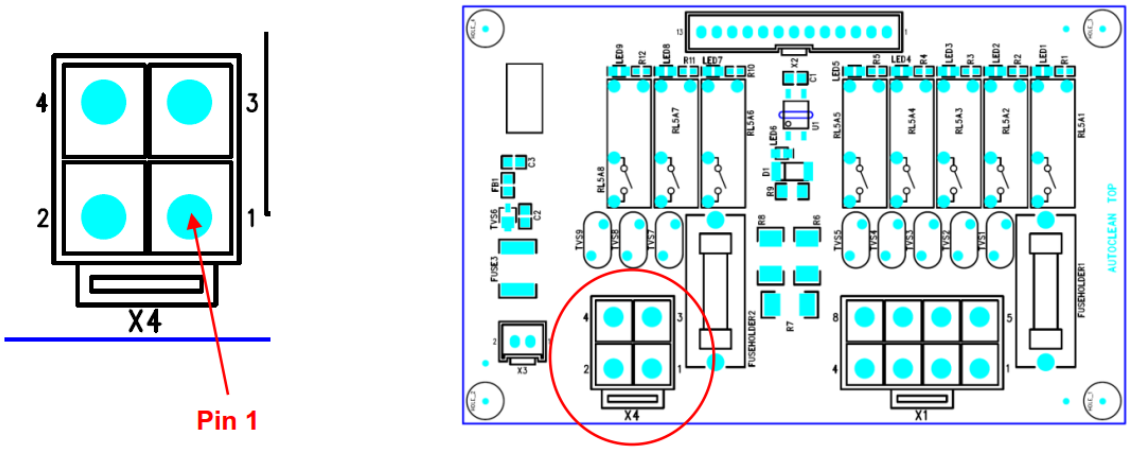


*Abbildung 1: **X4** Anschluss Lichtturm*

Connector	Component/ description
X4-1	230V AC
X4-2	Signal lamp 2
X4-3	Signal lamp 1
X4-4	Signal lamp 3 or buzzer

Plug contact X3 is located on the optional autoclean® board. It is used to detect the water (hard water) pressure.

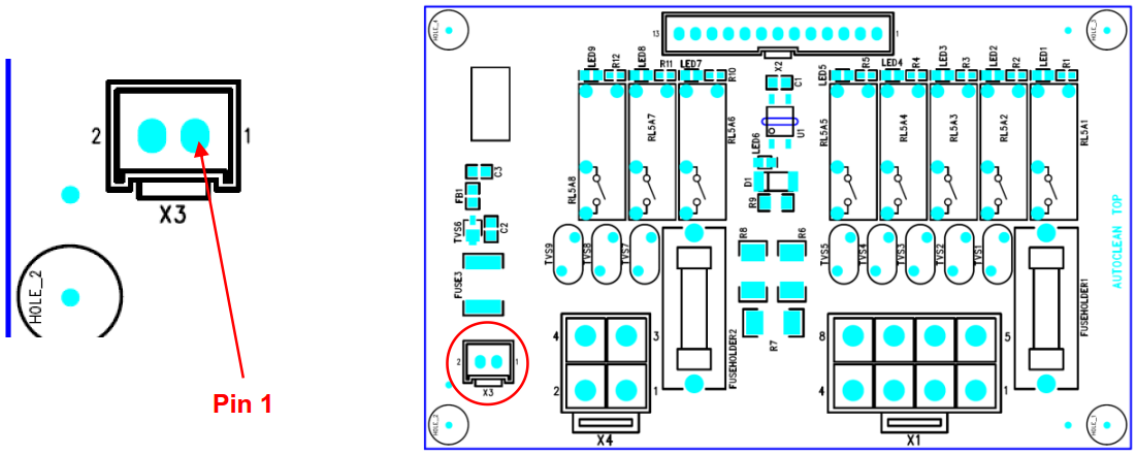


Figure 15: X3 Connection for pressure switch hard water

Connector	Component/ description
X3-1	+12V DC
X3-2	B4 water pressure input

The LED6 lights up when 230V is connected to the X1/PIN1 port and the fuse is OK on FUSE-HOLDER1.

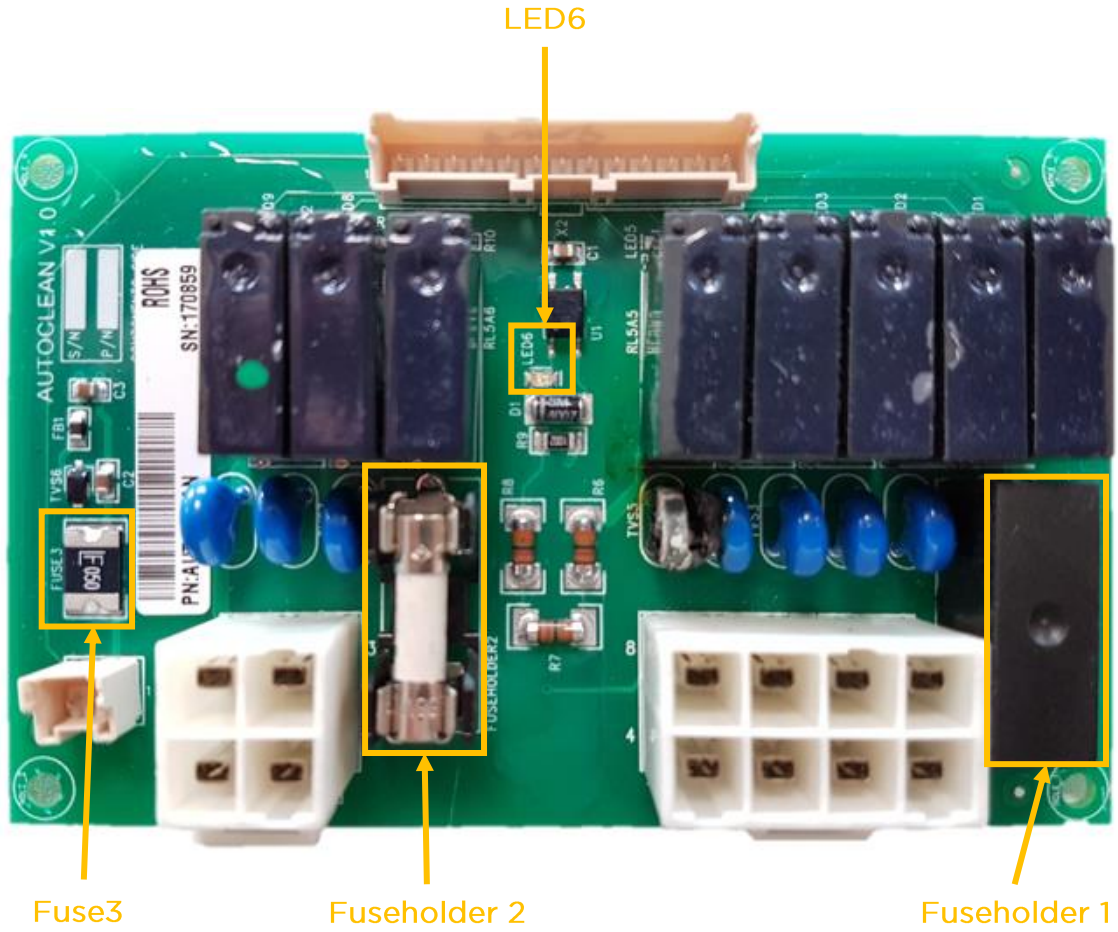


Abbildung 2: Sicherungen autoclean®-Platine

componentl	fuse	connec-tor	Component/ description
FUSEHOLDER1	• 4A	• X1	• Y5 autoclean®-soft water sol-enoid • M9 Pump rinse aid • Y4 autoclean®-hard water sol-enoid • M6 autoclean®-motor • M8 Pump cleaner
FUSEHOLDER2	• 4A	• X2	• External light tower • External horn
Fuse 3	• 500mA	• X3	• Polyfuse – Self-resetting fuse • B4 Pressure switch

3.2 Assemblies on electric sheet

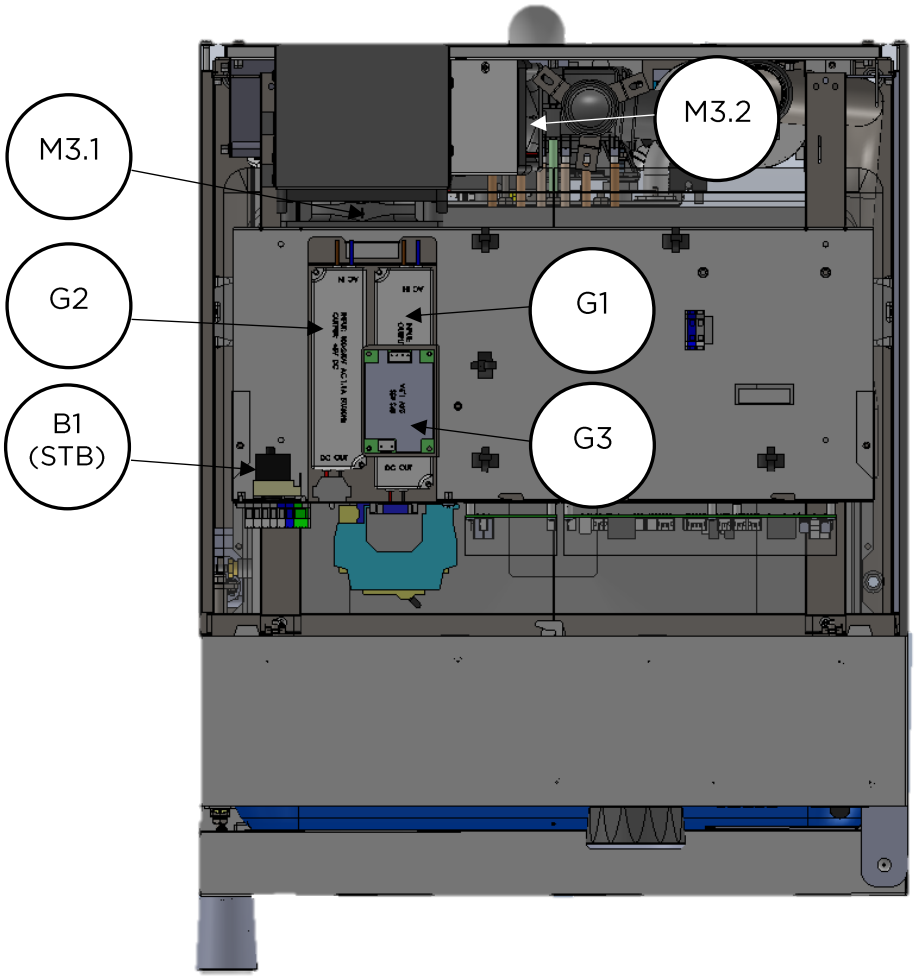


Figure 16: electric sheet /view from top

B1	Safety temperature limiter
G1	Power supply 12V DC I/O board
G2	Power supply 5V DC CPU board
G3	Power supply 24V DC for LED lighting door
M3.1	Cooling fan 1
M3.2	Cooling fan 2

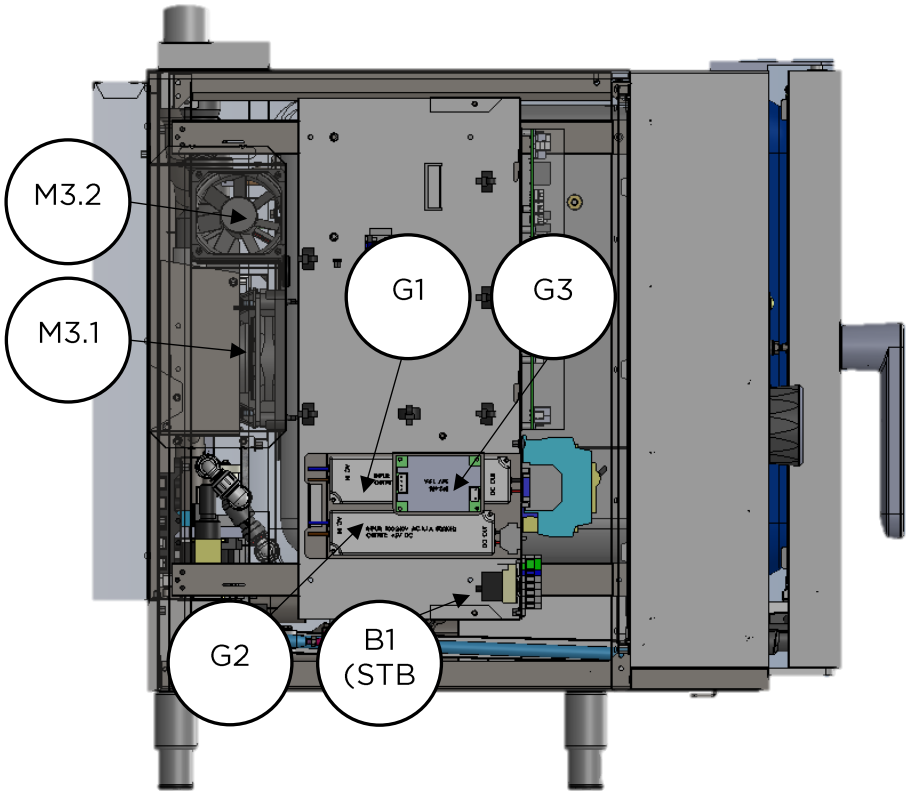


Figure 17: electric sheet (control left side)

B1	Safety temperature limiter
G1	Power supply 12V DC I/O board
G2	Power supply 5V DC CPU board
G3	Power supply 24V DC for LED lighting door
M3.1	Cooling fan 1
M3.2	Cooling fan 2

3.3 Assemblies Device Back

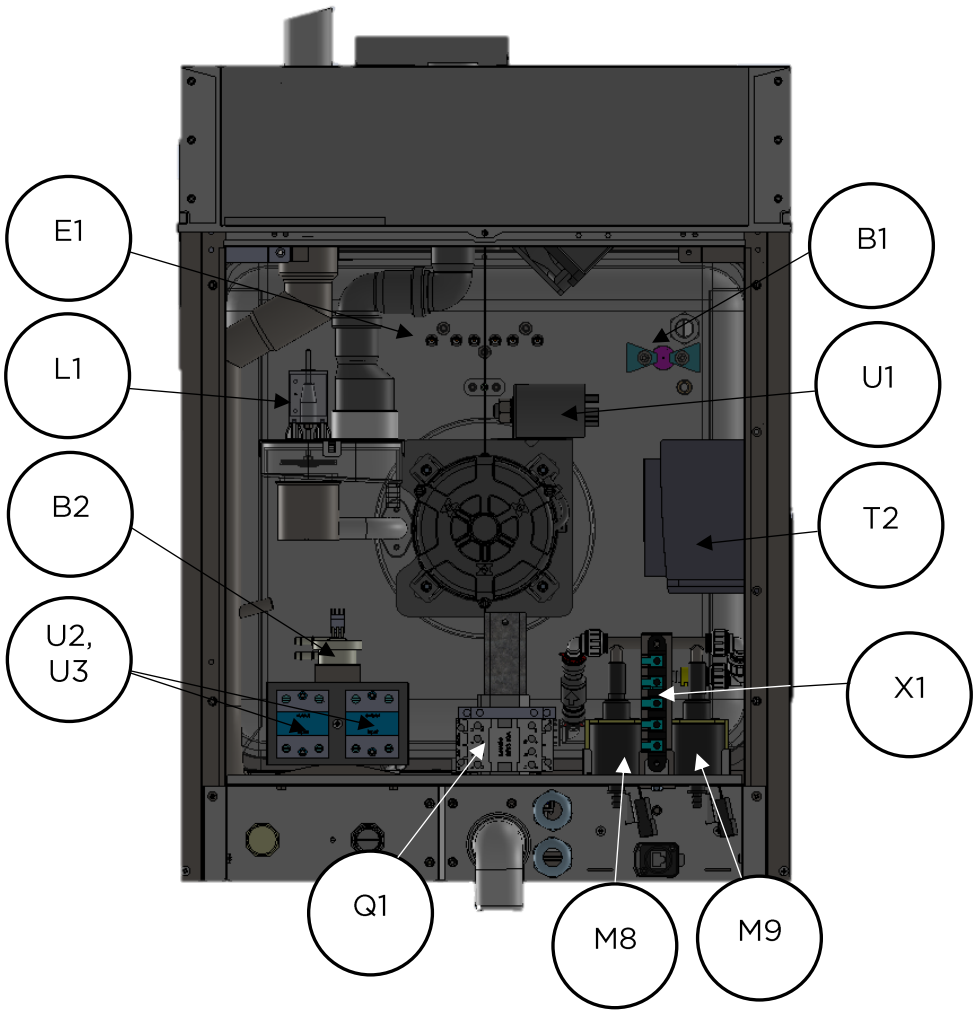


Figure 18: view from backside

U2, U3	Power semiconductor SSRs
B2	Flow meter
L1	Lifting magnet supply air flap
E1	Heating
B1	Safety temperature limiter
U1	Line filter
T2	Frequeny converter fan motor
X1	Mains input terminal
M8	Piston pump cleaner

M9	Piston pump rinse aid
Q1	Main contactor

3.4 Assemblies Device Bottom

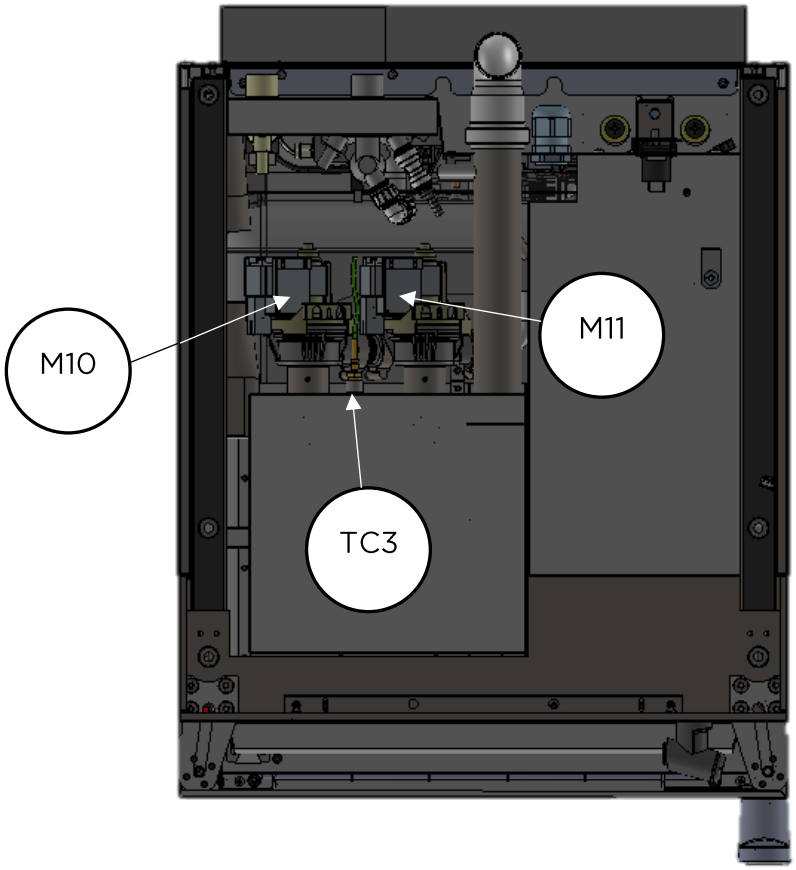


Figure 19: bottom view

M10	Circulation pump
M11	Drain pump
TC3	Temperature sensor

3.5 Control Panel (control)

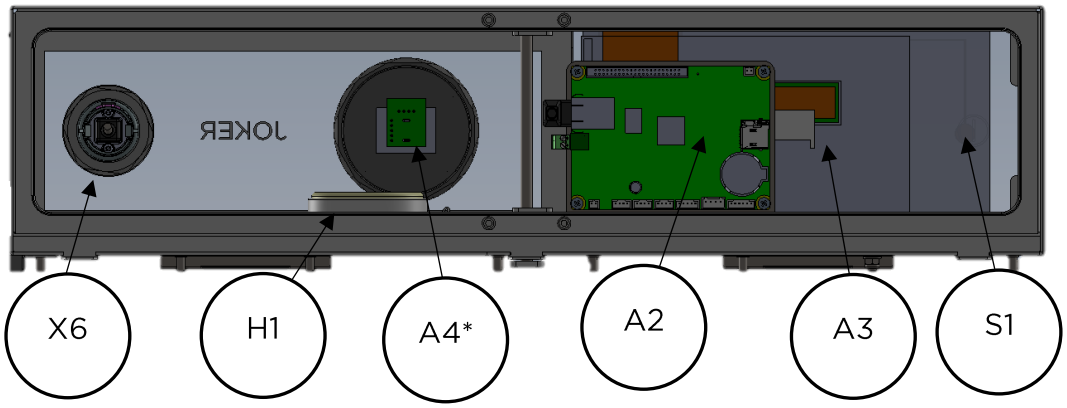


Figure 20: back view control module

*only ST control

Assembly	Connection
H1 Loudspeaker	A2 SPKR1
S1 ON/OFF Switch	A2 ON-OFF1
A4 Encoder (only ST control)	A2 ENCODER 1
X6 Front USB	A2 USB1
Touch	A2 USB2
Display A3	LCD1 7“

3.5.1 CPU Board A2

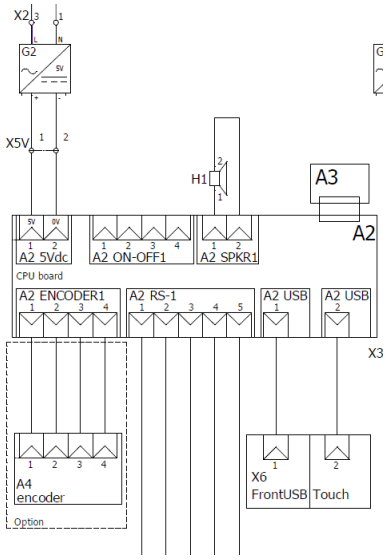


Figure 21: pin assignment CPU

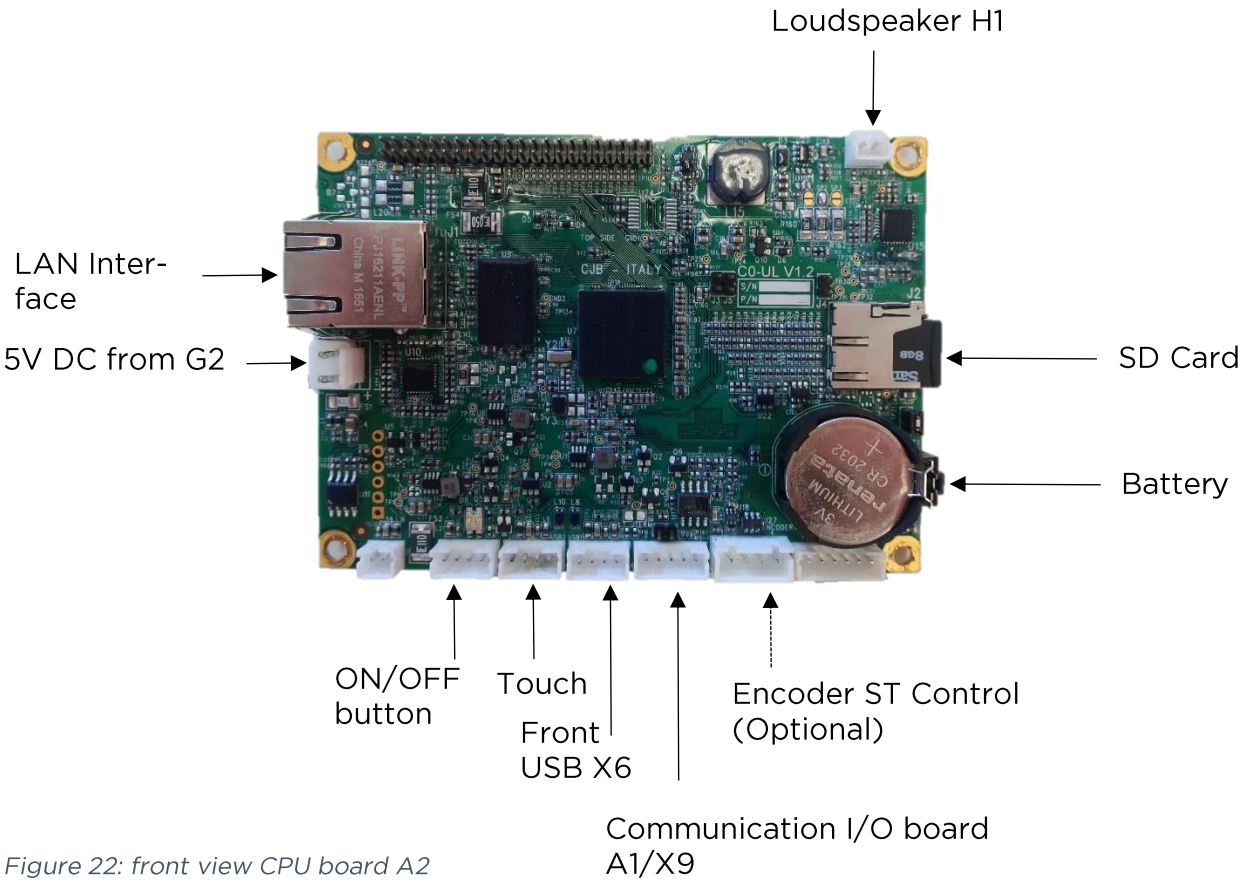


Figure 22: front view CPU board A2

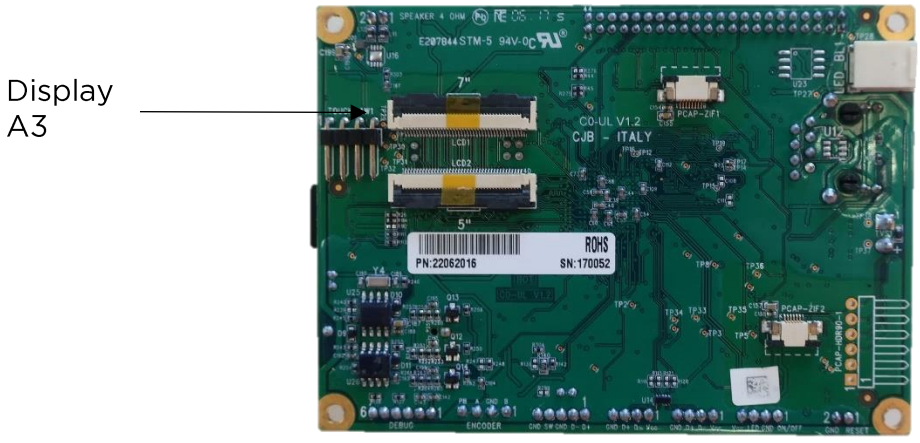


Figure 23: rear view CPU board A2

jumper positions CPU board

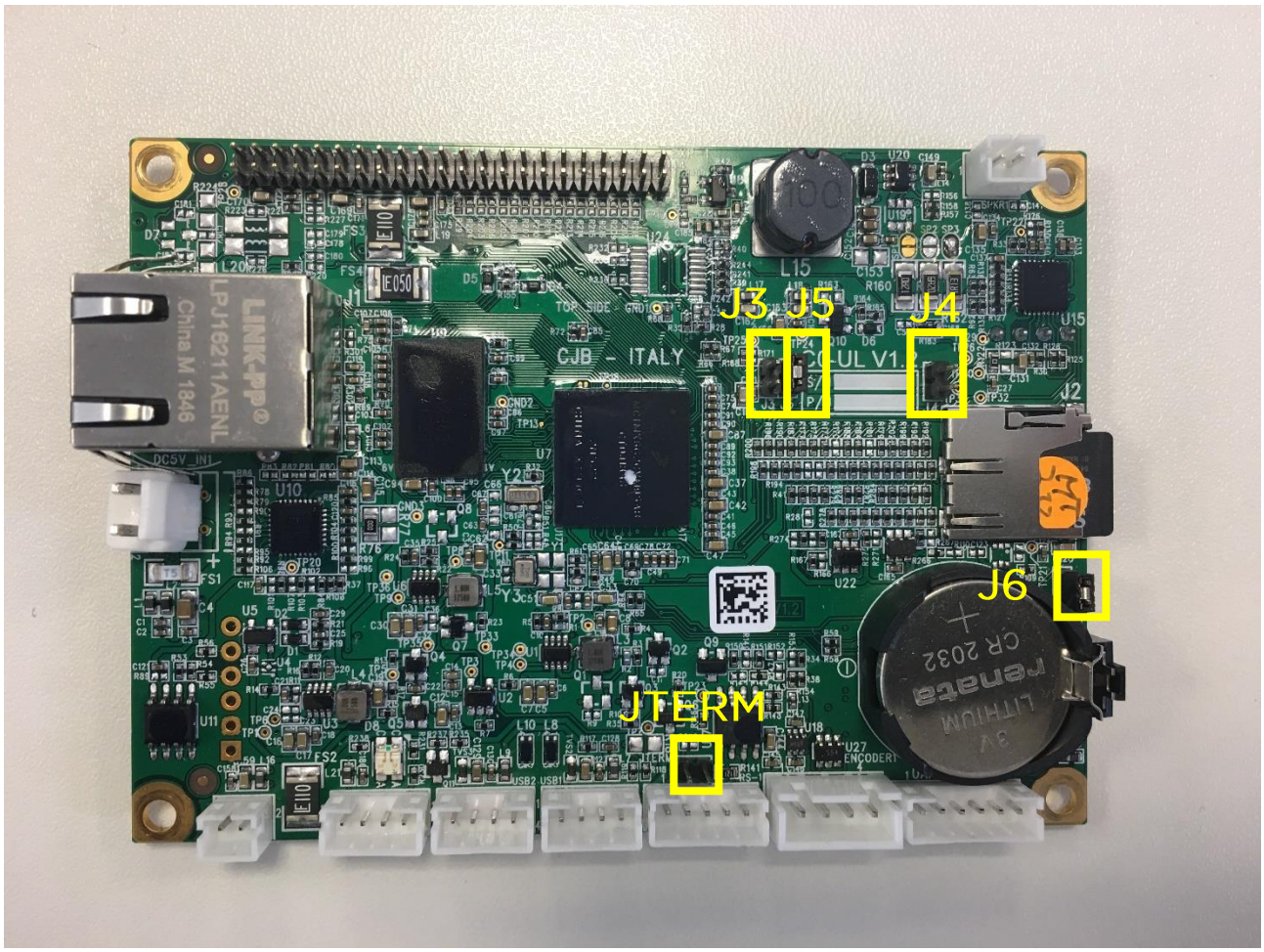


Figure 24: jumper CPU board

jumper-position	status	description
JTERM	open	Termination MODBUs
J3	open	set up display type
J4	open	set up display type
J5	closed	set up display type
J6	closed	battery activated

LEDs on CPU board

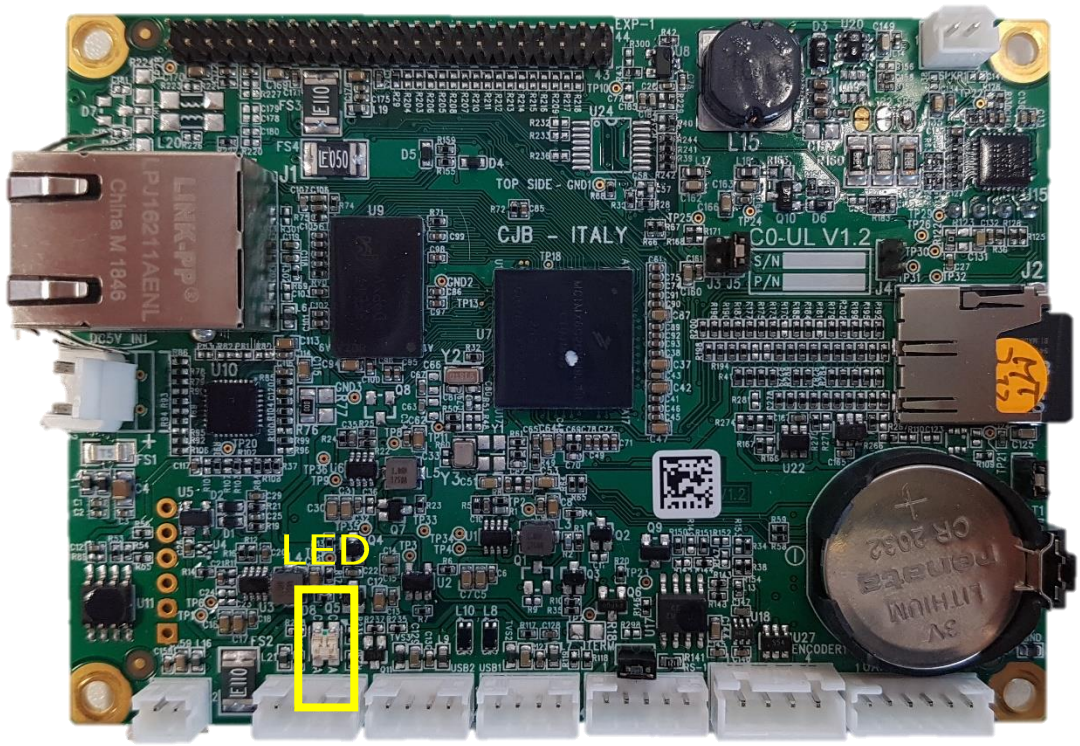


Figure 25: status LED CPU board

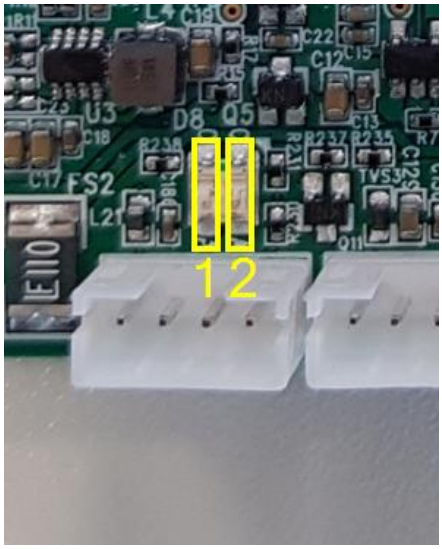


Figure 26: status LED1 and LED2

LED	status	description
LED1	ON (yellow)	device in standy
LED2	OFF/ON (yellow)	OFF = device in Standy ON = device in operation

4 Hydraulic system

4.1 Valve assembly

On the back of the device there is the soft water and hard water connection. At the soft water connection is the solenoid valve for steam generation (Y1). The hard water connection contains the solenoid valve for extinguishing the vapor(Y3), which is also used for filling the waste water container (4.2Wastewater box box) and the solenoid valve (Y6) for the hand shower with autoclean® PRO (optional). The pressure switch (B4) indicates a sufficient connection pressure for the use of autoclean® PRO.

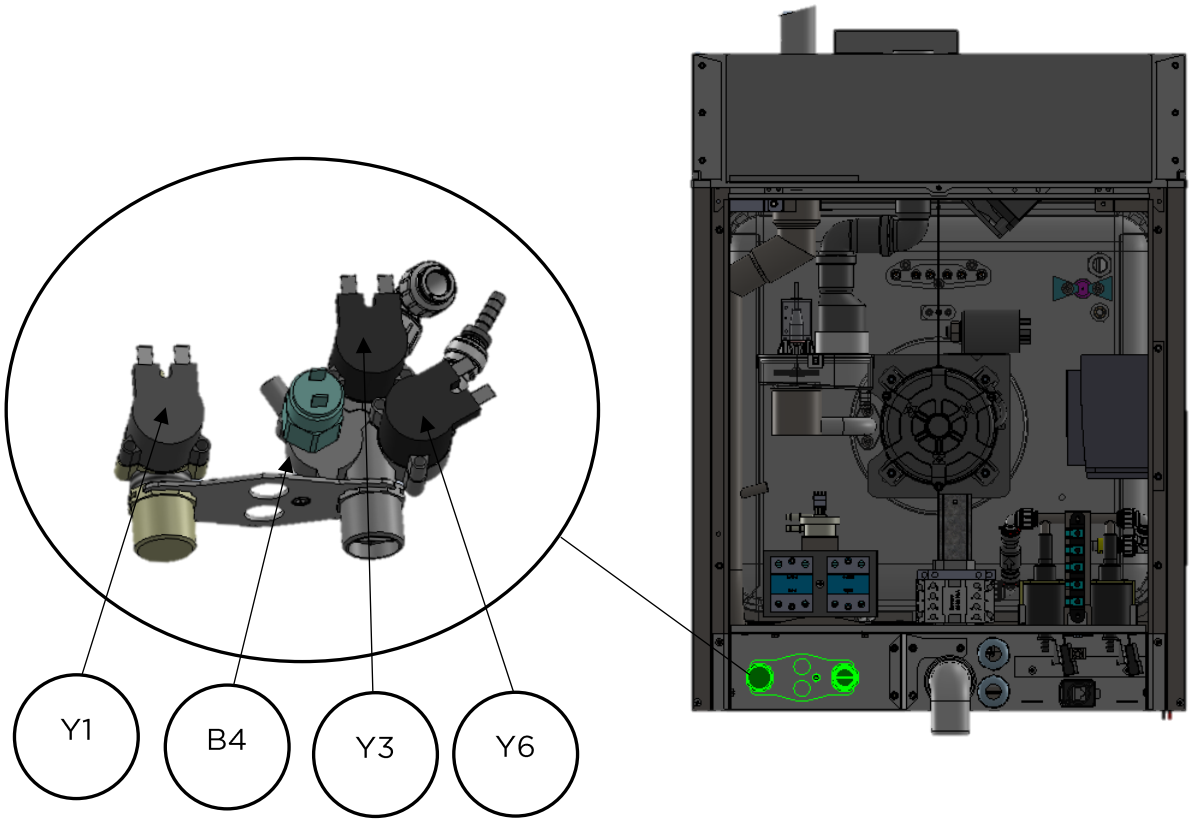


Figure 27: valve group

Y1	Solenoid valve steam
B4	Water pressure switch hard water entry
Y3	Solenoid valve cooling steam / autoclean® PRO
Y6	Solenoid valve hand shower

4.2 Wastewater box

The sewage box under the cooking chamber is used as a cooking chamber drain (1) with integrated smell closure, as well as with the autoclean® PRO option as a soapy water container for the circulation system. The circulation pump (M10) causes the detergent solution to be circulating in the cooking room, while the emptying pump (M11) pumps the dirty detergent solution several times during the cleaning process to the connection at the drain (5) and to empty the waste water container at the end of the cleaning. The exhaust air generated during cooking and cleaning is discharged via a separate connection (2) to the device cover and thus outwards. The temperature sensor (TC3) in the wastewater tank is connected to the I/O board. Depending on the set parameters, this regulates the cooling of the waste water.

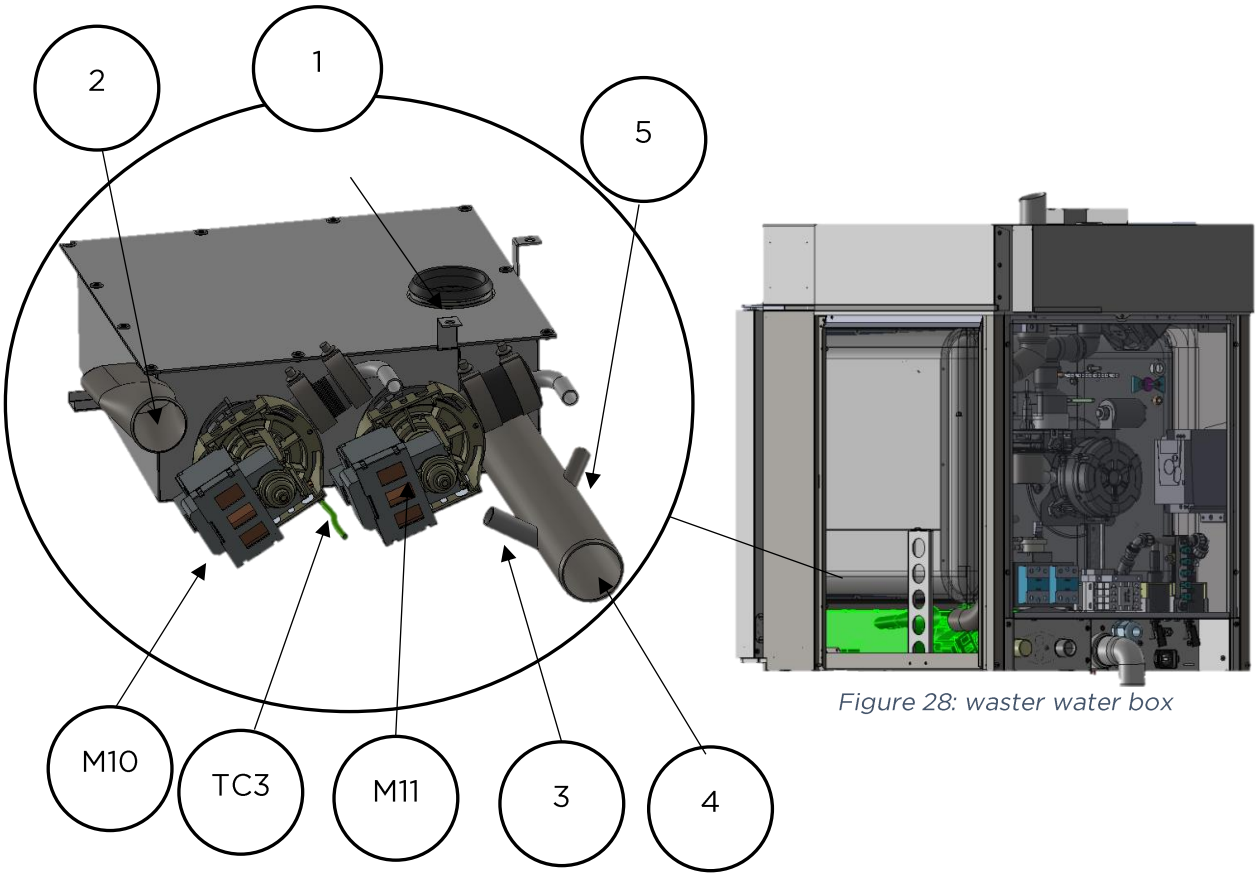


Figure 28: waster water box

1	Wastewater connetion cooking chamber
2	Exhaust
3	Connection drip finne/condensate draine

4	Drain
5	Connection drain pump
TC3	Sensor wasre water temperature
M10	Circulation pump
M11	Drain pump

4.3 Autoclean® assembly pumps

The dosing pumps are connected to the corresponding canisters via the pump connections for cleaners (1) and rinse aids (2). Depending on the cleaning program and cleaning stage, a fully automatic dosing of the cleaning agents takes place.

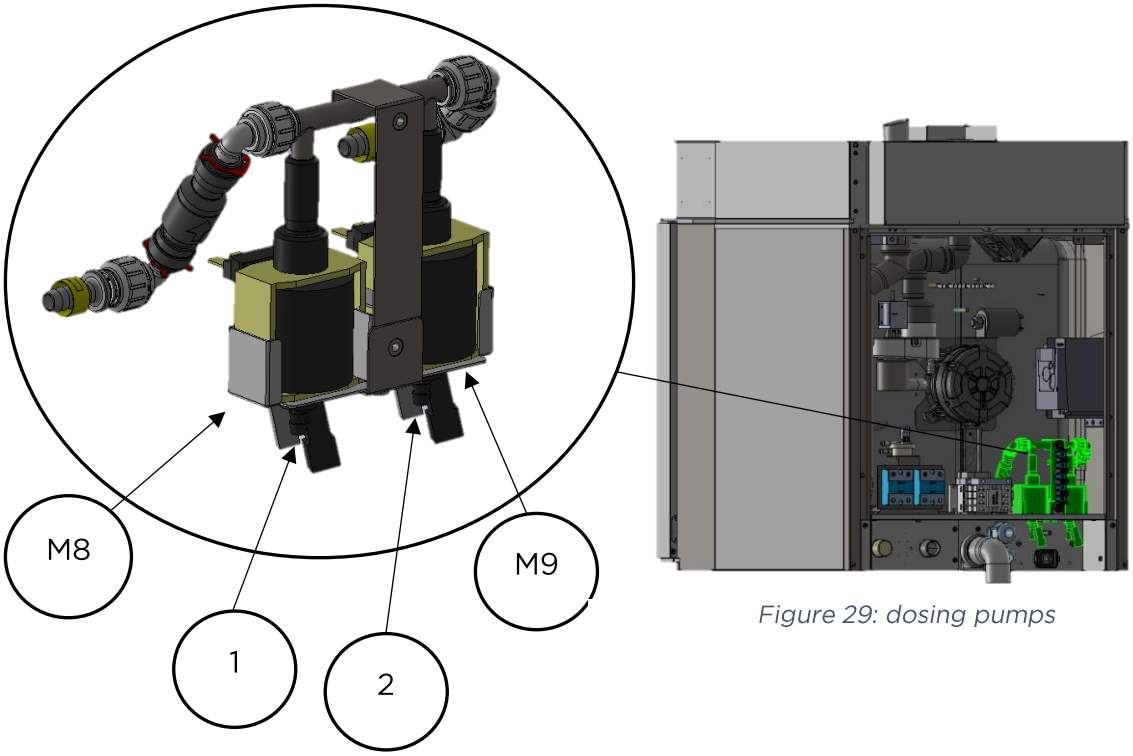


Figure 29: dosing pumps

4.4 Air intake valve

The air intake valve is controlled by a solenoid (L1). It is used to dehumidify the cooking chamber and to reduce the amount of steam escaping when the cooking chamber door is opened at the end of the program when the SPS® (steam protection system) is activated.

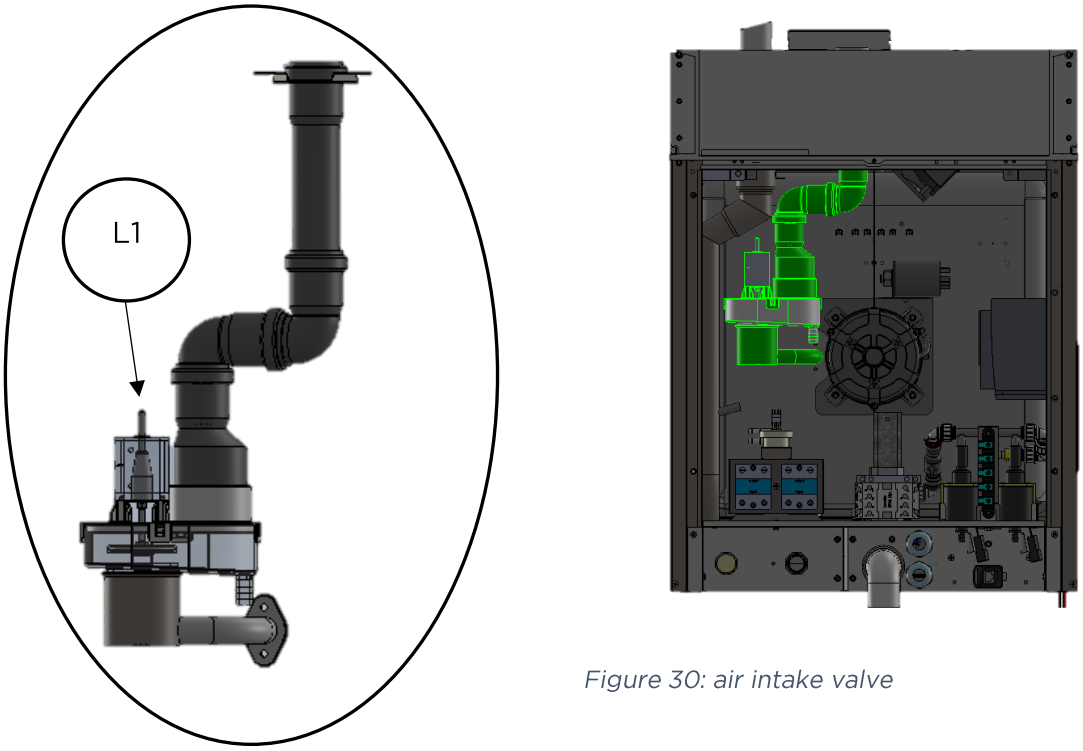


Figure 30: air intake valve

L1	solenoid air intake valve

4.5 Exhaust

The exhaust air pipe (1) is connected to the waste water box (3). Steam can escape to the outside through an opening in the top cover. If necessary, cold water is fed into the waste water box via the hose connection for steam discharge (2) in order to cool down the waste water.

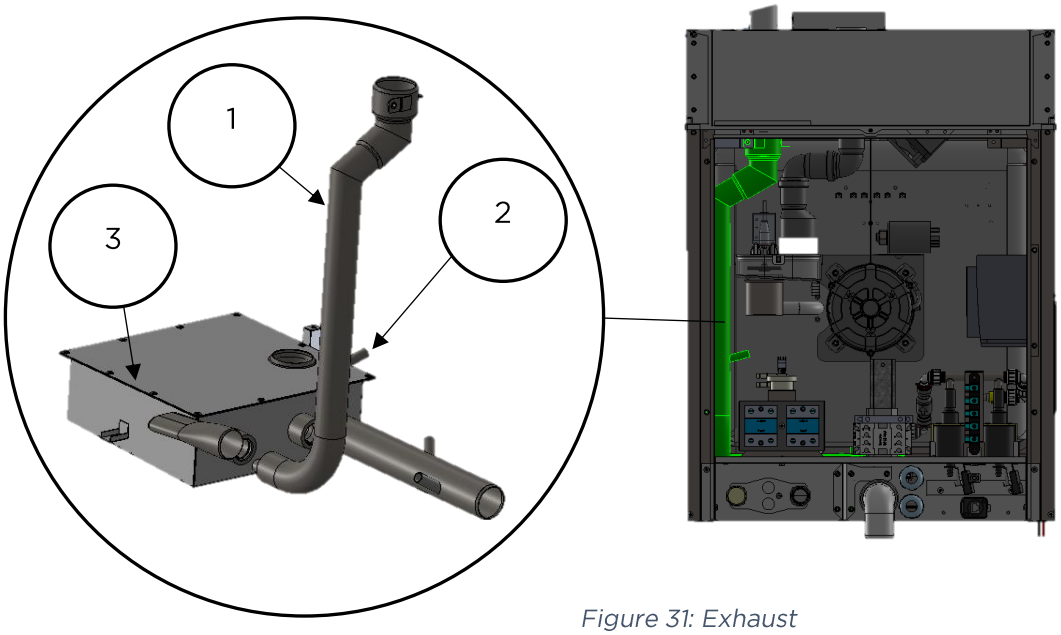


Figure 31: Exhaust

1	Exhaust pipe
2	Hose connection steam discharge
3	Waste water box

5 Exchange of modules

5.1 Removing the control unit (on the side)

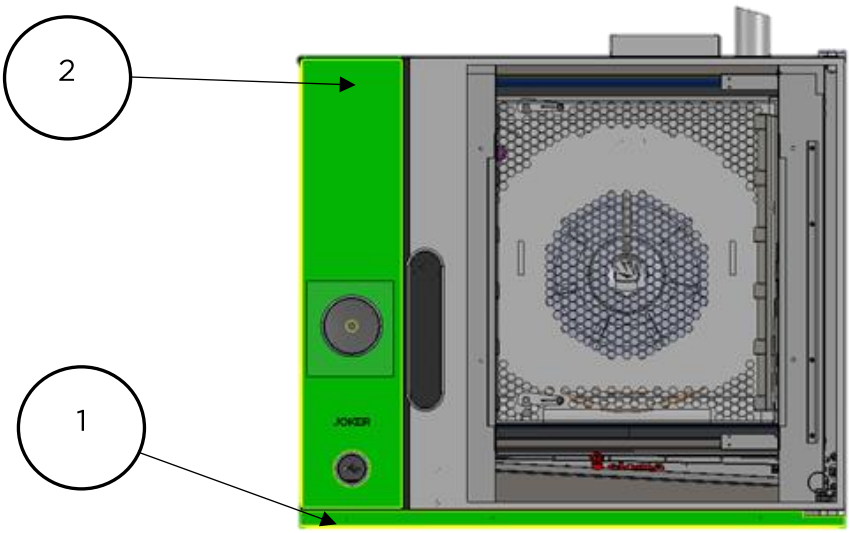


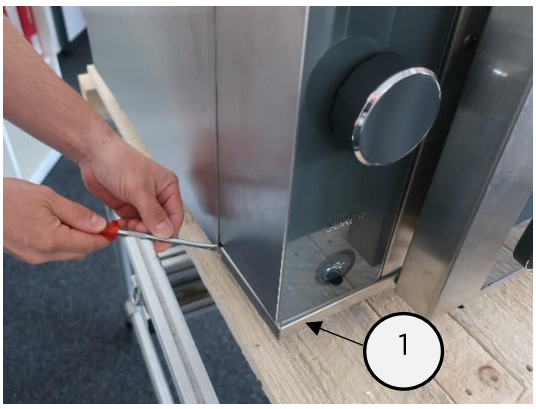
Figure 32: control unit on the side

1	Control unit
2	Front strip

1. Required tools
   - slotted screwdriver 5mm
   - Phillips screwdriver size PH2

2. Steps

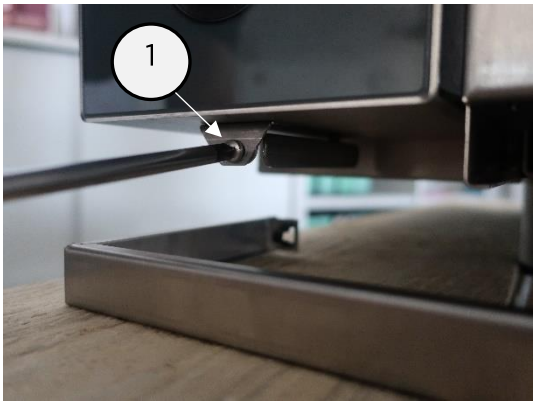
Disconnect the device from the mains before starting work!



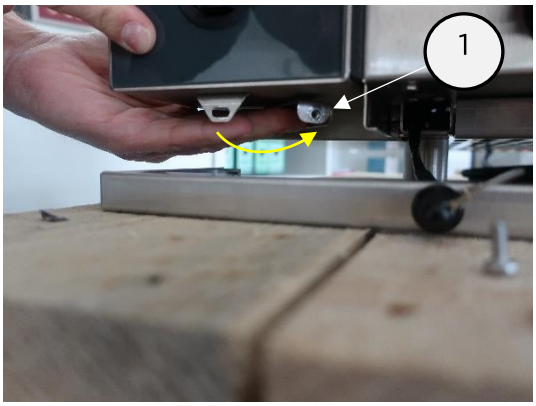
1. carefully remove the front strip (1) from the housing with a slotted screwdriver

2. carefully remove the front strip from the left fastening

3. Carefully remove the front strip from the right fastening



4. Remove the locking screw (1)



5. Slide the locking lever (1) to the right to release the cover from the housing

6. Carefully remove the control panel (1) from the device and disconnect all cable connections

5.2 Remove control panel (top)

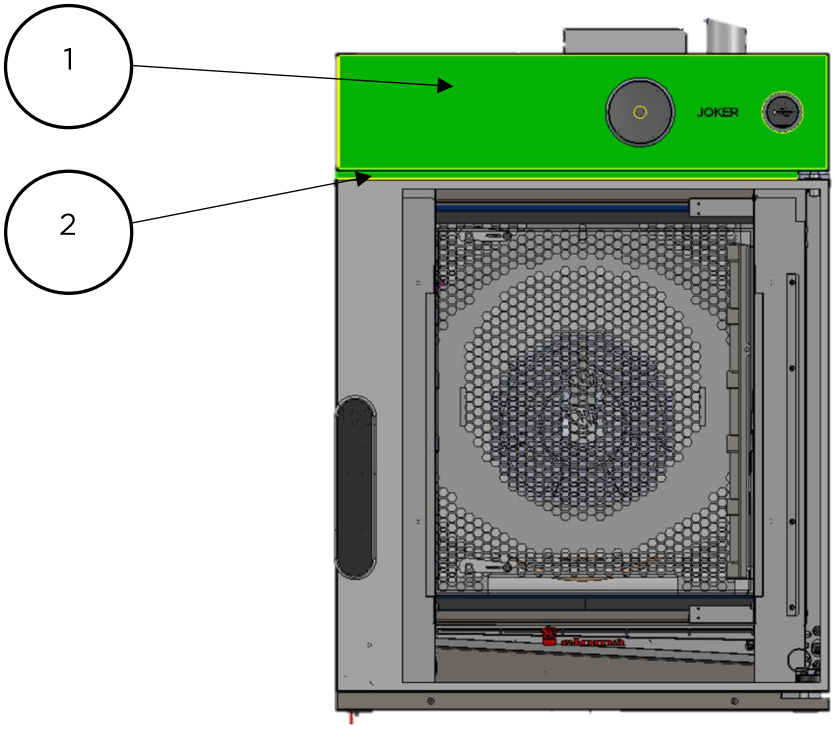


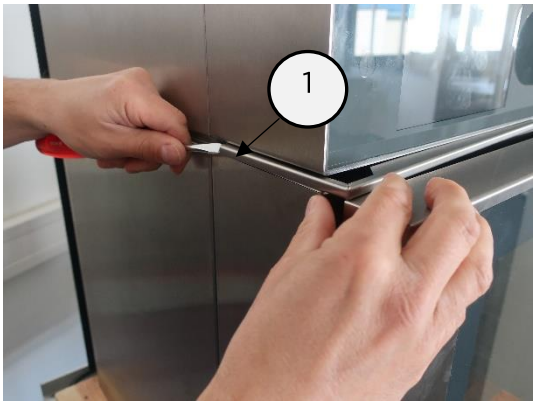
Figure 33: control panel top

1	Control panel
2	Front panel

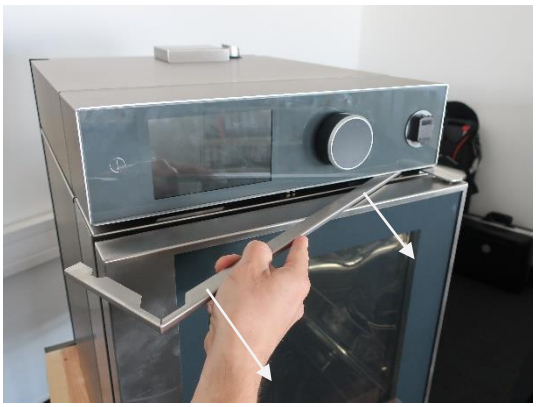
1. Required tools
   - slotted screwdriver 5mm
   - Open-end spanner size 19

2. steps

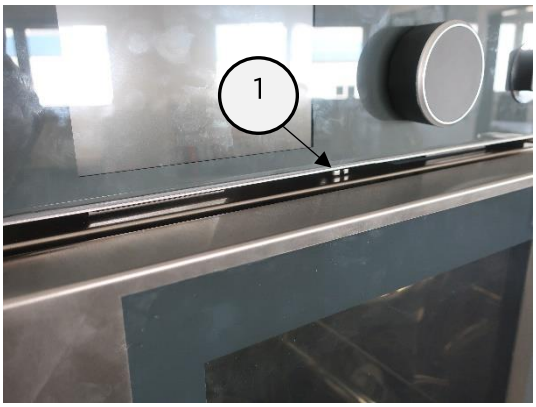
Disconnect the device from the mains before starting work!



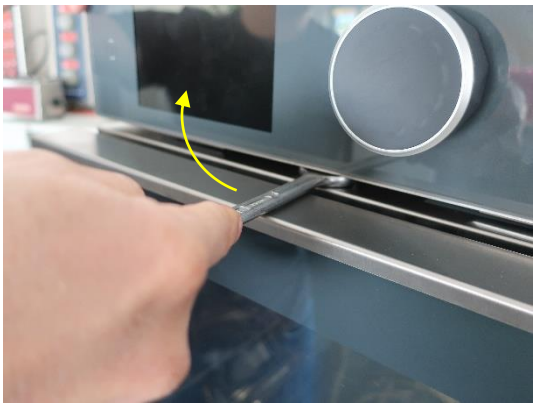
1. carefully remove the front strip (1) from the housing with a slotted screw-driver



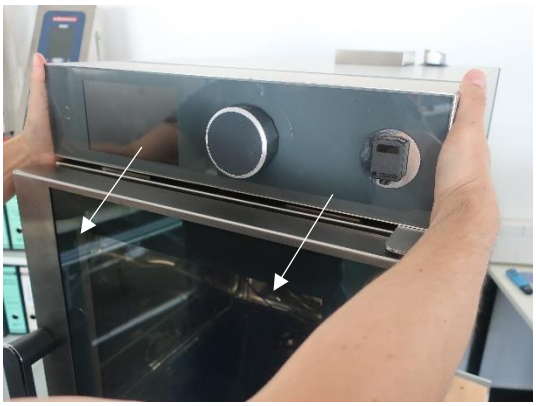
2. carefully remove the front strip from its mounting



3. the locking (1) of the control unit is located centrally underneath and can be released with an open-ended spanner or slotted screwdriver



4. use an open-ended spanner to release the lock to the left



5. carefully remove the control panel to the front and disconnect all cable connections..

5.3 Exchange CPU board

When replacing the CPU, the SD card of the current CPU should be transferred to the new CPU. In this case, no settings need to be made, as all settings and parameters are stored on the SD card.

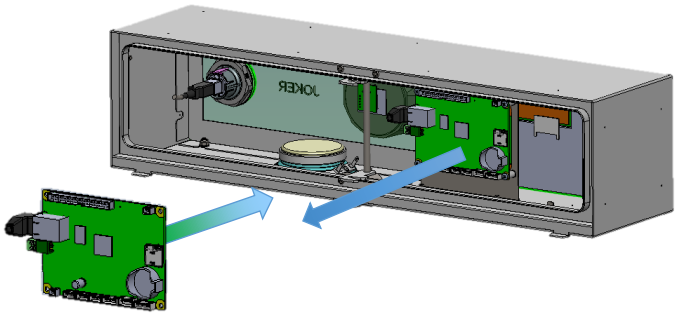


Figure 34: Replacing the CPU on the operating module

When replacing the CPU on an MT controller, an activation code must be entered after the first startup. The unit cannot be started without entering the activation code.

To get the activation code, please contact Eloma GmbH Technical Support.

TECHNICAL SUPPORT

Tel.: +49 35023 63-888 Mail: service@eloma.com

To do this, provide the serial number of the unit, the serial number of the controller and the 12-digit hardware ID (HW ID) of the CPU board.

This is displayed in the registration window.

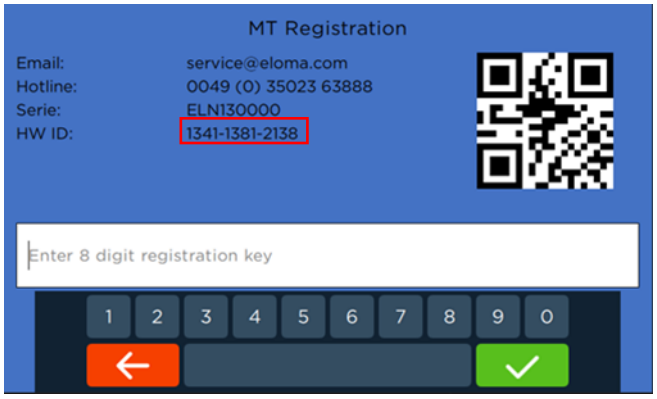


Figure 35: MT registration

After successful entry of the registration key, the software starts automatically.

When changing the CPU board for an ST control, no registration is required.

5.4 Exchange power supplies

It is possible to remove the power supply units with the controlled module removed. It is not necessary to remove the cover of the electrical compartment.

Please remove the control module first.

(See 5.2 Remove control panel (top) 5.1 Removing the control unit (on the side)Remove control panel (top))

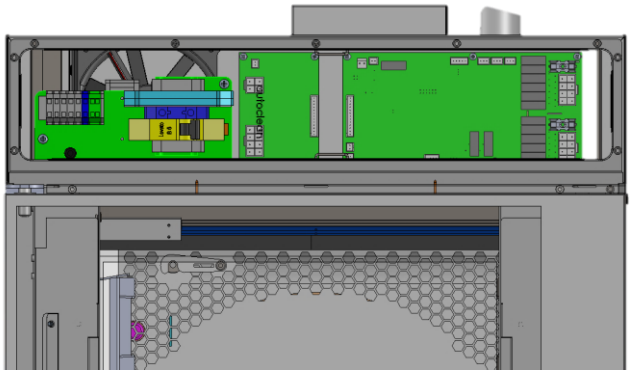
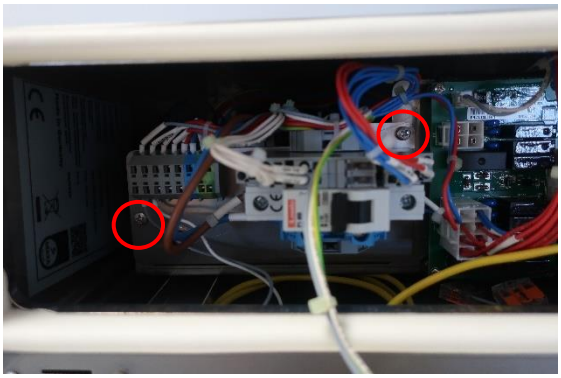


Abbildung 3: Ansicht Elektroraum bei entfernter Blende

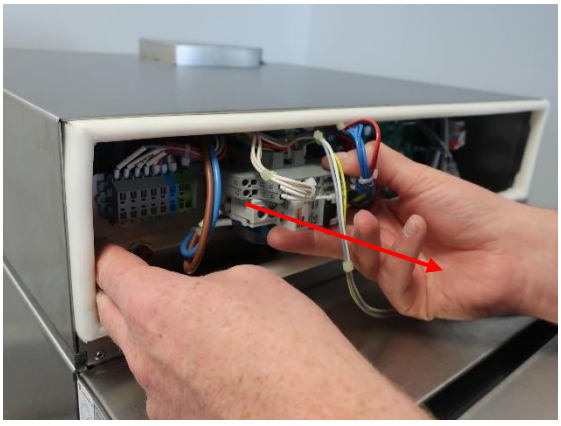
1. Required tools
   - Screw driver phillips PH2

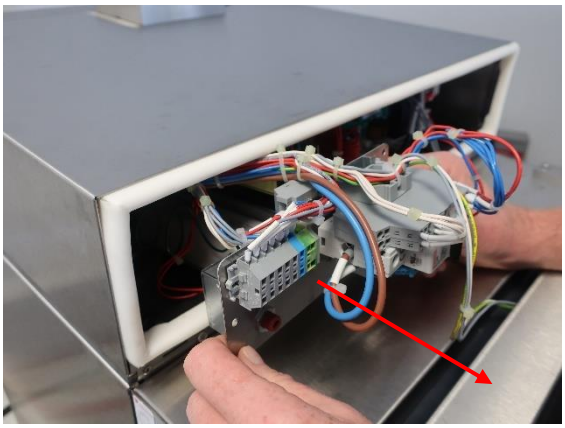
2. steps

Disconnect the device from the mains before starting work!

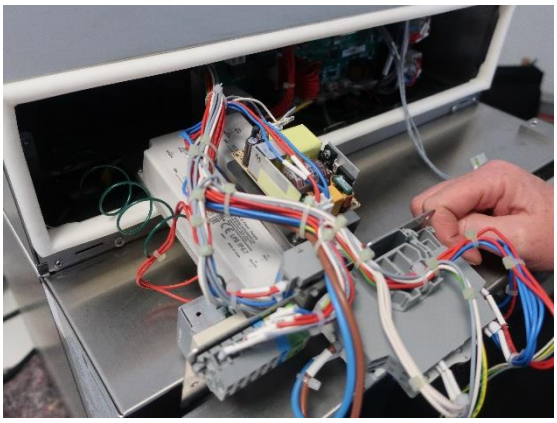


1. remove the fixing screws of the support plate





2. carefully pull out the support plate to the front



3. access to power supplies possible

5.5 Removing the inner door

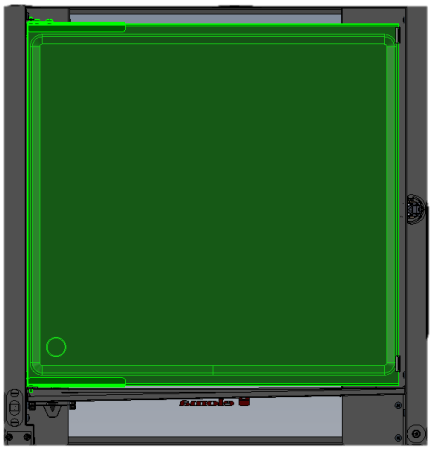


Figure 36: inner door

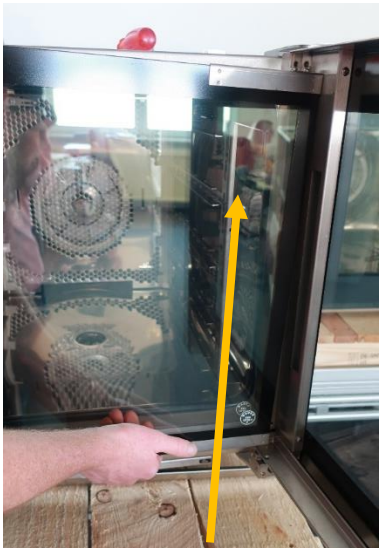
1. Required tools
   - Phillips screwdriver PH2

2. Steps

   Disconnect the device from the mains before starting work!

To remove the inner door, the upper inner door bearing (1) must be removed

Open the inner door approx. 90°. Remove the cross-head screws of the upper inner door bearing.



Remove inner door carefully upwards

5.6 Changing the LED light strips

Please remove the interior door first (see page 45, 5.5 Removing the inner door)

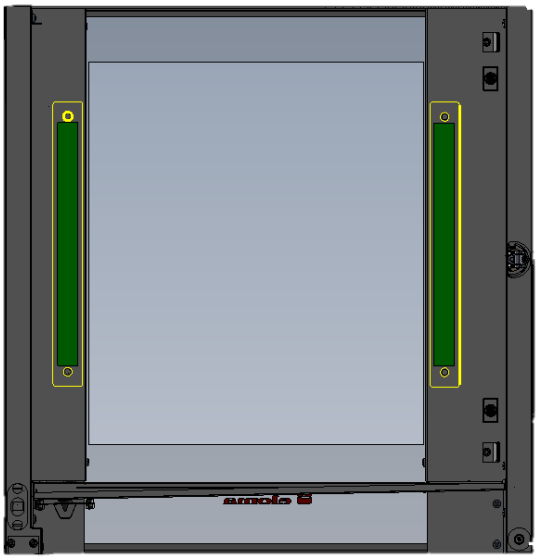
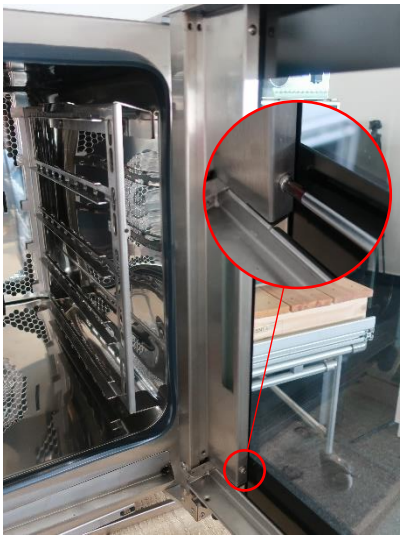


Figure 37: LED stripes door

1. Required Tools
   - Philips screwdriver PH2

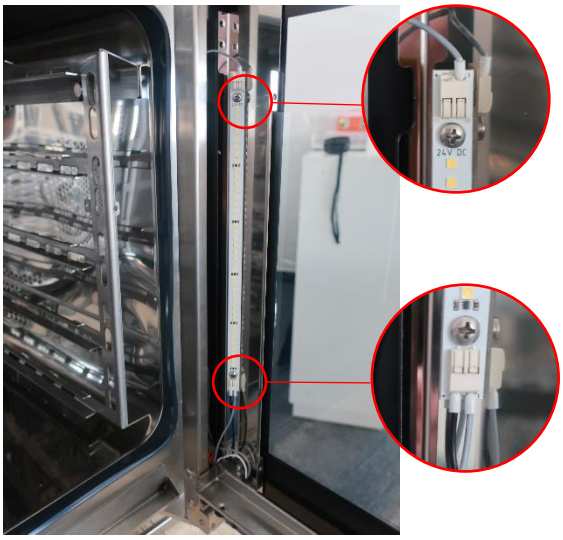
2. Steps

Disconnect the device from the mains before starting work!



1. Remove LED cover hinge side

2. Remove the cover



3. Loosen the cable of the upper and lower connector and remove screws to remove the LED bar

4. Remove screws from LED cover door handle side

5. Remove the cover

6. Loosen the cable of the lower connector and remove screws to remove the LED bar

5.7 Changing the door handle

Please remove LED cover door handle side first (see 5.6 Changing the LED light strips)

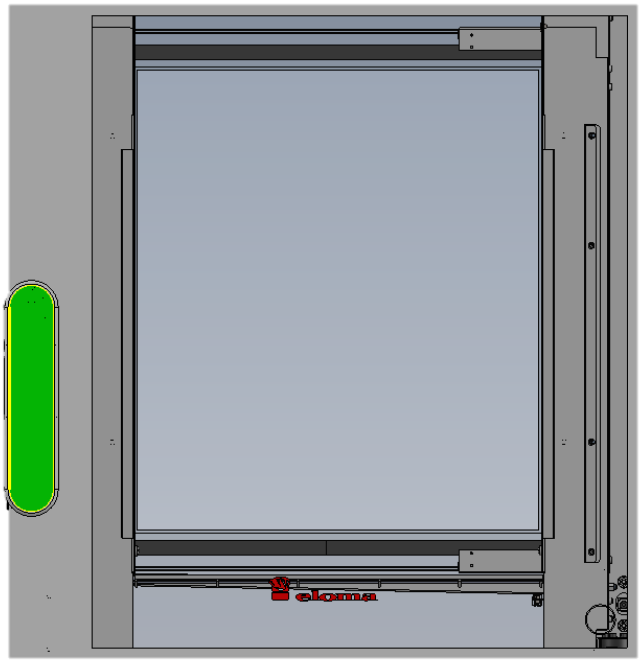


Figure 38: door handle

3. Required Tools
   - Imbus key size 3

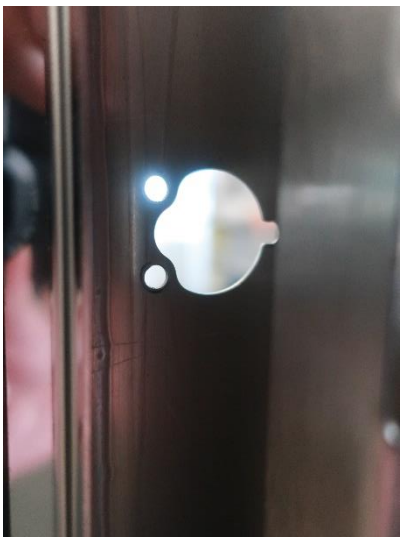
4. Steps

Disconnect the device from the mains before starting work!

1. Door handle is fastened with three screws on the inside of the door

1. Removing the two screws (1, 2), only loosen the right screw (3)

2. Remove door handle



Before mounting the LED cover, the bracket must be adjusted using the threaded pin (pos. 1).

The door catch must run onto the slope on the hook.

5.8 Remove housing

For all devices without device feet, it is recommended to place the device on appropriate wooden strips for easier removal of housing parts.

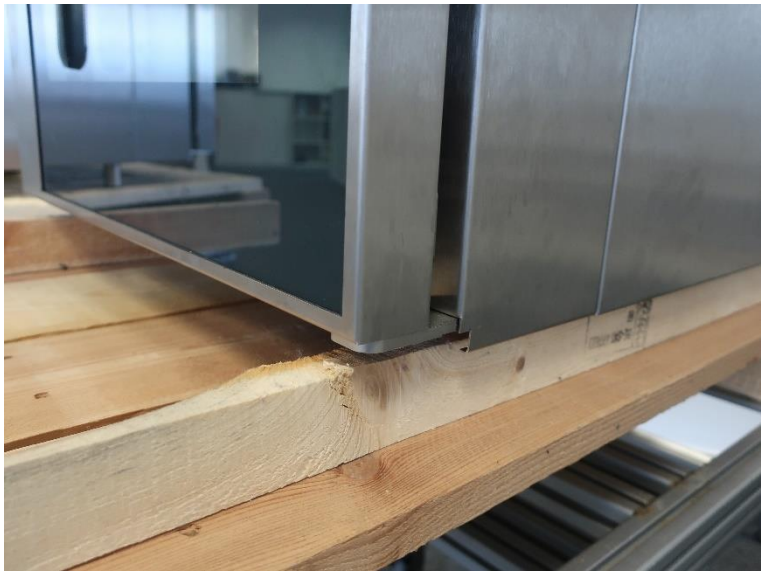


Figure 39: device on wooden strips

5.8.1 Removing the side part hinge side when controlling at the side

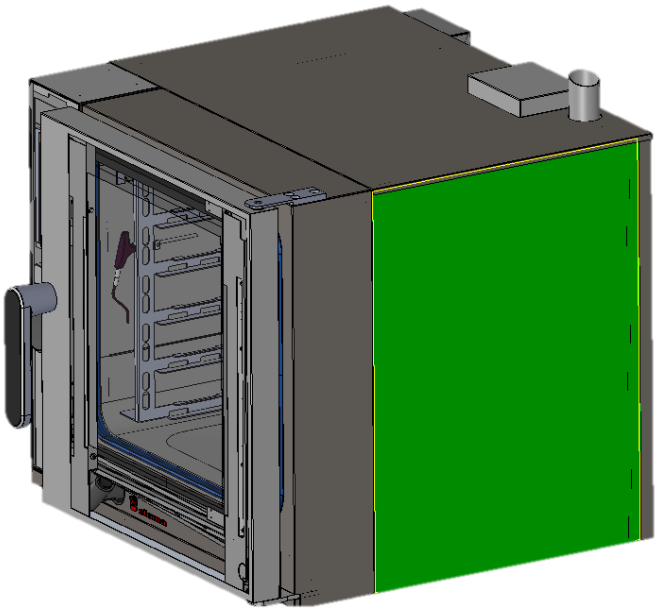
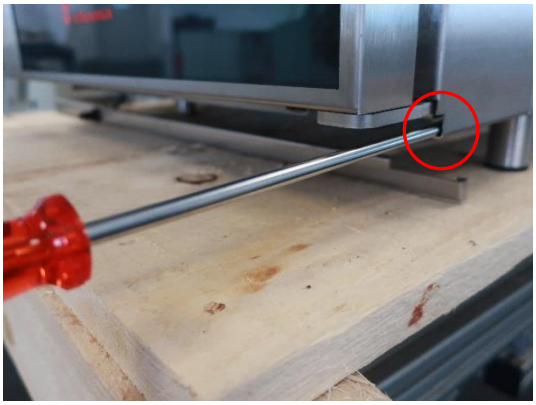


Figure 40: side cover hinge side

1. Required Tools
   - 300mm Phillips screwdriver PH2

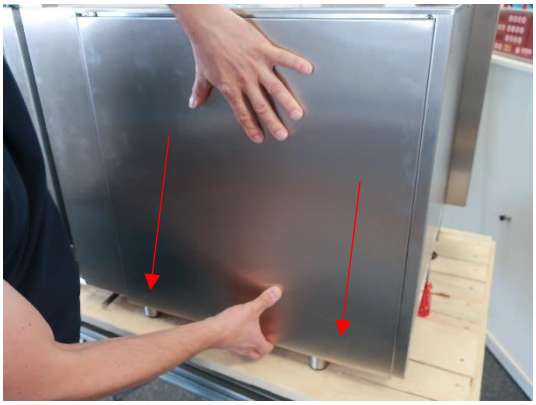
2. Steps

Disconnect the device from the mains before starting work!

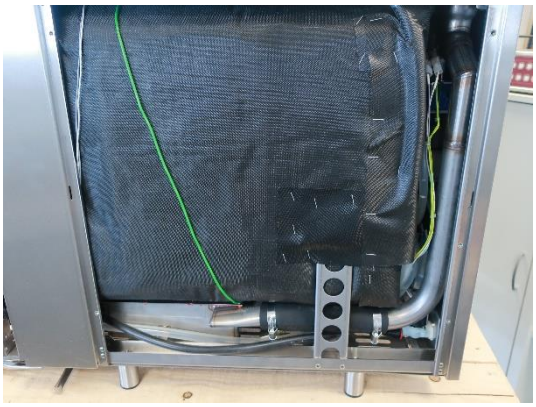


1. Remove the front strip and remove the front fastening screw

2. Remove rear fastening screw



3. Slide the sidewall down for removal (For devices without feet, the device must be lifted so that the side wall can be pushed down.)



5.8.2 Removing the rear wall when controller at side

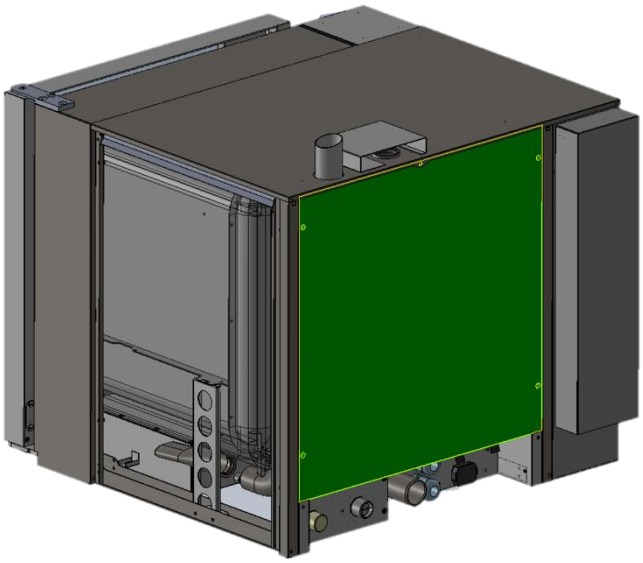


Figure 41: rear cover

1. Required Tools
   - Philips screwdriver PH2

2. Steps

Disconnect the device from the mains before starting work!

1. Remove screws from the back of the housing

2. Remove the back wall

5.8.3 Removing the top cover control panel at side

Please remove side cover hinge side, rear panel and control unit before!

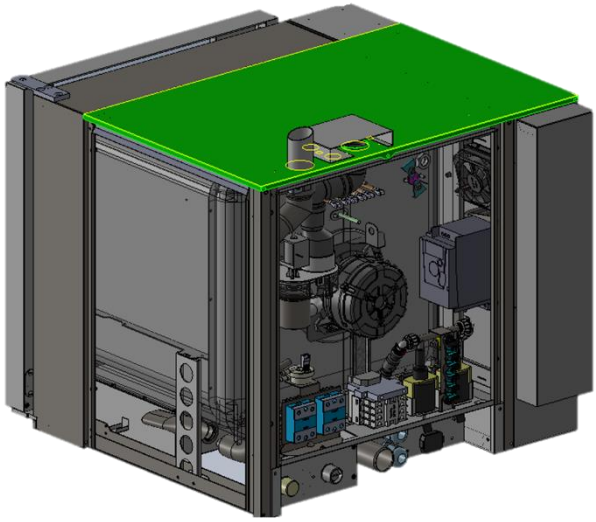
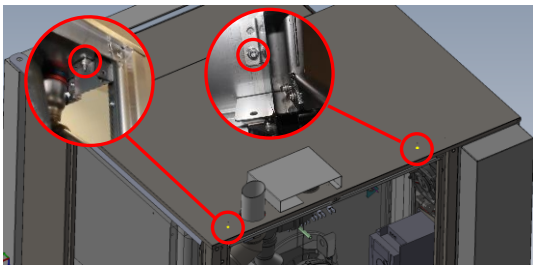


Figure 42: top cover

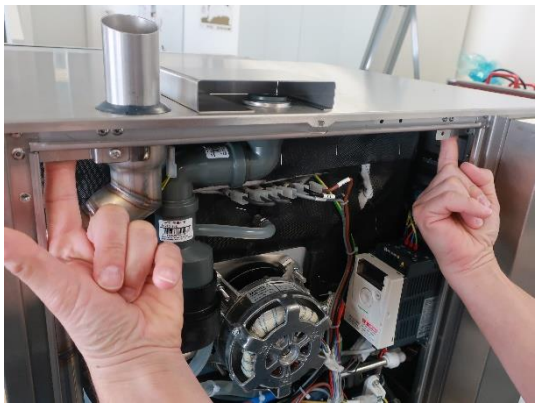
1. Required tools
   - Phillips screwdriver PH2
   - Socket wrench size 7

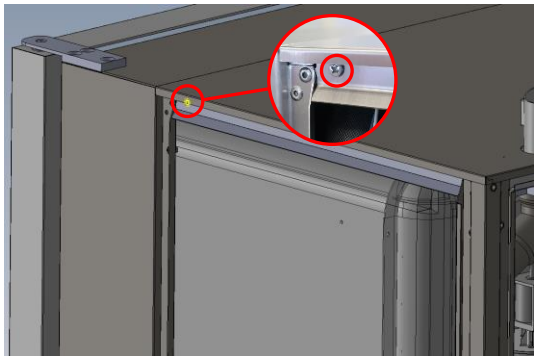
2. Steps

Disconnect the device from the mains before starting work!

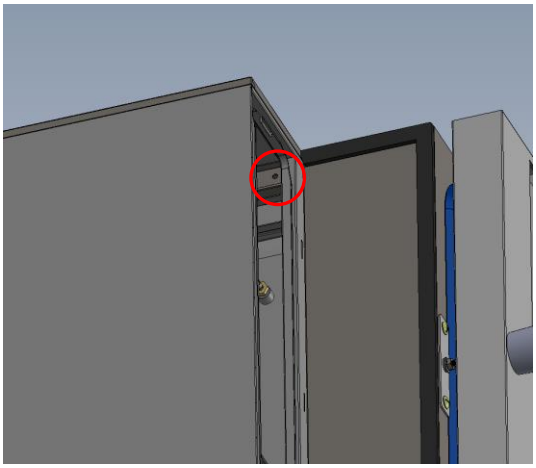


1. remove the nuts of the rear cover fastening

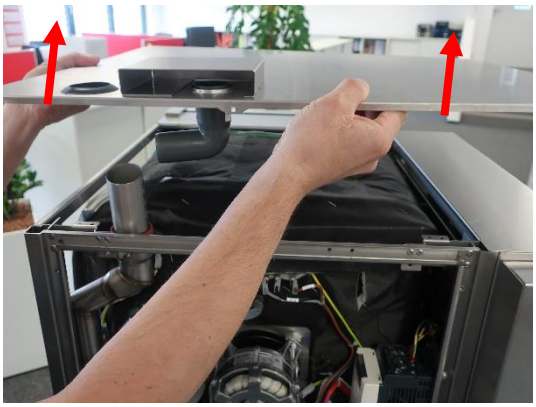




2. remove the Phillips screw of the lateral cover fixing on the hinge side



3. remove the Phillips screw of the lateral cover fastening on the control side



4. remove the lid carefully upwards

5.8.4 Removing the electrical cover for devices with controller at side

Please remove side cover hinge side, rear cover, control unit and top cover before!

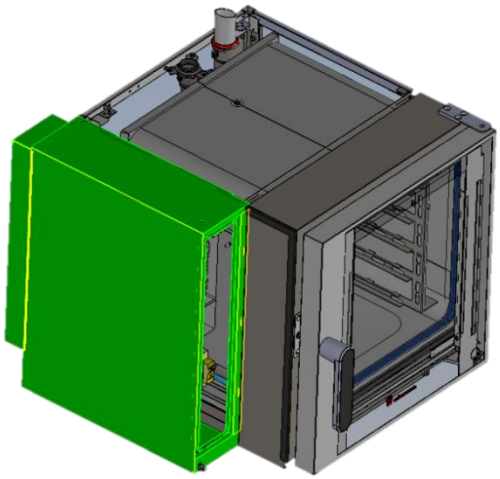
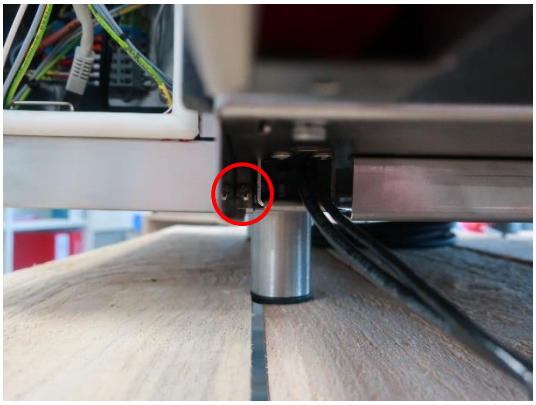


Figure 43: cover at controller side

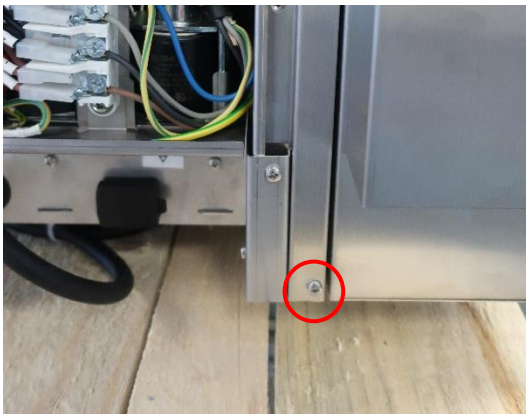
1. Required tools
   - 300mm Phillips screwdriver PH2

2. Steps

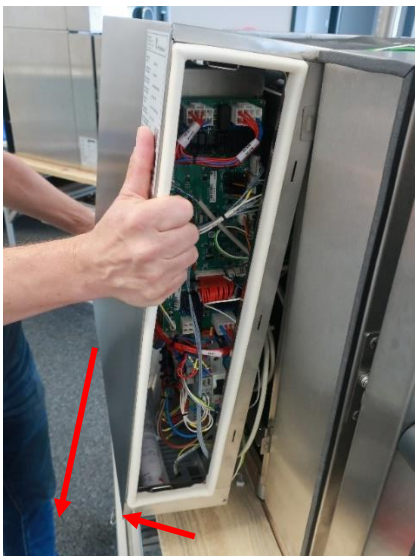
Disconnect the device from the mains before starting work!



1. remove the front screw connection of the side part



2. remove the rear screw connection of the side part



3. carefully pull the side part away from the unit and remove it downwards.

5.8.5 Removing the side cover hinge side for top controller units

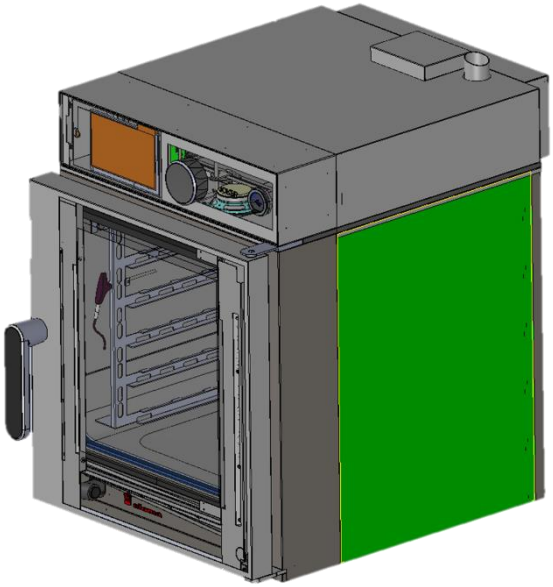
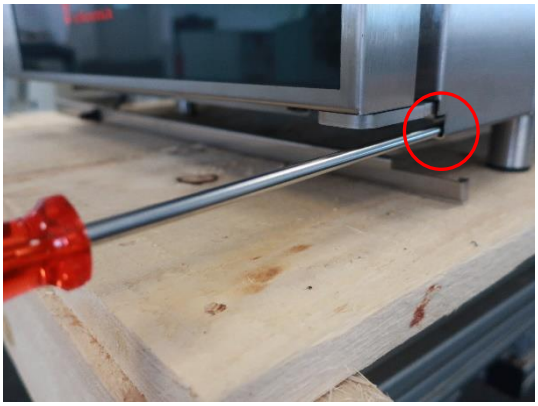


Figure 44: Side panel Hinge side Control top

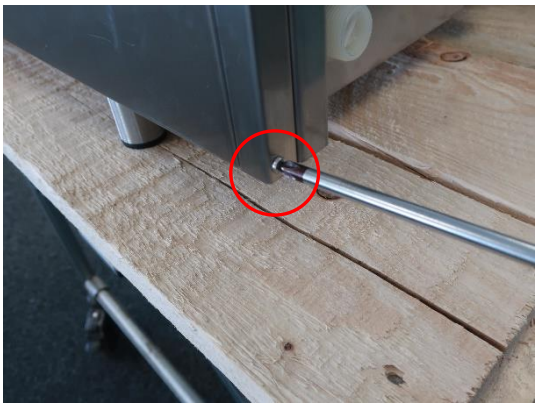
1. Required tools
   - 300mm Phillips screwdriver PH2

2. steps

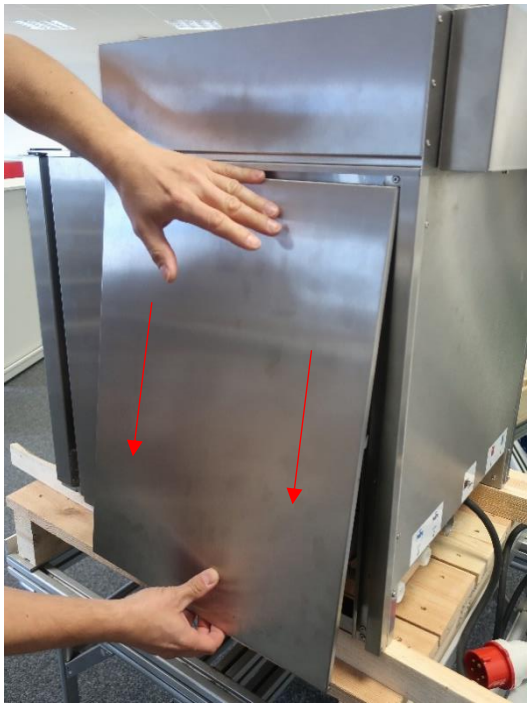
Disconnect the unit from the mains before starting work!



1. Remove front strip and front fixing screw



2. remove rear fixing screw



3. Push the side wall downwards for removal (For units without feet, the unit must be raised so that the side wall can be pushed downwards).

5.8.6 Removing the rear panel of units with control on top

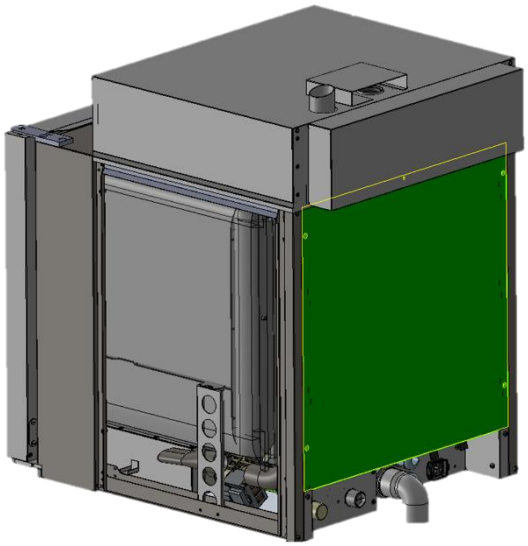


Figure 45: rear panel controller on top

1. Required tools
   - Phillips screwdriver PH2

2. Steps

Disconnect the device from the mains before starting work!

1. Remove screws from the rear panel of the housing

2. remove the rear cover

5.8.7 Removing the device cover of the control unit on top

Please remove controller before!

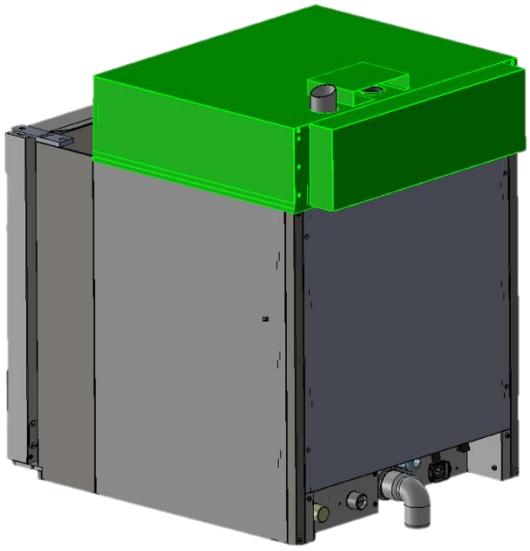
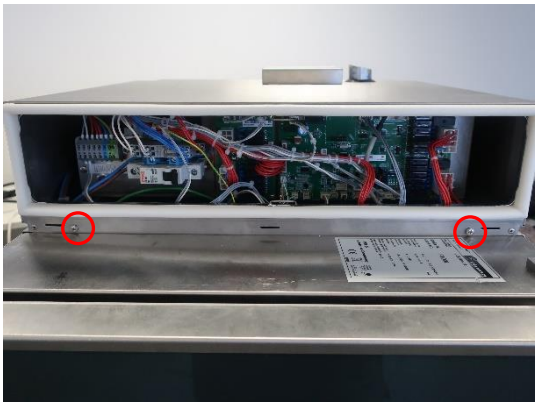


Figure 46: device cover for controller on top

1. Required tools
   - 300mm Phillips screwdriver PH2

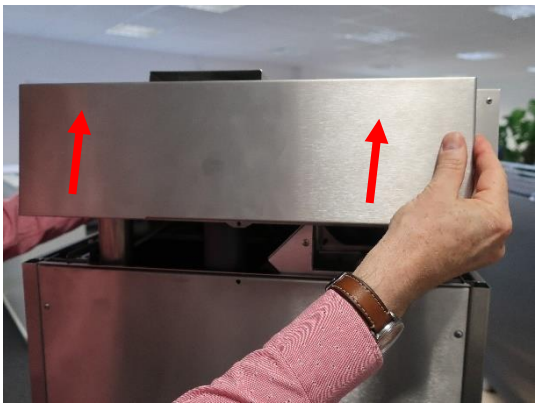
2. Steps

Disconnect the device from the mains before starting work!



1. Remove screws of the front cover

2. Removing the rear fixing screw



3. Remove the lid upwards

5.6.8. Removing the device cover when controlling at the top

Please remove the side of the hinge, back panel, control and lid beforehand!

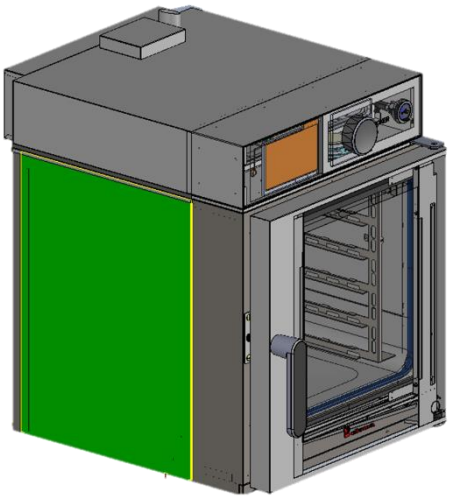


Figure 47: side cover door handle side

1. Required tool

- 300mm Phillips screwdriver PH2

2. Steps

Disconnect the device from the mains before starting work!

1. Removing the front screwing of the side part

2. Removing the rear screwing of the side part

3. Carefully pull the side part away from the device and remove it downwards

5.9 Exchange the valve groups

Please remove back cover first!

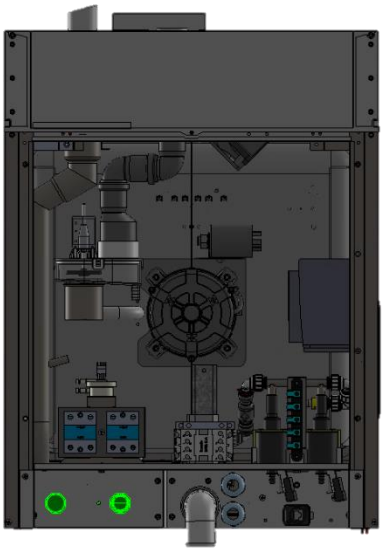
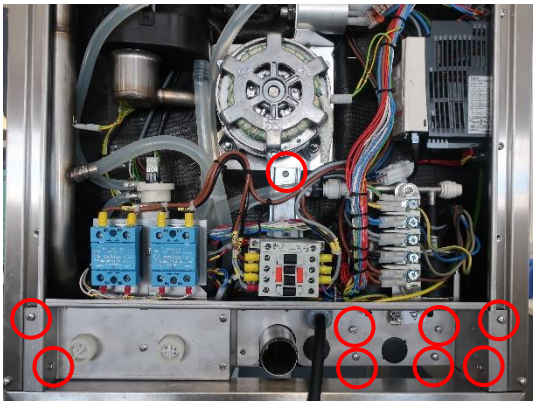


Figure 48: valve group device back side

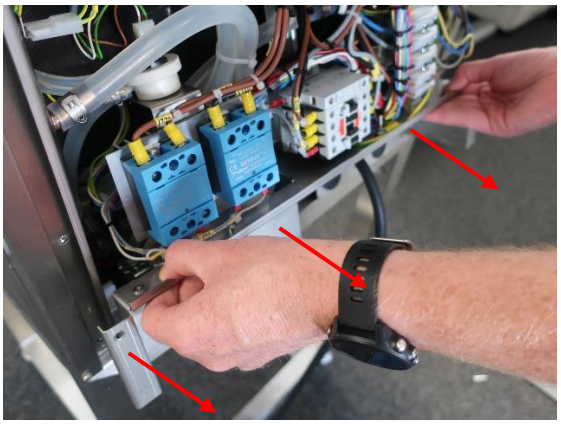
1. Required tools
   - Cross head screw driver PH2, Tensioning and Release Aid (EL0509004) (John Guest)

2. steps

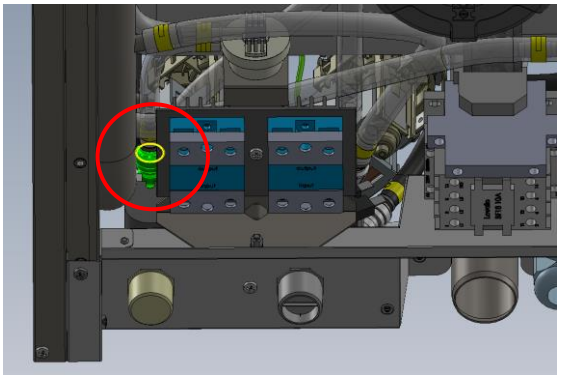
Disconnect the device from the mains before starting work!



1. remove the red marked screws

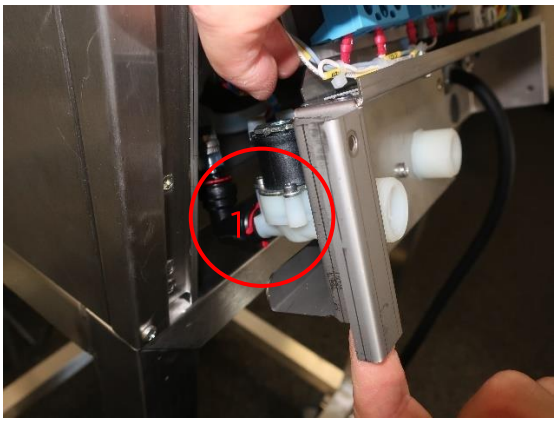


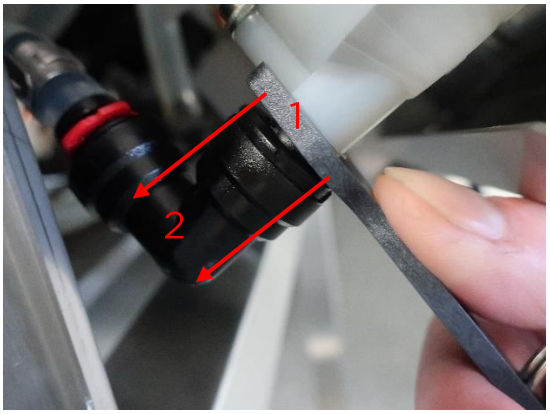
2. carefully pull away from the back side



3. disconnect the hose connection from the steam valve (soft water)

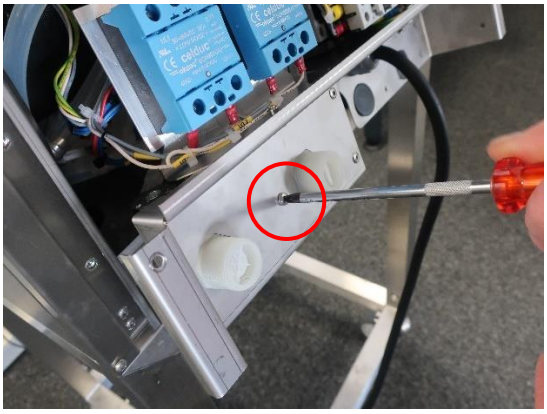
   Remove the safety clip (1) at the valve outlet



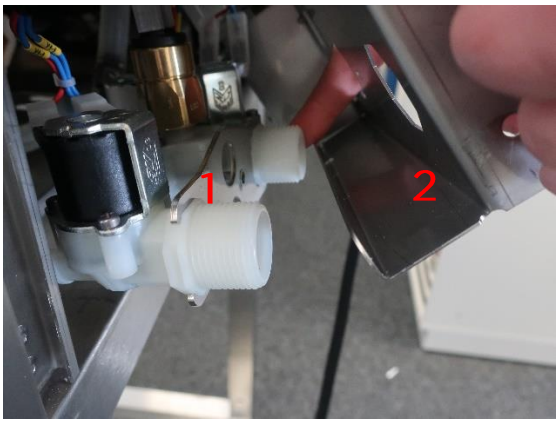


4. carefully remove the angle reducer (2) from the valve with the tension-release aid (1)

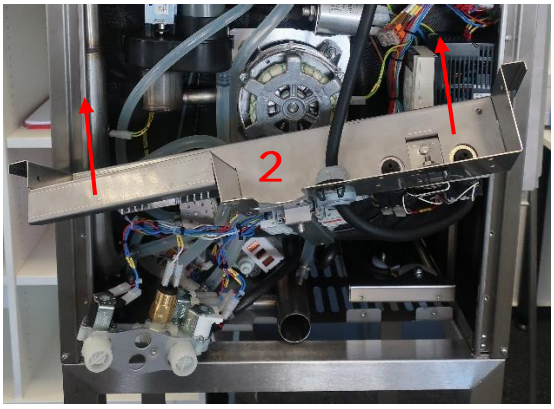
5. remove angle connector from valve outlet



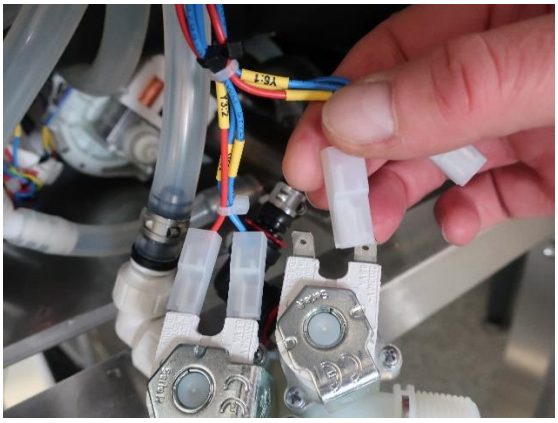
6. loose the screw of the valve support on the cross beam



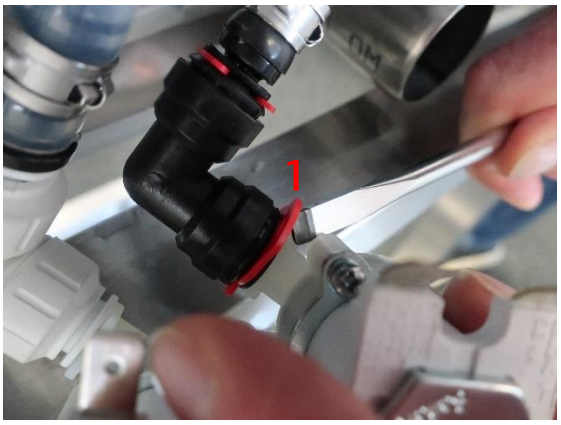
7. remove valve assembly (1) from cross beam (2)



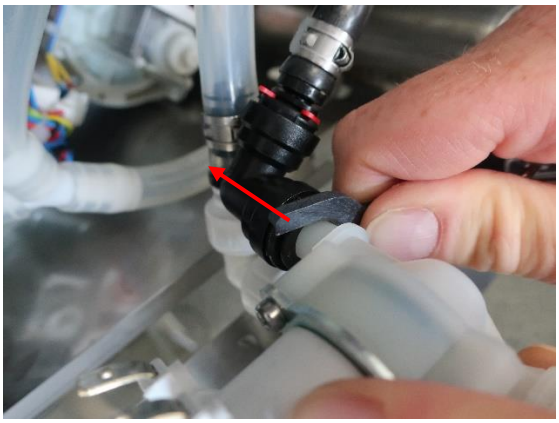
8. carefully press the cross beam (2) upwards and fix it



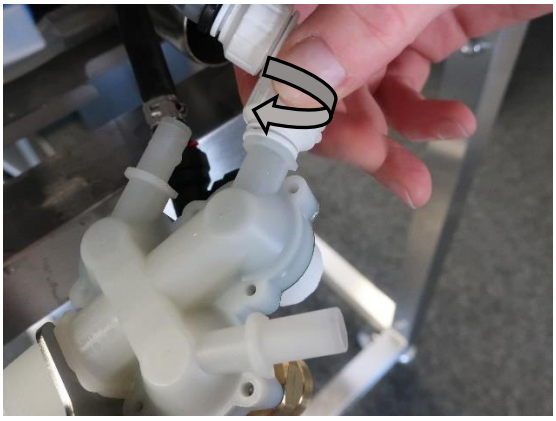
9. disconnect all cable connections on the valves and the pressure switch



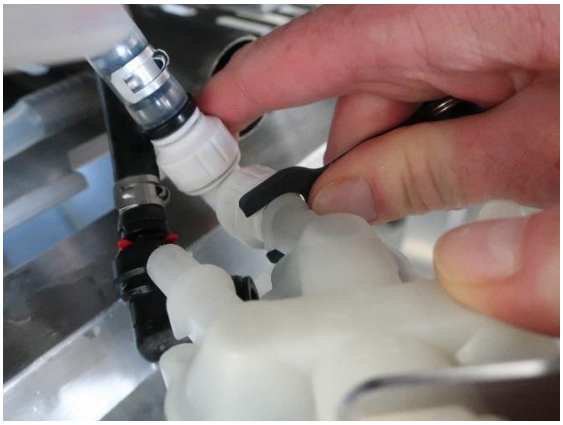
10. remove the safety clip (1)



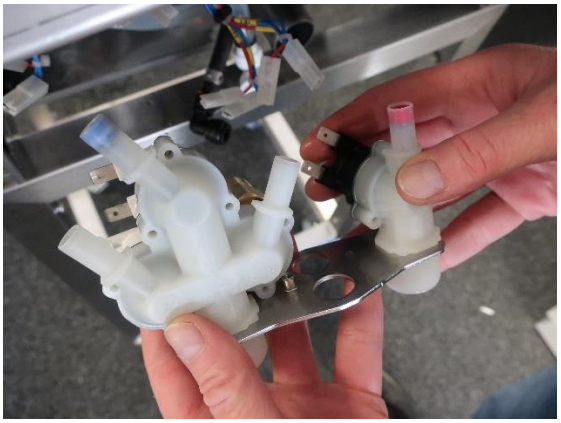
11. carefully remove the angle reducer from the valve using the clamping and releasing aid



12. loosen the screw connection of the angle connector at the valve outlet



13. Carefully remove the angle reducer from the valve using the clamping and releasing aid



14. Removing valve assemblies

5.10 Exchange detergent pumps for autoclean®

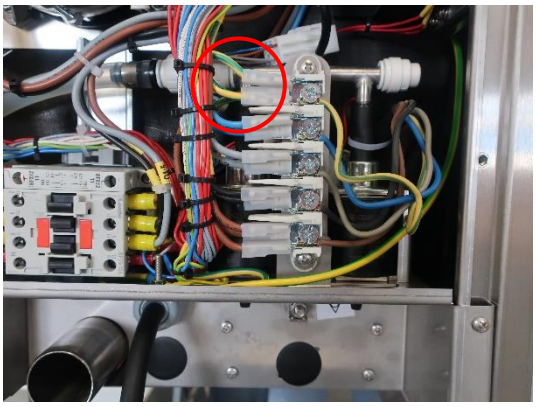
Please remove back cover before.

Figure 49: detergent pumps device backside

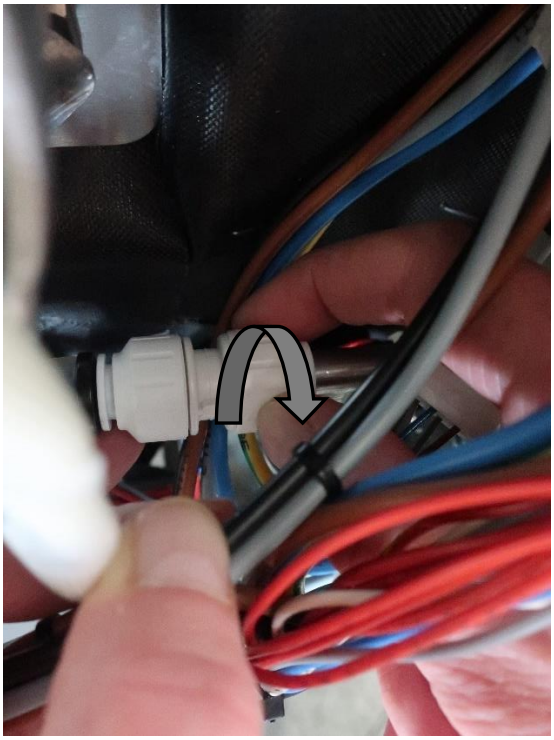
1. Required tools
   - - Phillips screwdriver PH2, Tensioning and Release Aid (EL0509004) (John Guest)

2. steps

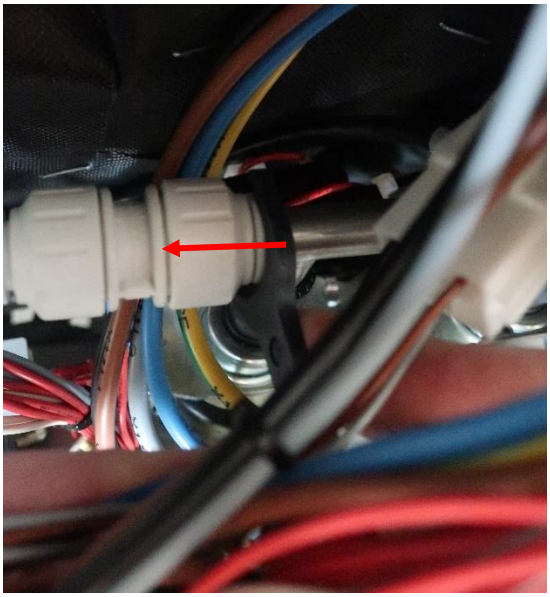
Disconnect the device from the mains before starting work!



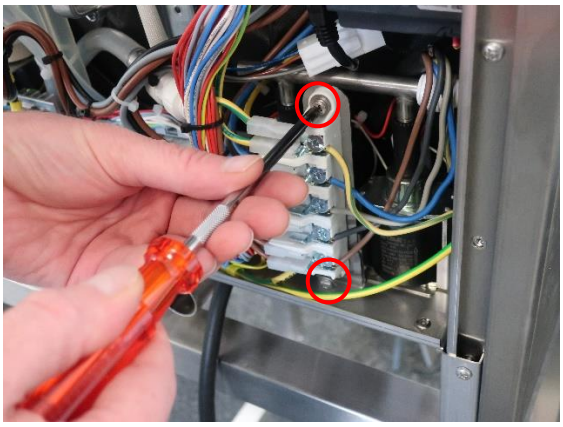
1. Remove hose connection at pump outlet



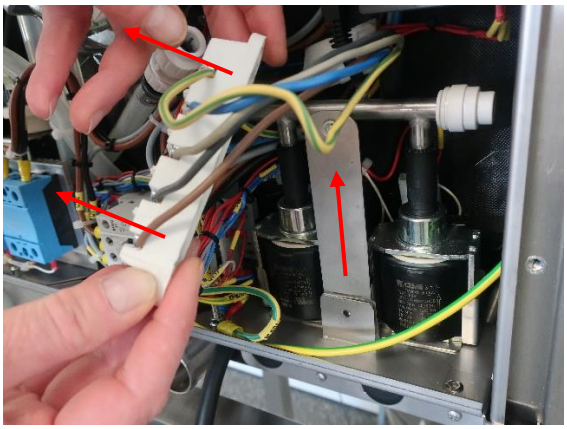
2. Loosen the screwing on the pump connection



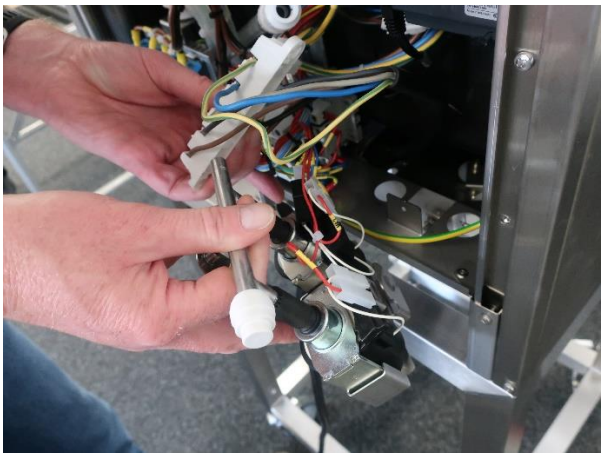
3. Carefully loosen the connection from the pump connection using the tension release aid



4. Remove both screws of the connection terminal



5. Carefully turn the connection terminal to the side and remove the pumps upwards. If necessary loosen cable ties.



6. Loosen cable connections of pumps and remove pumps

5.11 Removing the circulation and draining pump for autoclean

Please remove rear panel and, if necessary, base plate before!

Circulation and drainage pump and autoclean® box are located on the underside of the unit. For maintenance and repair work, it is recommended to put the unit on its side. Please empty the autoclean® box via component test ID640 (see 6.10.4.5 Test autoclean® PRO). Please secure door against opening.

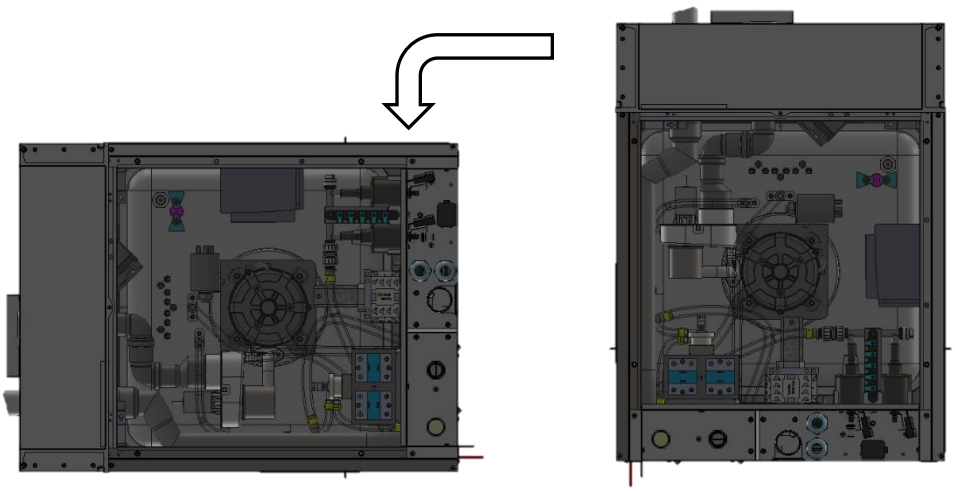


Figure 50: Access to the autoclean® box by tilting the device

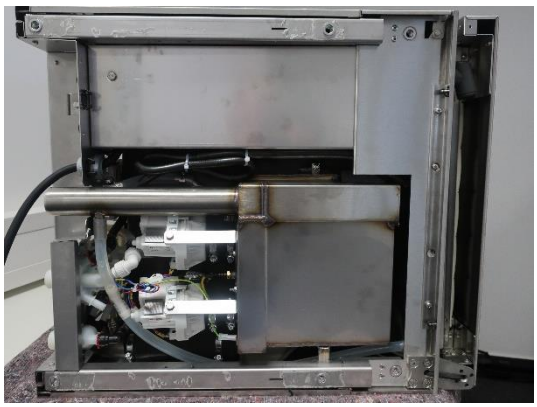
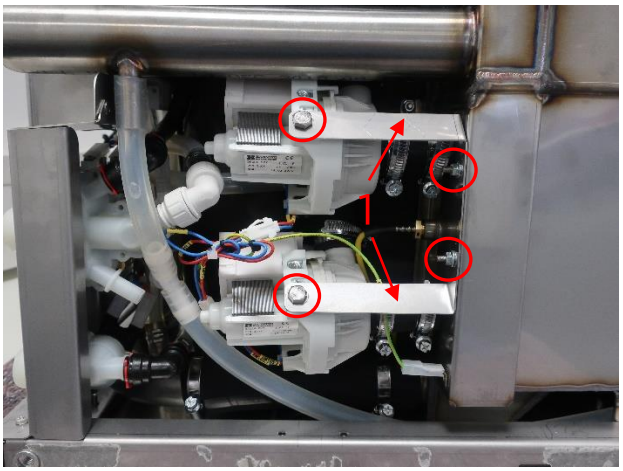


Figure 51: autoclean box and pumps

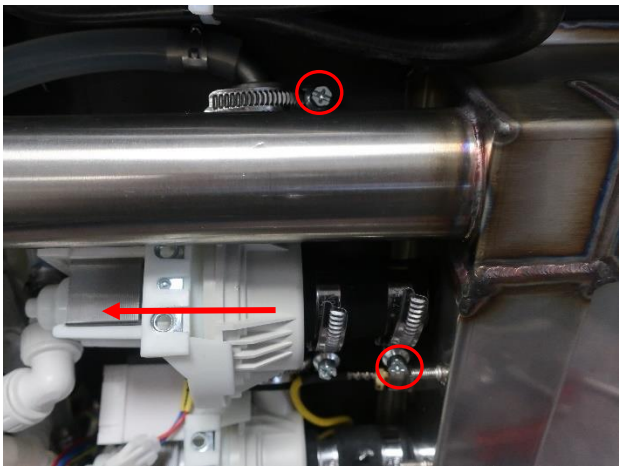
1. Required tools
   - Phillips screwdriver PH2, socket spanner size 7 and size 10

2. steps

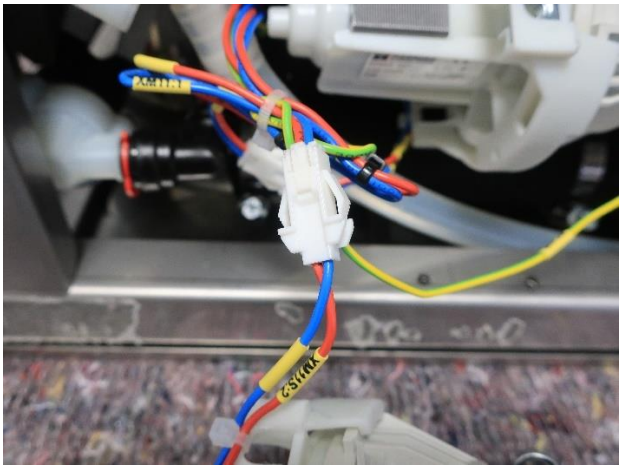
Disconnect the unit from the mains before starting work!



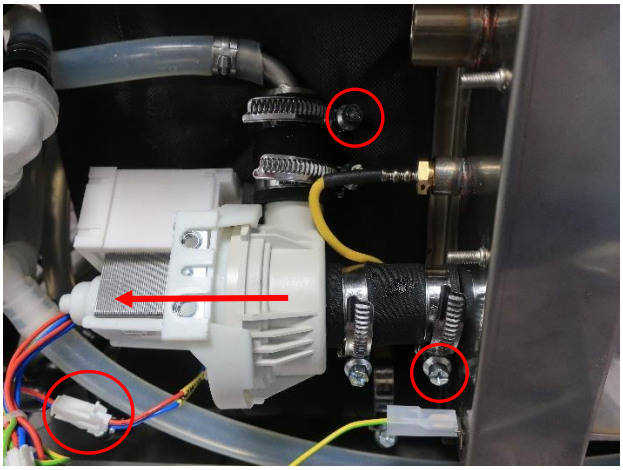
1. remove the pump holder (1)



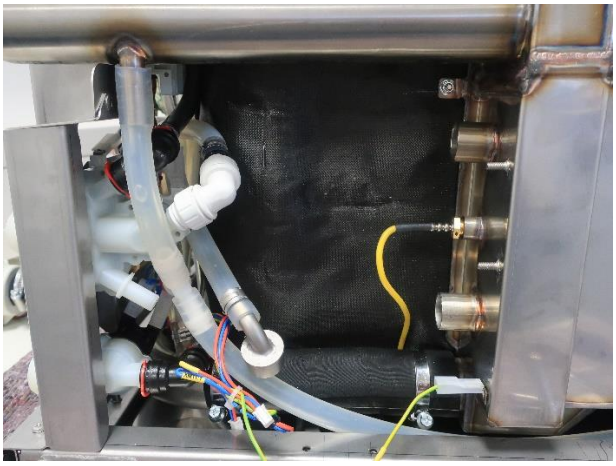
2. loosen the hose clamps at the pump inlet and outlet and carefully remove the upper pump to the left



3. disconnect the power supply connector to the pump



4. loosen the hose clamps at the pump inlet and outlet and carefully remove the lower pump to the left and loosen the plug binder



1. After removing the pumps, secure open hose ends and drains against leakage.

5.12 Exchange autoclean® box /siphon box

Please remove circulating and draining pump before (see 5.11 Removing the circulation and draining pump for autoclean)

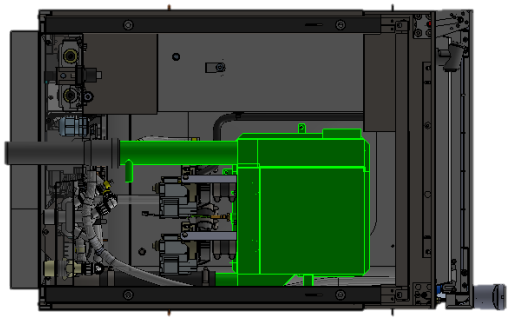
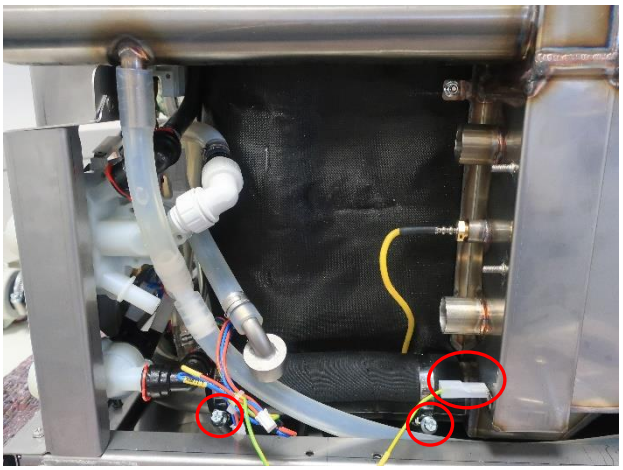


Abbildung 4: autoclean Box/Siphonbox

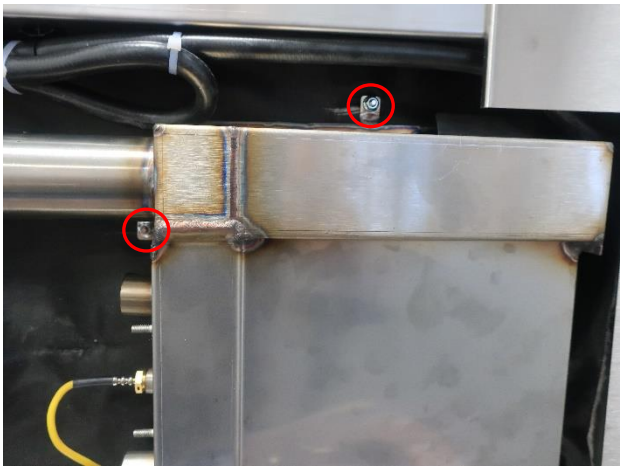
1. Required tools
   - Socket spanner size 7

2. steps

Disconnect the unit from the mains before starting work!

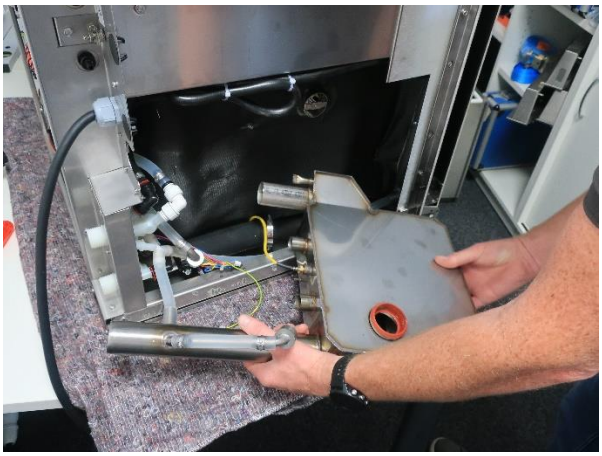


1. Loosen the hose clamps for exhaust air on the autoclean® box and exhaust air pipe and remove the earth connection



2. Removing the fixing nuts of the autoclean® box / drain siphon

3. Pull the autoclean® box off the oven outlet and remove it



5.13 Removing the core temperature sensor

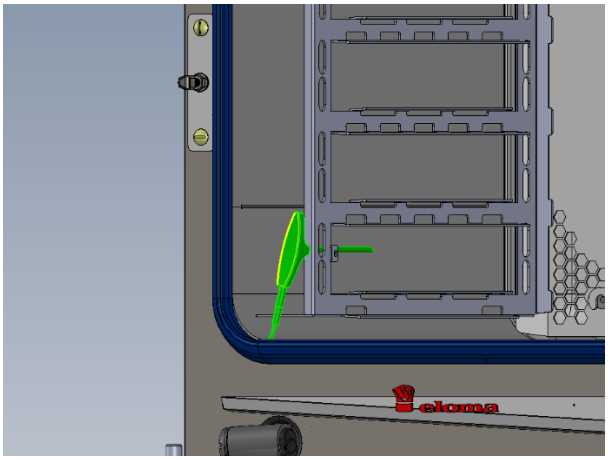
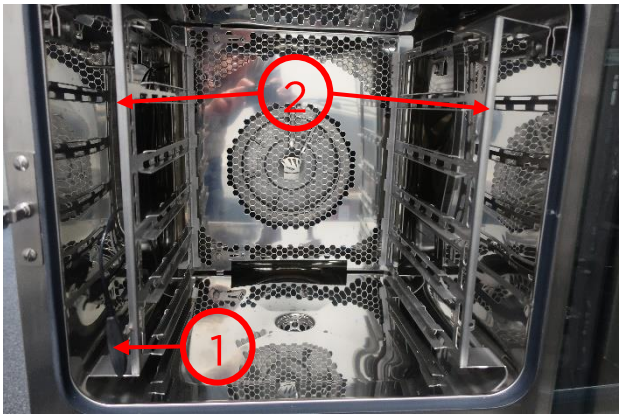


Figure 52: core temperature sensor

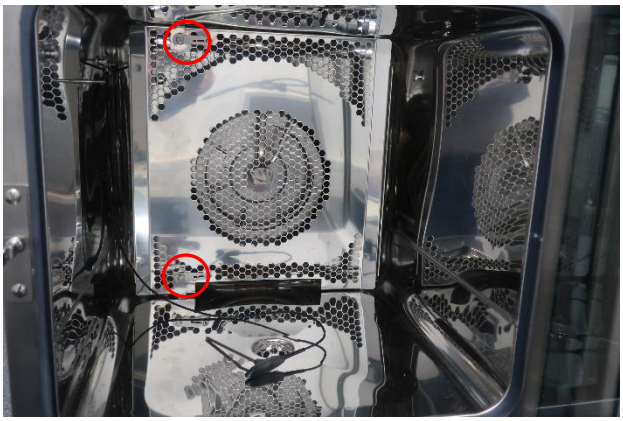
1. Required tools
   - socket spanner size 7, crowfoot spanner size 24, ratchet, extension

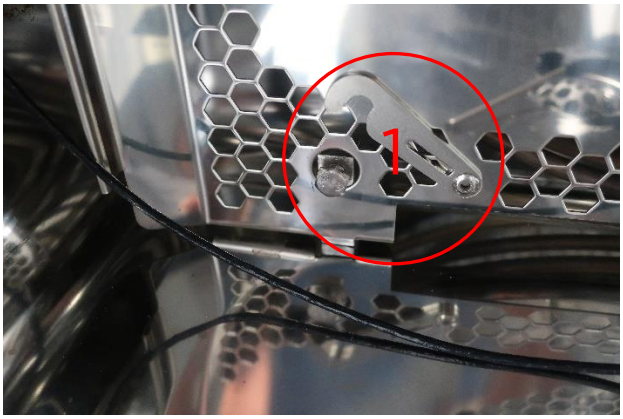
2. Steps

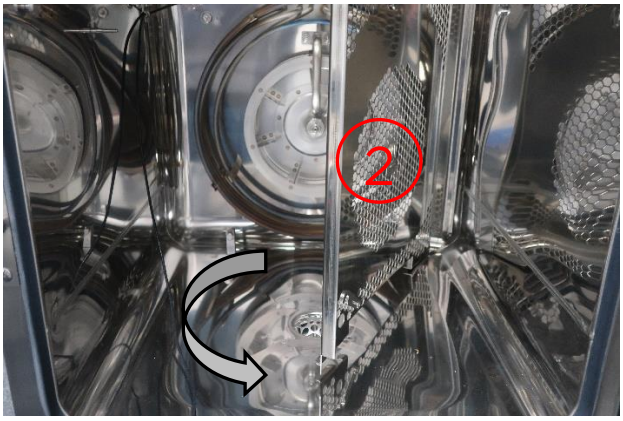
Disconnect the unit from the mains before starting work!



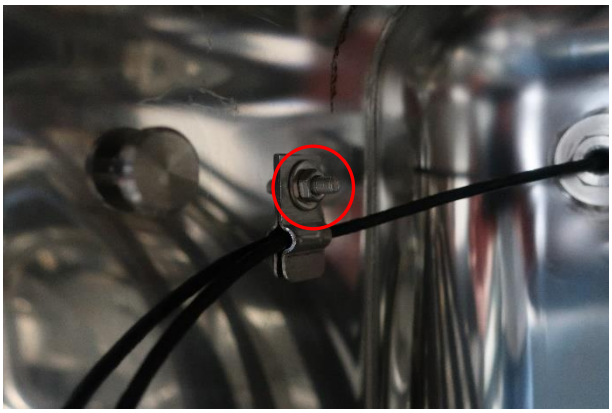
1. remove the core temperature sensor (1) from its holder on the rack (2). Remove both racks from the cooking chamber





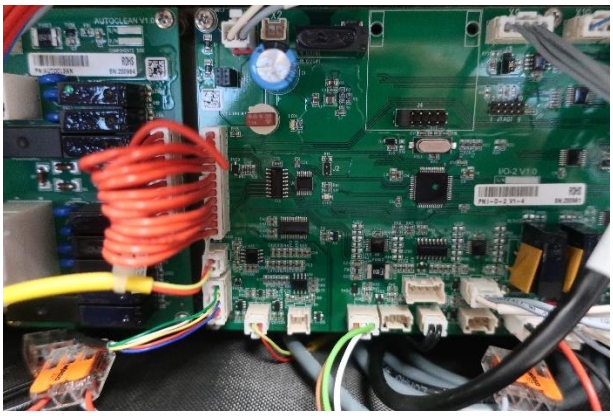


2. push the lock (1) of the fixing of the air deflector upwards and open the air deflector (2)

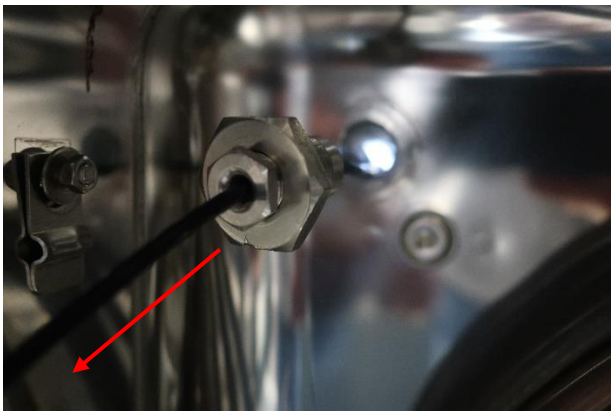


3. loosen the nut of the cable holder and remove the cable

4. loosen the screw connection of the core temperature sensor feed-through



5. remove the plug on the I/O board (first remove the control panel, see 5.1 Removing the control unit (on the side) and 5.2Remove control panel (top)



6. pull the cable carefully from the front and remove the core temperature sensor. If necessary, feed the cable into the electrical compartment.

6 Software

6.1 Startscreen

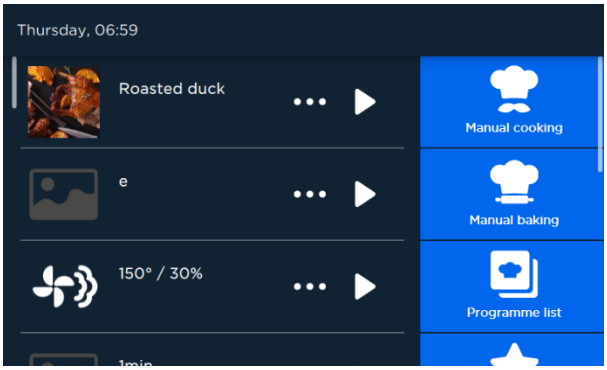


Figure 53: start screen MT-control

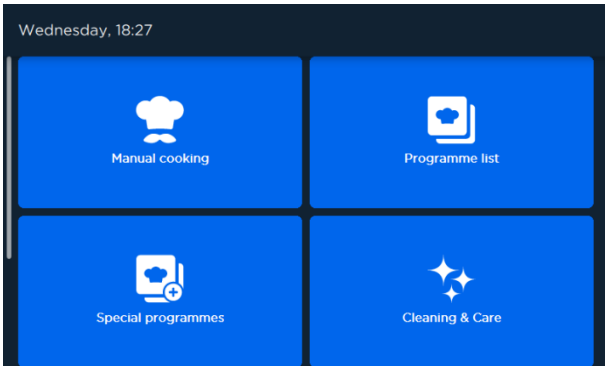


Figure 54: start screen ST-control

6.2 Manual cooking and baking

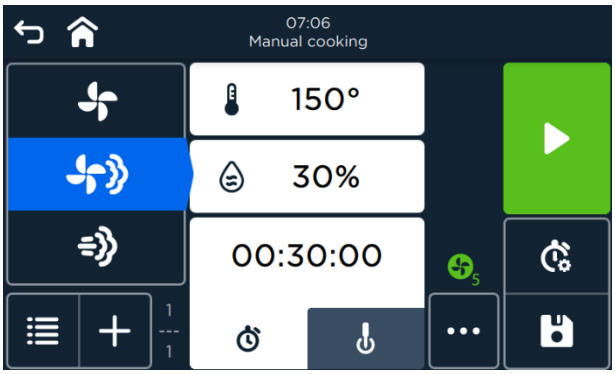


Figure 55: manual cooking

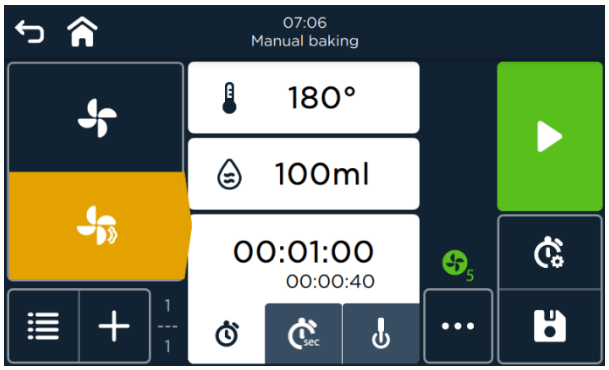


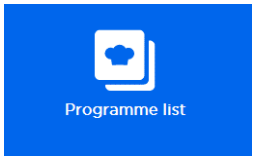
Figure 56: manual baking (only MT-control)

Selection of cooking modes:

- Steam mode
- Combined steam mode
- Hot air mode

For more information, please refer to the user manual.

6.3 Program list/ Cookbook



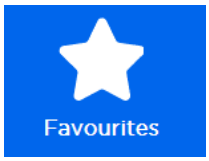
Touch the icon in the Start display to access the cooking programlist.

For more information, please refer to the user manual.

1

6.4 Favoriten

Only with MT control



Touch the icon in the Start display to access the favorites. For more information, please refer to the user manual.

6.5 Weekly programming PRO

Only with MT control

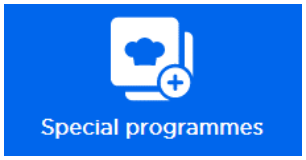
Touch the icon in the start display to access weekly programming. For more information, please refer to the user manual.

6.6 Multi Cooking PRO

Only with MT control

Touch the icon in the Start display to access the Multi Cooking PRO. For more information, please refer to the user manual.

6.7 Special programmes

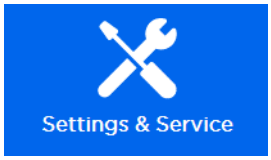


Touch the icon in the Startup display to access special programs. For more information, please refer to the user manual.

6.8 Cleaning & Care

Touch the icon in the Startup display to access autoclean® PRO. For more information, please refer to the user manual.

6.9 Settings and service



Touch the icon in the Startup display to access the device's settings and service.

6.9.1 Show device information

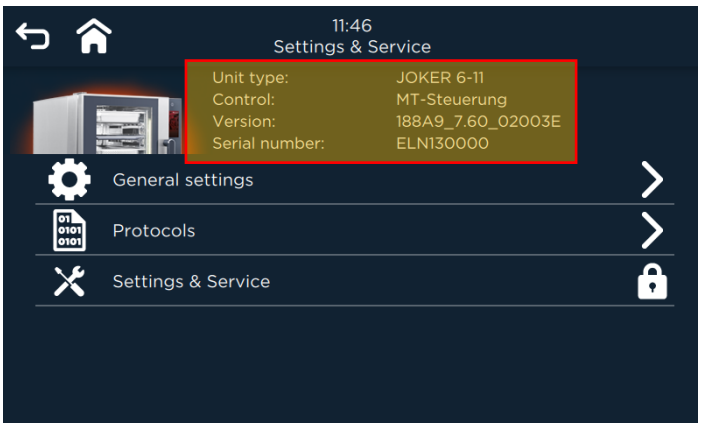


Figure 57: show device information

Touch the area with the serial number to display device information.

Among others:

- Serial and item number
- Contact information Service hotline
- Installed software (version) and firmware version (firmware)

Figure 58: device information

6.10 Access to the service menu

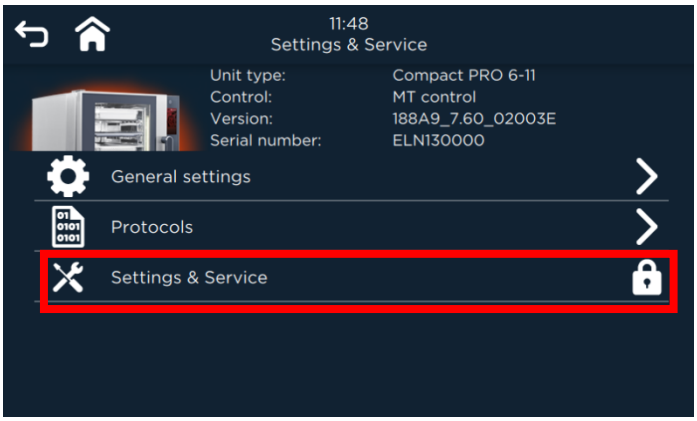


Figure 59: Access to the service menu

Please touch the red frame area

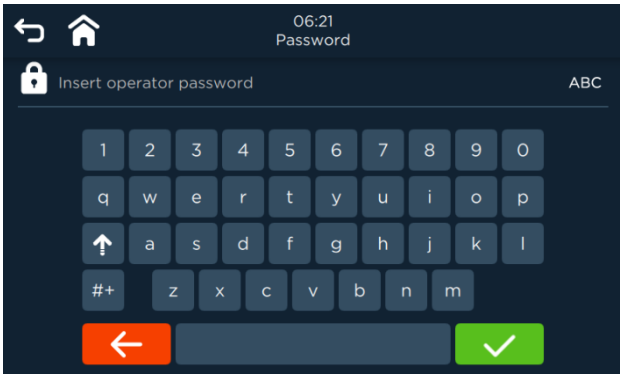


Figure 60: log-in screen MT control

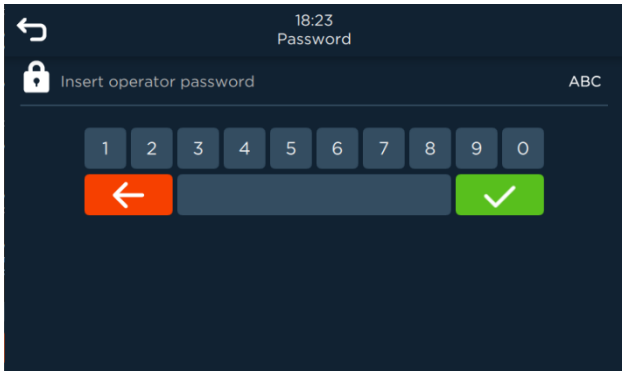


Figure 61: log-in screen ST control

Enter the password and confirm it with 

By pressing 

the password can be made visible when typing.

The higher-quality password also allows access to the levels below it.

Passwords:

Level	Password MT-control	Password ST-control
1. User	1234	1234
2. Owner/ Manager	asdf	6789
3. Service Options	Opt3142	03142
4. Service	Service+678	54678

6.10.1 Overview service menu

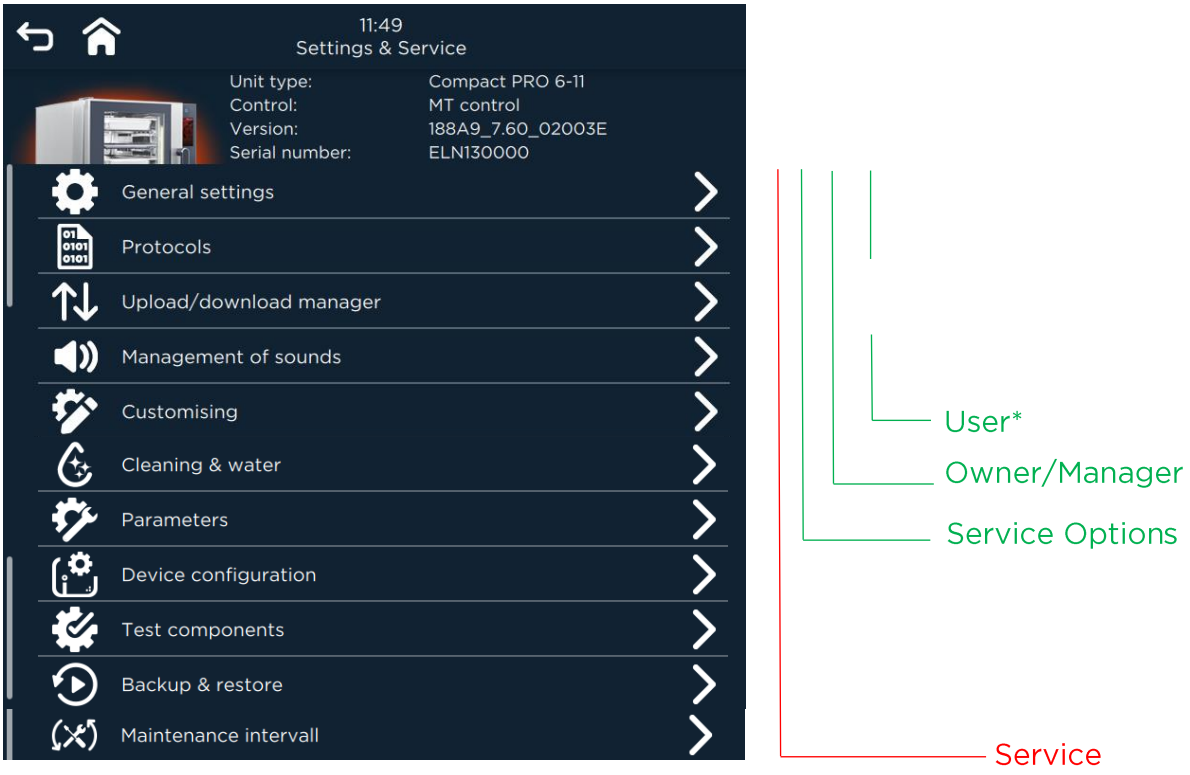


Figure 62: settings and service

*Limited adjustment options for individualization

A detalized description of the settings for access levels 1-2 (operator/owner manager) can be found in the respective user manual.

6.10.2 Parameter

Function

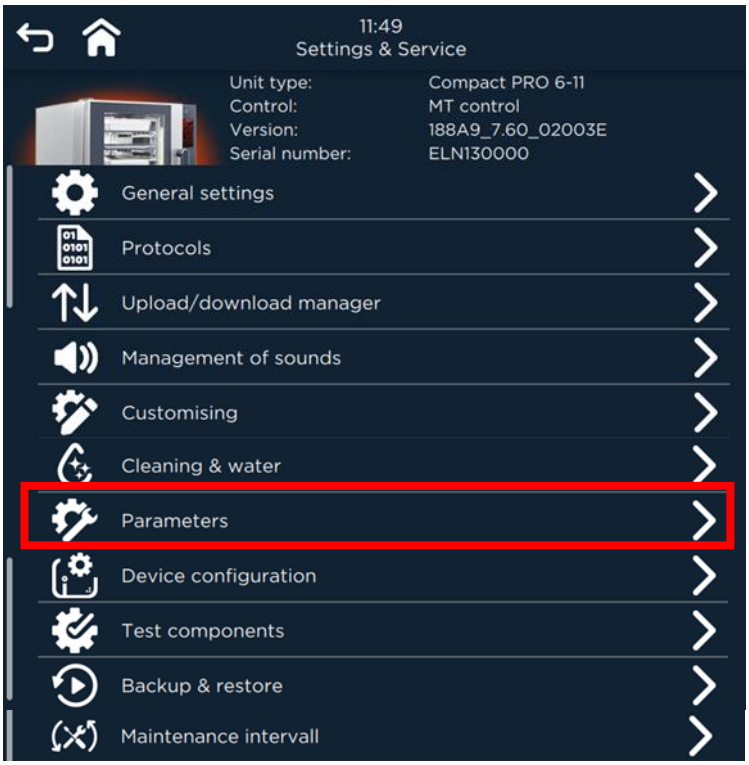


Figure 63: access parameters

Search

By entering a term (numbers or letters) in the search box, a parameter can be found quickly.

Range

Hose shower activated

Default setting:

On= solenoid valve of the hose shower is controlled when the device is switched on and the door is opened

Off = Control of the solenoid valve can be blocked.

Range:

Flow rate meter I

Default setting:

On = Signal of the flow meter is processed

Off = Query ingauge is turned off - error messages 370 + 371 are not output.

Range:

Steam discharge

Default settings:

On = Solenoid valve for the steam discharge is controlled

Off = Solenoid valve is no longer controlled

Range:

0-1140 minutes

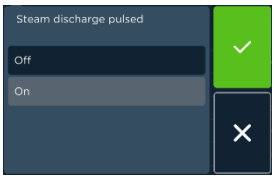
Setting step time

Default value of a cooking step when creating

Range:

0-1140 minutes

Range:



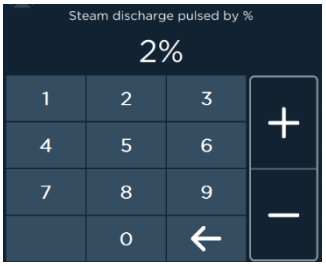
Steam erasure via clocking

Default settings:

On= the turf extinguishing is clocked, thus the water consumption is reduced

Off = The solenoid valve is controlled until the lower temperature (75°C) is reached at the steam sensor. Water consumption is increasing.

Range: 0-100%



Steam discharge via clocking in %

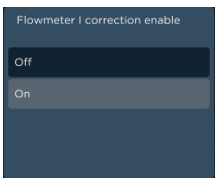
Indication of the ratio between switch-on and switch-off time (%) of the solenoid valve during pulsing

default setting: 2%

Example: 2%

2% valve on, 98% valve off

Range:



Flow rate meter I - Correction

Default settings:

To = The flow rate meter values (B2) are used to correct the water flow when the current flow rate is outside the limits.

Off = The correction is switched off

Activate touch cursor

Used to make the current cursor position visible during touch input.

Default setting:

Off= Cursor is not displayed

6.10.3 Device configuration

Function

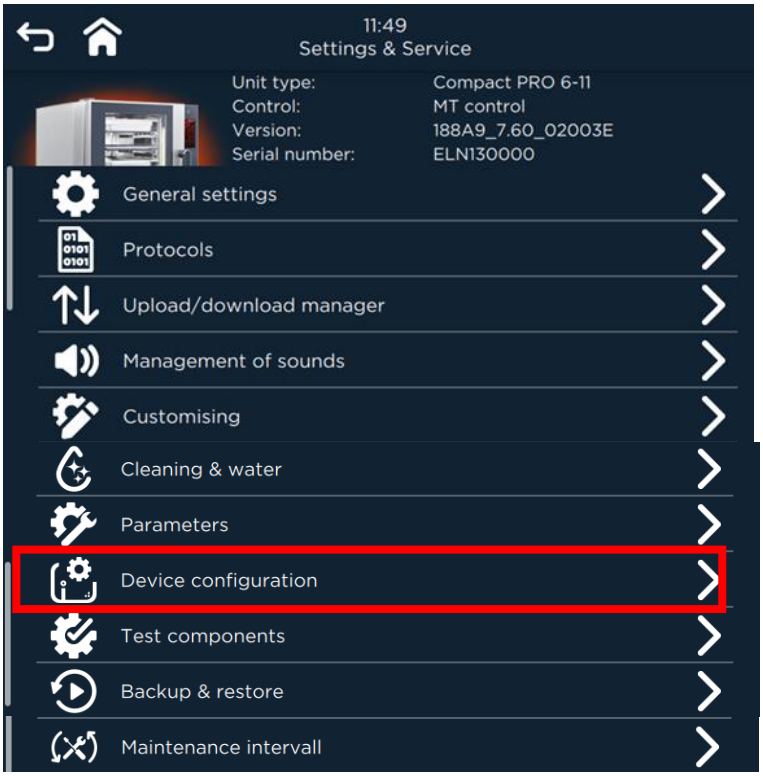
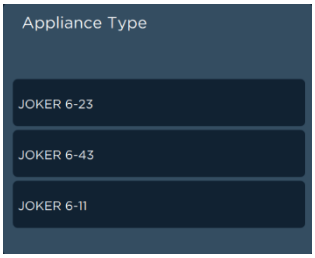


Figure 64: access device configuration

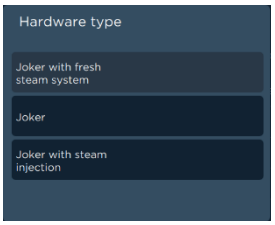
Range:



Device type

Selecting of cooking chamber size

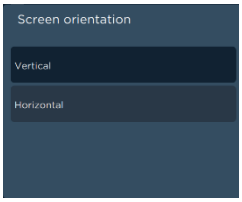
Range:



Hardware Device Type

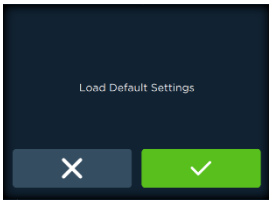
Selecting the device configuration

Range:



Screen orientation

Setting depending on the control position above/side



Load the default setting

Loads the basic settings according to the selected cooking chamber size and device configuration

Voltage & Power

Selection of voltage and connection power according to type plate

These values are only needed for the calculation of consumption values.

Example: 400V connection

Voltage range: 3NAC 380-400V

Volt: 400V

Performance is automatically determined

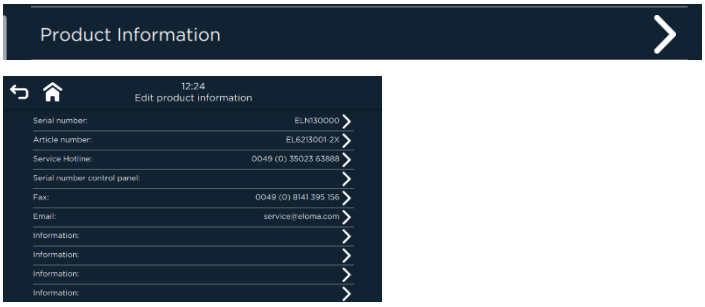
Modification

Specific device size settings.

The respective default values are automatically loaded by selecting the cooking chamber size and device configuration.

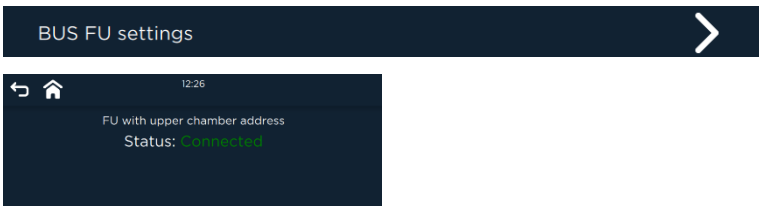
Upgrade Management

History of all updates performed with detailed information



Product Information

Here you can update the serial and item number as well as the device description after SD card exchange.



Setting BUS-FU

Displays the status of the MODBUS connection between the I/O board and the fan motor frequency converter.

Reset to factory settings

Loading the factory setting (only when using the original SD card of the delivery status)

6.10.3.1 Modification

Function

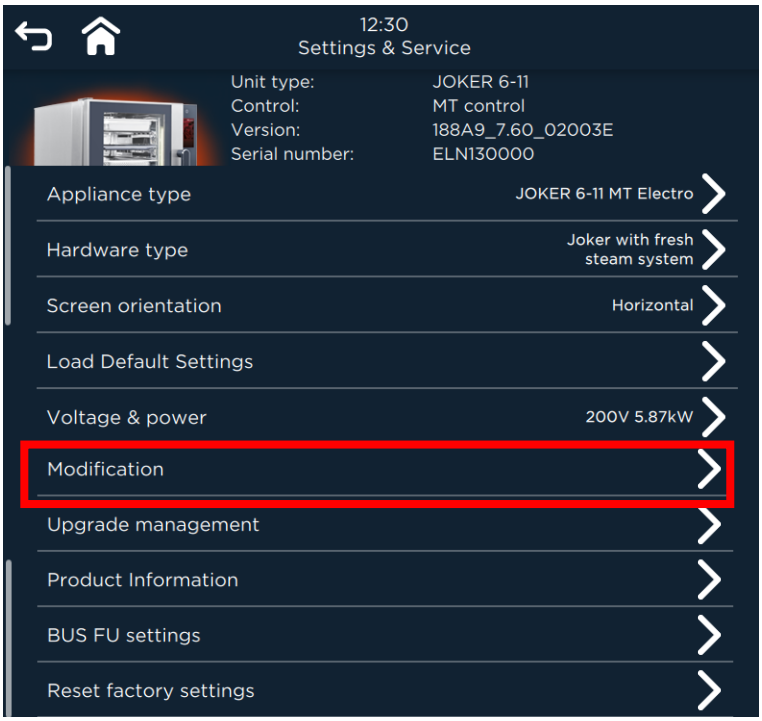
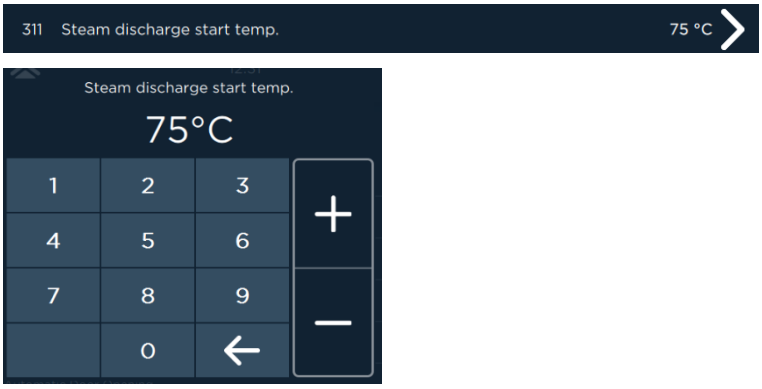


Figure 65: access modification

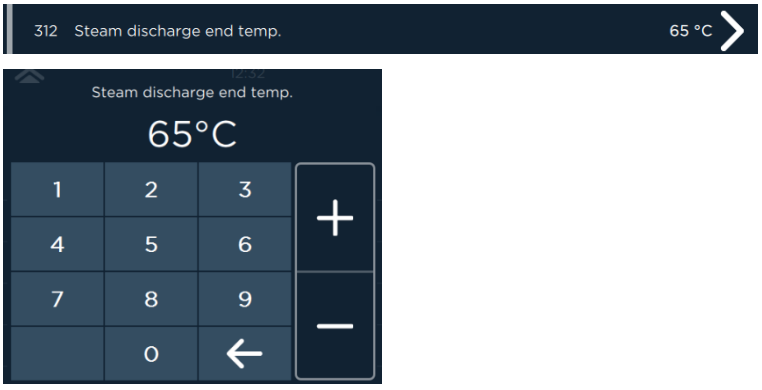


Steam reduction Start Temp.

Start temperature for the steam reduction - solenoid valve is controlled

Default setting: 75°C

Do not change this value!

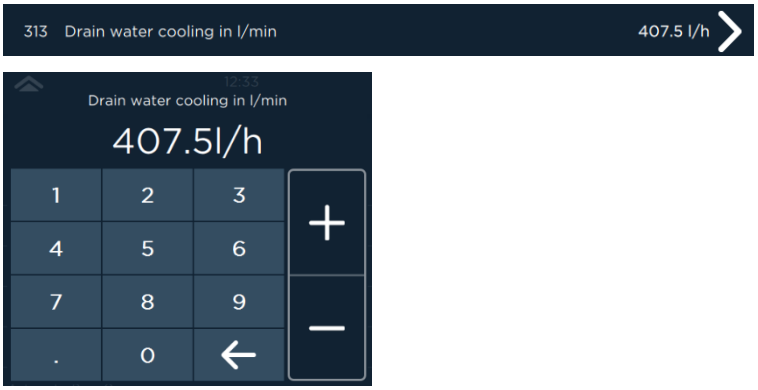


Steam reduction Stop Temp.

Final temperature for steam reduction - solenoid valve is no longer controlled

Default setting: 65°C

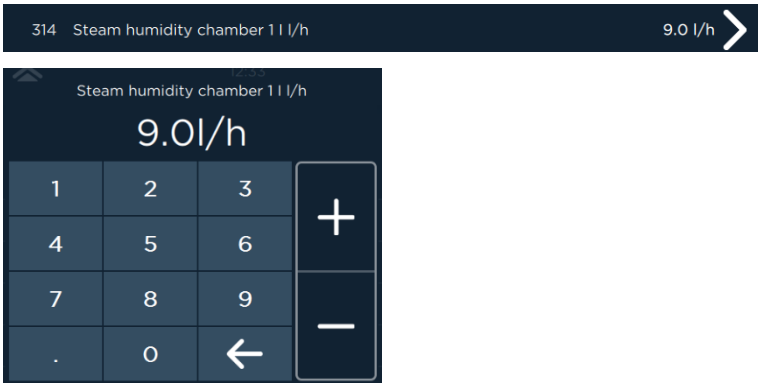
Do not change this value!



Steam reduction l/h

Flow rate at solenoid valve Y3 of the steam reduction in litres per hour

Do not change this value!



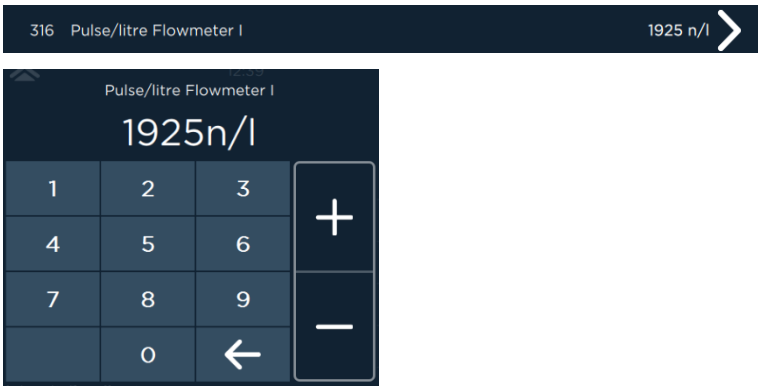
Steam amount upper chamber l/h

Flow rate solenoid valve Y1 for steam generation in litres per hour

Value is entered automatically depending on the selection of the cooking room size.

Device type	Water flow
6-23	6l/h
6-43	9 l/h
6-11	9 l/h

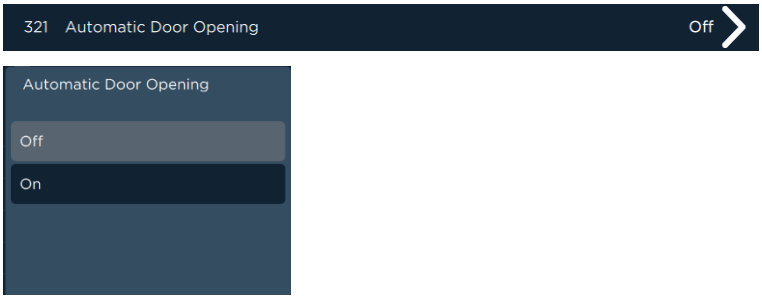
Do not change these values!



Pulse/litre flow meter l

Setting the resolution of the flow rate meter. Specifies how many pulses the flow rate meter generates per liter.

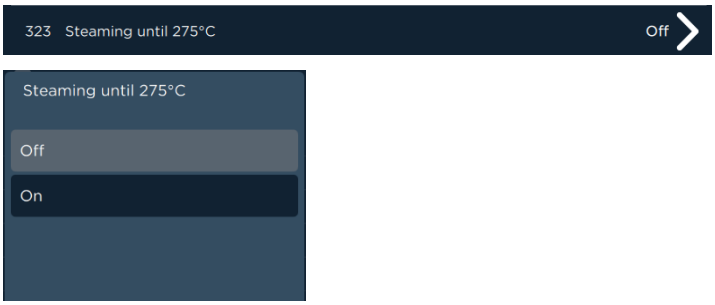
Do not change these values!



Automatic door opening

On = Only for devices with automatic door opener.

Default setting: Off



Vapours up to 275°C

ON = modified water injection at higher temperatures (steam above 230°C possible)

Defaultsetting:

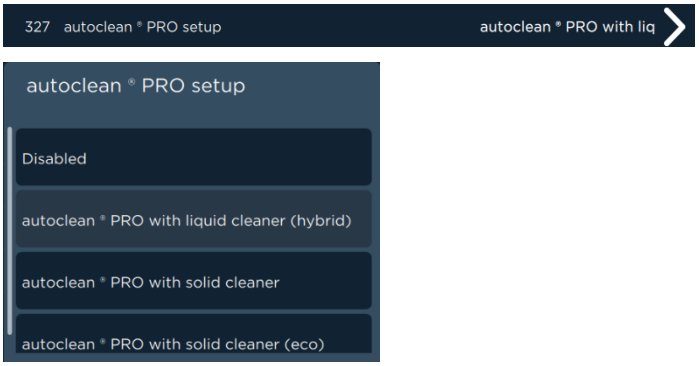
Off = Solenoid valve for steam is only controlled up to 230°C

CT probe

Setting the core temperature (meat probe) sensor.

External - equipped with a connector for an external CT and Souvide sensor

Internally - equipped with an internal, fixed CT sensor



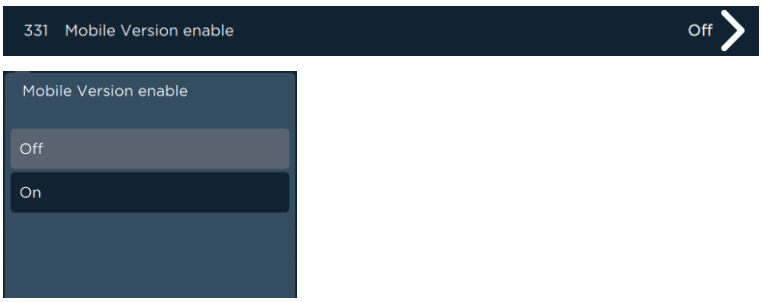
Selection of the cleaning system

Deactivated = no automatic cleaning system (only semi-automatic cleaning possible)

with liquid cleaner (hybrid) = hybrid system for optional use of cleaning tabs or liquid cleaner

with solid cleaner = cleaning system for the use of cleaning tabs

with solid cleaner (eco) = cleaning system for the use of sodium-hyrdoxide-free cleaning tabs



Mobile version enabled

Default setting : Off = Devices without water tank

On = Device with fresh water and wastewater tank

*only for tank unit (mobile version activated)

Humidification quantity per hour during steaming

Default setting: 4l/h

*only for tanker (mobile version activated)

Capacity of fresh water tank

Default setting: 6.5l

*only for tanker (mobile version activated).

Capacity of the waste water tank

Default setting: 5l

LAN interface

Activates the LAN interface

Default:

Off = Lan interface is disabled

On = LAN interface is activated

Light mode version

Default:

Light mode I = for Joker with LED lighting in the door

Do not change these values!

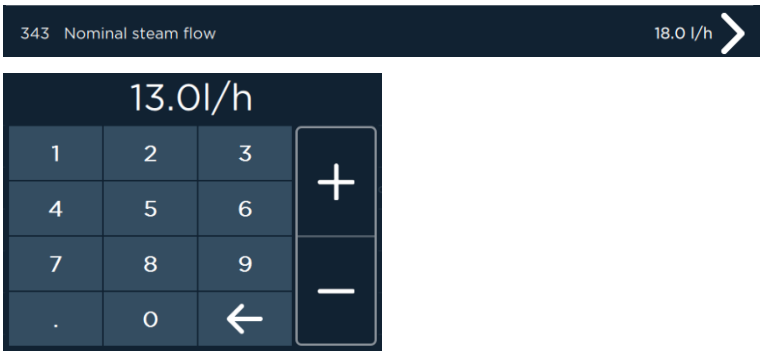
Installation hand shower

Not installed: = no hand shower available - solenoid valve for hand shower is not controlled

Default:

Under cooking chamber = hand shower under the cooking chamber - solenoid valve is only controlled when the door is open and the device is switched on

Inside control panel = hand shower in the control panel - solenoid valve is controlled by switching on the device.



Nominal steam flow

Basic setting 13 l/h

Physical flow rate of the solenoid valve for steam generation.

Do not change these values manually! Values are entered automatically during calibration and may vary depending on the tolerances of the flow meter and water pressure.

Steam flow baking

On = Activation for parameter 343 Steam flow for baking - change in the control of the solenoid valve

Default: On

Activate sensor for waste water basin

On = activates the sensor query (microswitch) of the drain pan with hot air device

Default setting: Off

Activate condensation hood

On = activates the control of the cooling fans of the condensation hood.

Default setting: Off (for units without condensation hood)

6.10.4 Components Test / Check 1

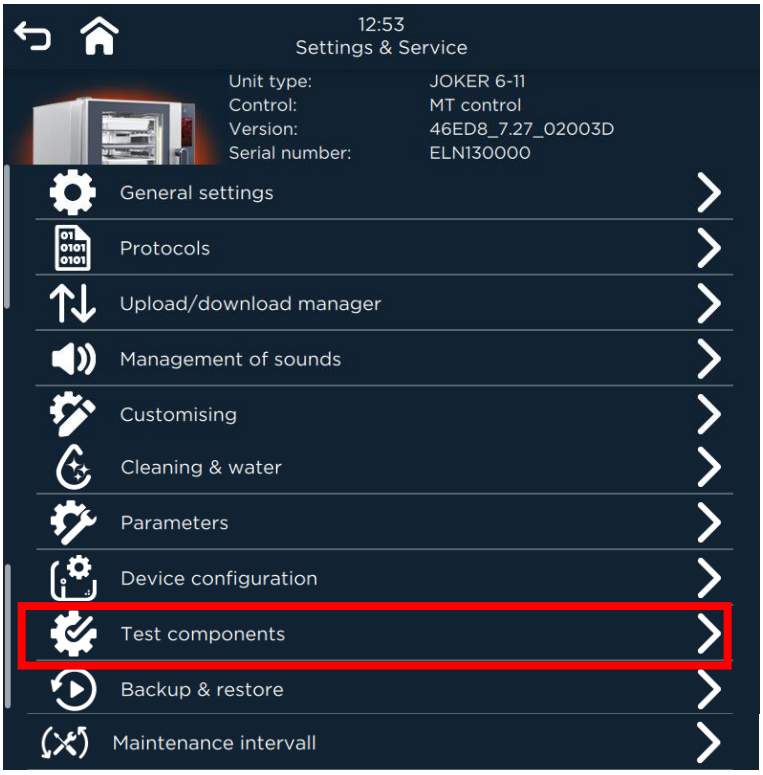


Figure 66: component test

Enter the three-digit ID number to test individual components.

Use Start and Stop to activate and deactivate the tests

Return to the previous menu with 

6.10.4.1 Test fan motor

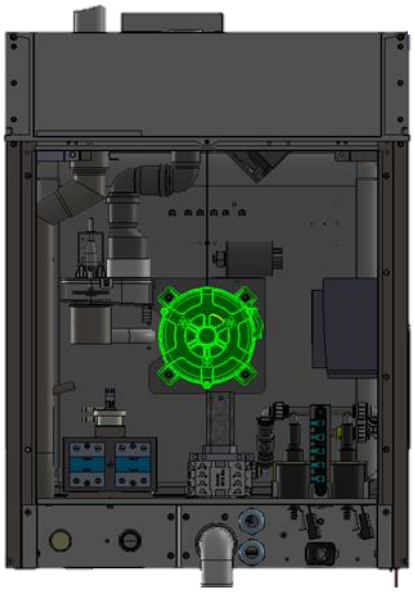


Figure 67: test fan motor

- 100: fan motor (top) right / fast
- 101: fan motor (top) right / slow
- 103: fan motor (top) left / fast
- 104: fan motor (top) left / slow

- 115: Fan motor cools down the heating elements– (see 6.10.4.2 Test)

6.10.4.2 Test heating system

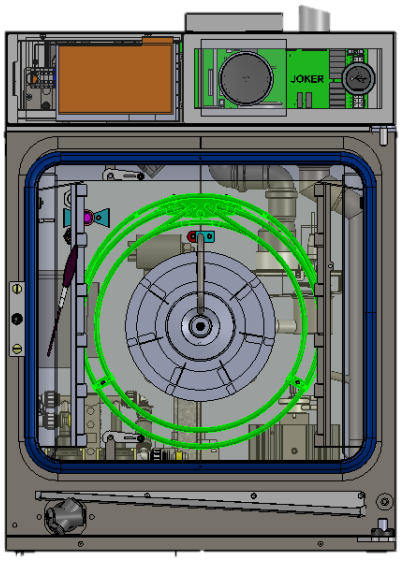


Figure 68: test heating elements

- 200: top / heating circuit 1
  max 18s heating, then 240 s cooling required via switch 115 (see 6.10.4.1 Test fan motor)
- 201: top / heating circuit 2
  dito

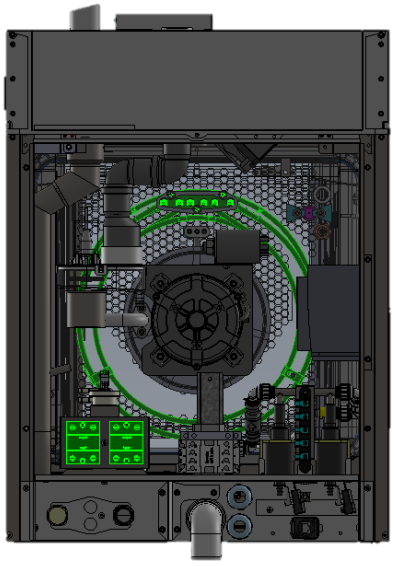


Figure 69: test solid state relays

6.10.4.3 Test hydraulic system

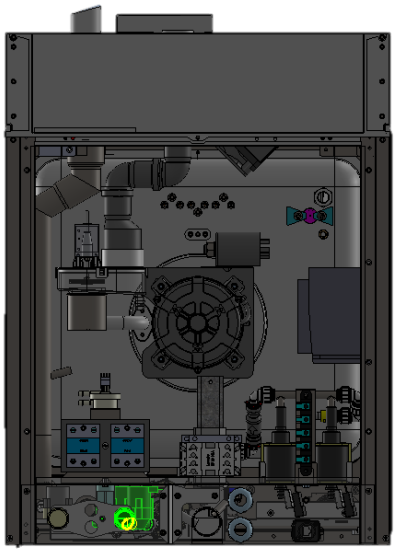


Figure 70: test hardwater valve

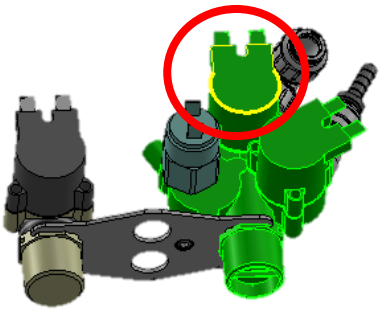


Figure 71: drainage cooling valve Y3

- 320: drainage cooling calibration at 500 ml
- 370: drainage cooling 1 min / ml depending on device size

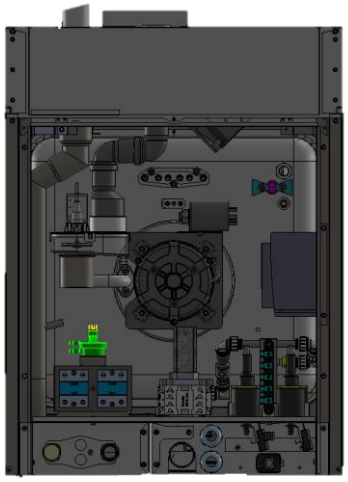


Figure 72: flow meter

- 330: Test flowmeter / top 5 min / counting pulses

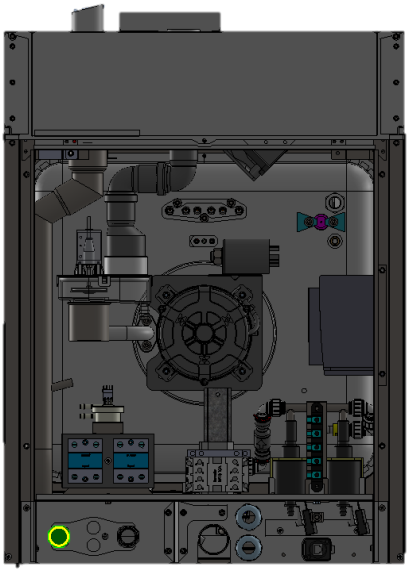


Figure 73: test softwater valve

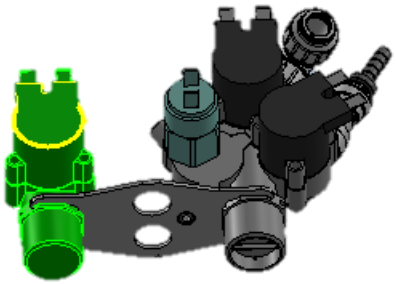
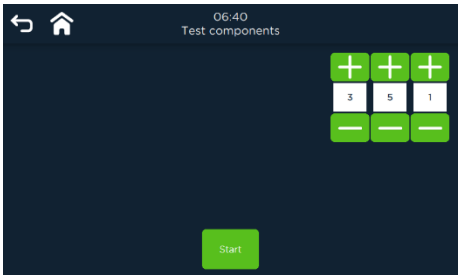


Figure 74: steam valve Y1

- 350: steam / top 1 min / ml depending on device size
- 351 steam flow rate calibration

Steam flow rate calibration (351)

- Enter ID 351



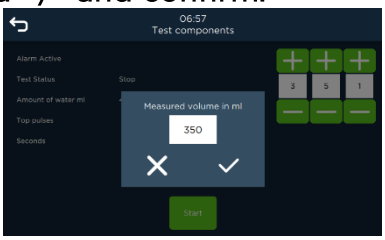
- Remove the water inlet pipe in the cooking chamber behind the air baffle
- Put the silicone hose on the water flow pipe.
- Component check start 

until water comes at the silicone hose (fill hose)
    - Stop
    - Start again and 

collect water with measuring cup (0,5l)

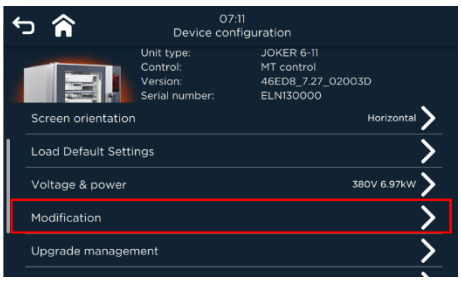
      (approx. 90sek)

- Set the measured value (example.:350ml) via +/- and confirm.

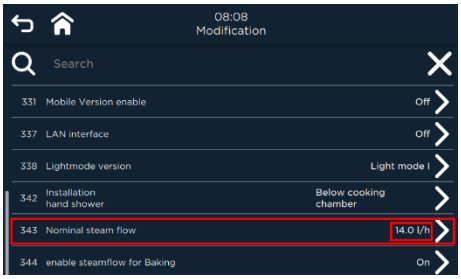


- Now multiply the measured value by 40.
(Bsp.: 0,35l x 40 = 14l/h)
- This value must now be set in the device configuration

- in modification



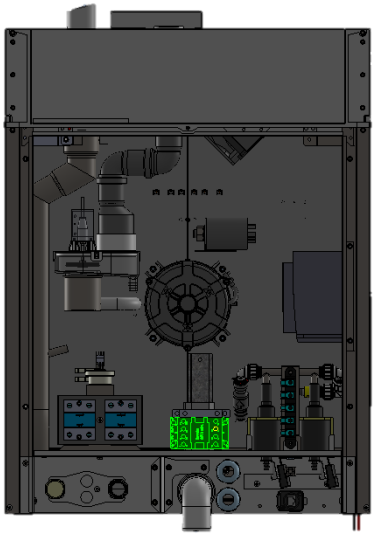
- set in parameter 343 „nominal steam flow“



- go back by home button  to main screeen

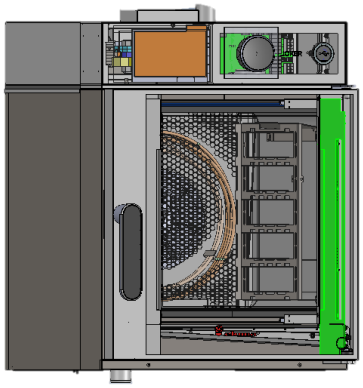
- Finally reassemble the dismantled parts (water inlet pipe, ...).

6.10.4.4 Test additional functions



- 400: main contactor on/off

Figure 75: test main contactor



- 410: chamber-lighting test

Figure 76: test LED stripes

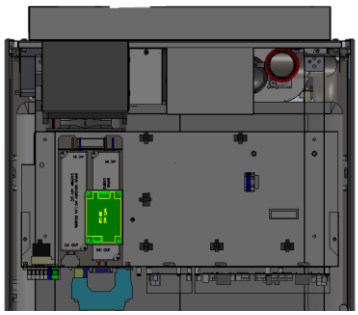


Figure 77: test power supply G3

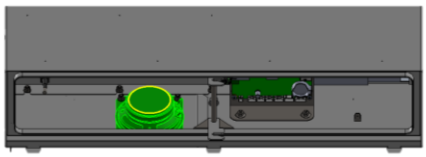


Figure 78: speaker H1

- 420: speaker signal test

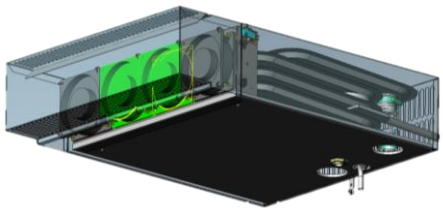


Figure 79: test inner cooling fans

- 430: condensation hood 1 function test cooloing fans 1

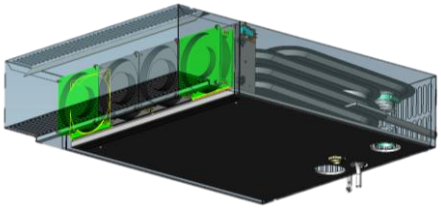


Figure 80: test outter cooling fans

- 431: condensation hood 2 function test cooloing fans 2

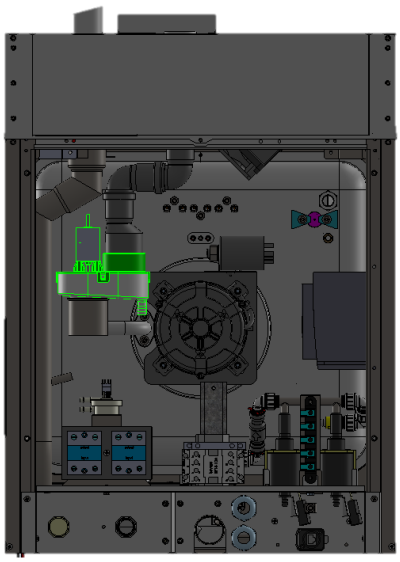


Figure 81: test air intake flap

- 440: air intake flap open

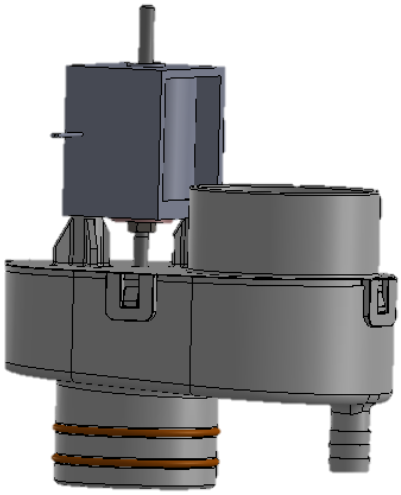


Figure 82: test solenoid air intake flap

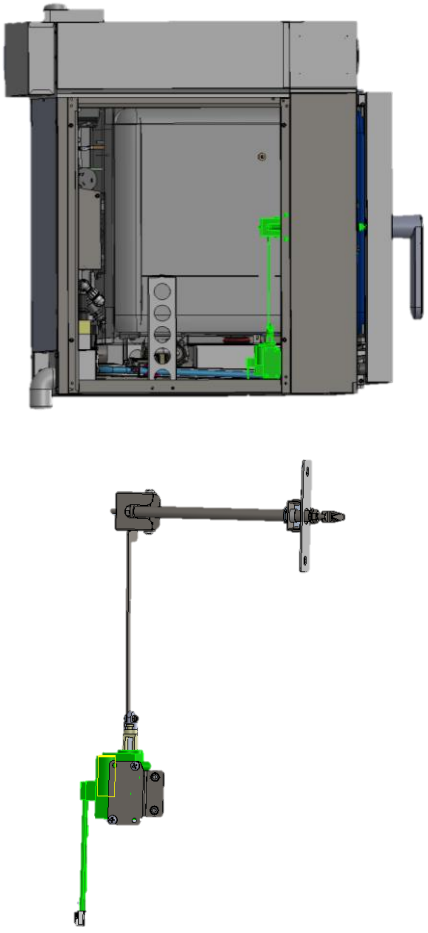


Figure 83: test electrical door opener

- 450: automatic door opener (option)

6.10.4.5 Test autoclean® PRO

Warning! After activating the pump, the decontamination step before cooking is required! This process cannot be skipped.

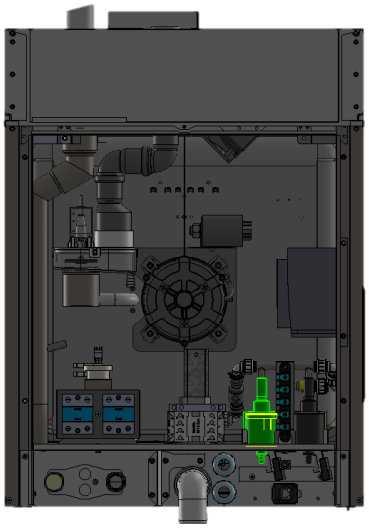


Figure 84: test cleaner pump

- 600: pump cleaner Test

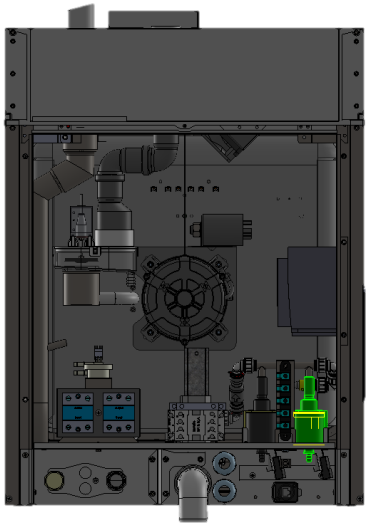


Figure 85: test rinse pump

- 610: pump rinse aid Test

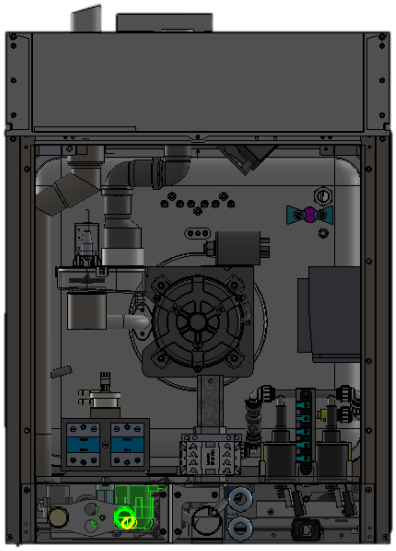


Figure 86: test fill up waterbox

- 620: fill up water box (Y3)

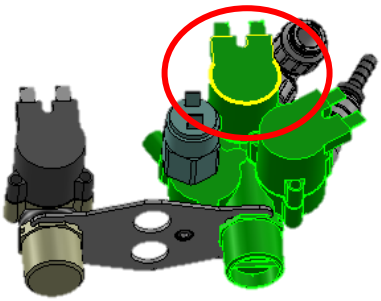


Figure 87: test valve Y3

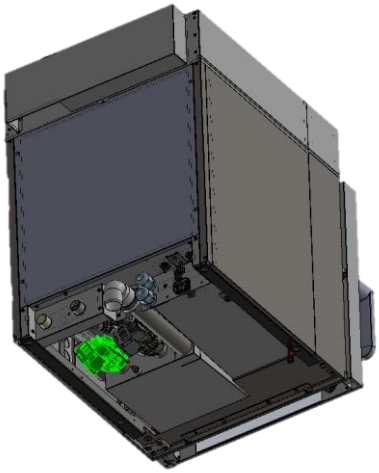


Figure 88: circulation pump

- 630: circulation pump M10 test

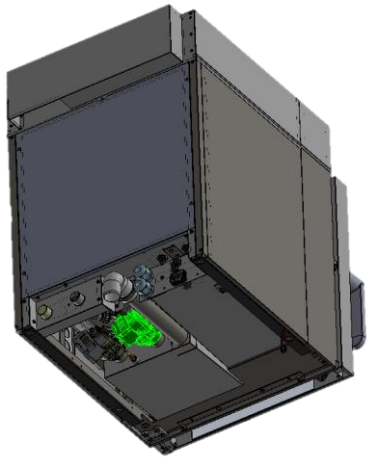


Figure 89: drainage pump

- 640: drainage pump M11 test

6.10.4.6 Test temperature sensors

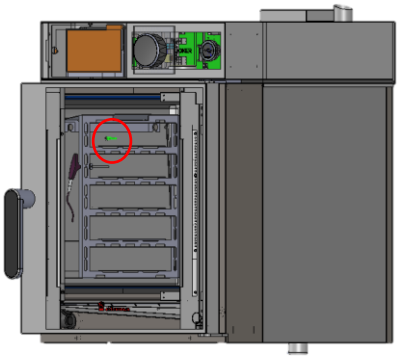


Figure 90: test chamber sensor

- 700: all sensors Display of all temperatures/ changes are shown immediately

➢ chamber sensor 1 display Temperature example 27.000000

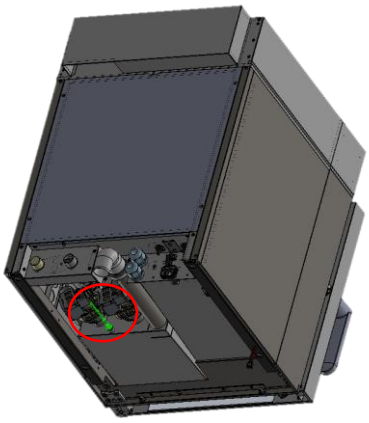


Figure 91: test waste steam sensor

- 700: all sensors Display of all temperatures/ changes are shown immediately

➢ Steam temp sensor displays Temperature example 27.000000

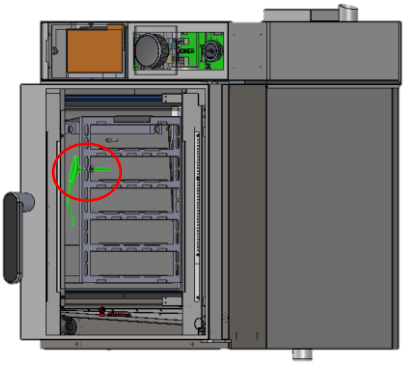


Figure 92: test meat probe

- 700: all sensors Display of all temperatures/ changes are shown immediately
  - Meat probe sensor 1 display Temp. example 27.000000
  - Meat probe sensor 2 display Temp. example 27.000000
  - Meat probe sensor 3 display Temp. example 27.000000
  - Meat probe sensor 4 display Temp. example 27.000000
  - Meat probe sensor output display Temp. example 27.000000

6.10.4.7 Test switches

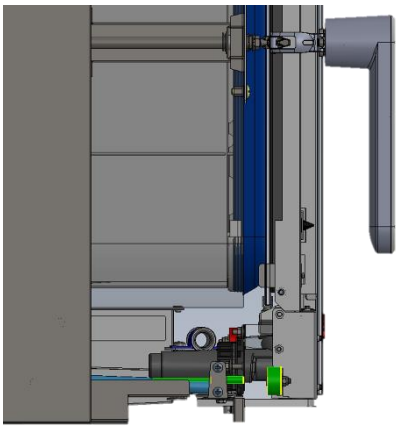


Figure 93: test door contact

- 800: door contact
  0/ door is closed
  1/ door is opened

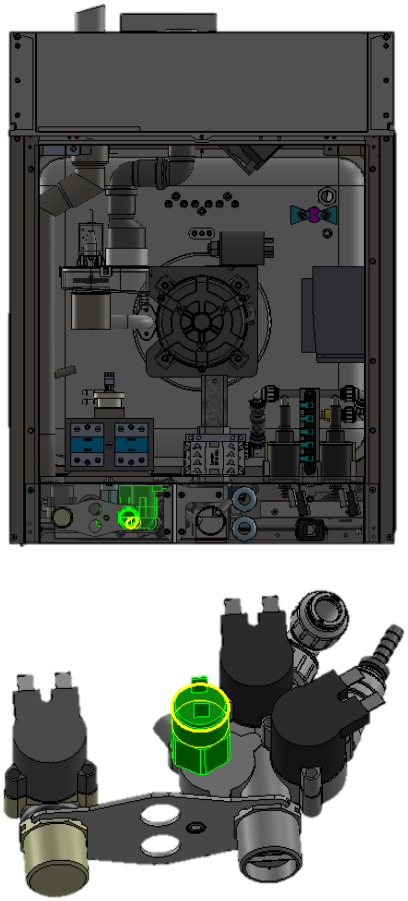


Figure 94: test pressure switch hard water

- 810: water pressure

  0/ pressure switch is closed

  1/ pressure switch is opened (no pressure)

6.10.5 Backup & restore

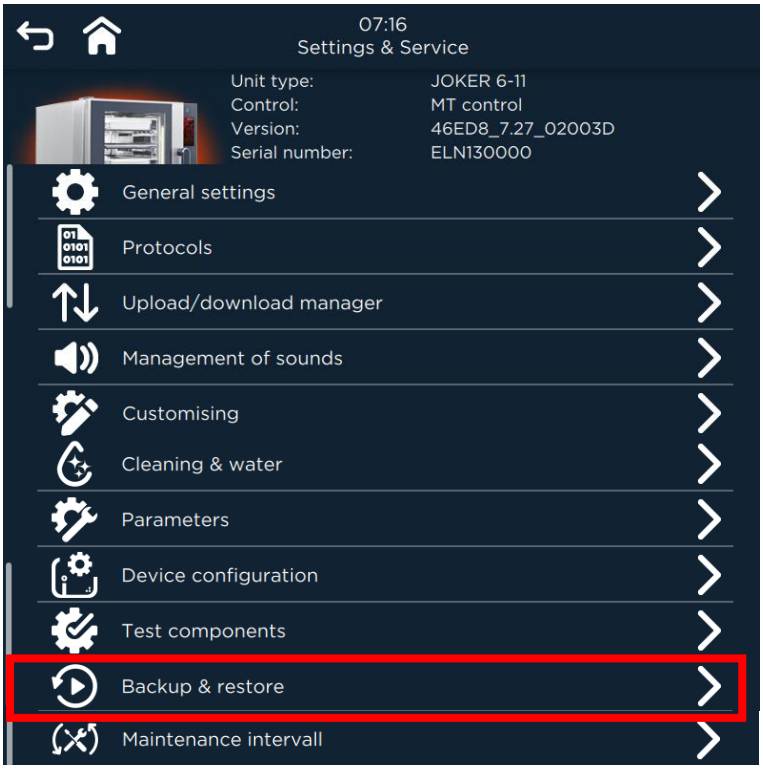
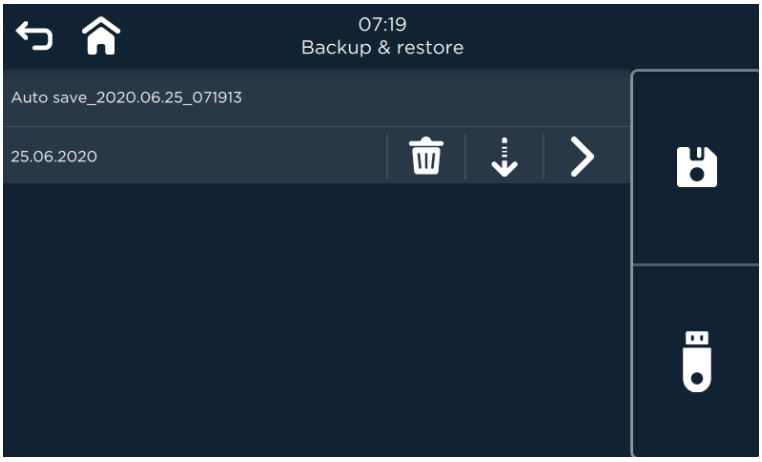


Figure 95: backup & restore

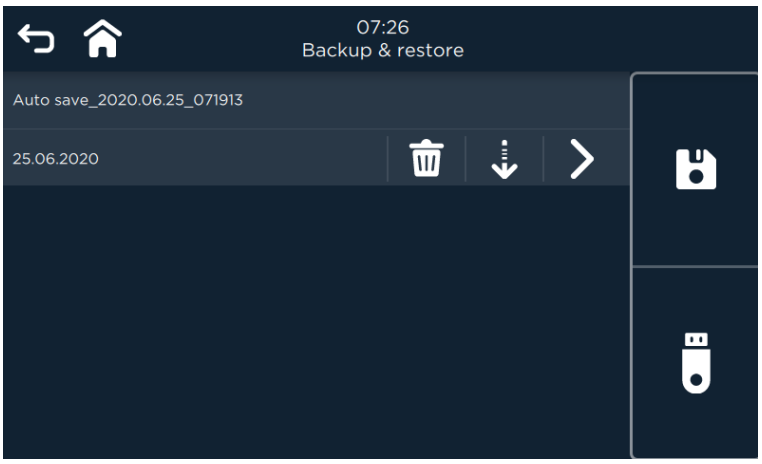


Backup and restore the complete system to and from the SD card.

Download and upload the backup to and from a USB stick

Storage of the complete system on the SD card

Download the backup to a USB stick

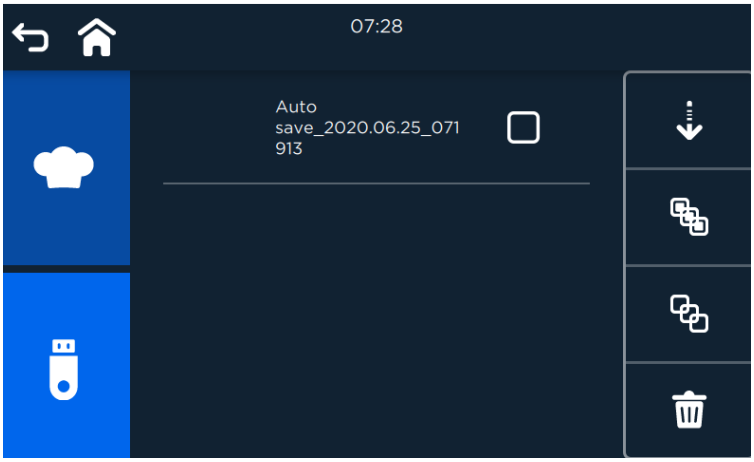


delete backup

switch to transfer mode

restore backup to device

Transfer mode



Backup source:

Chefs hat=device

USB=USB flash drive

Selected source is displayed in dark blue

select backup

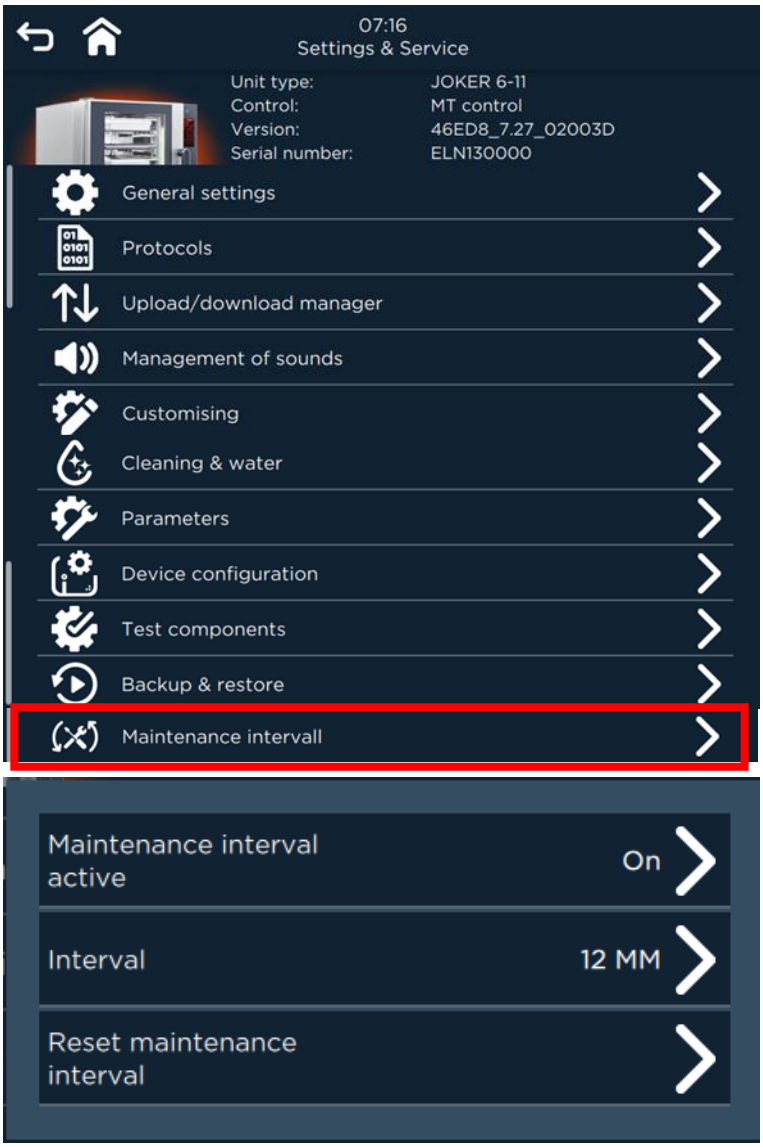
Transfer of the selected backups to the device/USB stick

Select all

uncheck all backups

delete selected backups

6.10.6 Maintenance interval



Setting the maintenance interval

default setting: On = Maintenance is recommended to the customer after the set interval

Disabled Off = No maintenance interval is displayed

Interval

basic setting: 12MM (Months)

Maintenance interval can only be reset here

7 Error codes

Error code	Description	Action	Operation Status	Remark
001 	Door open	➢ Close the door / operating panel. ➢ Check magnetic switch inside the operating panel. Is the position of the magnet switch correct? ➢ Is the magnet in the door frame present	Halt	EB30MT – door symbol is flashing
02	Emergency Release	➢ Units with electro-mechanic closing mechanism only	Halt	
03	Motor or end switch problem	➢ Units with electro-mechanic closing mechanism only	Halt	
04	Door bolt / hook did not switch	➢ Units with electro-mechanic closing mechanism only	Halt	
05	Door shows illogical behaviour	➢ Units with electro-mechanic closing mechanism only	Stop	
06	Undefined / uncritical state	➢ Units with electro-mechanic closing mechanism only	Halt	
07	Door doesn't open	➢ Units with electro-mechanic closing mechanism only	Warning	New door opener
34	Polarity error	➢ Check the Polarity of the power line – activated on gas units ➢ To be de-activated on units without N and the Japanese market	Stop	
40	Invalid RefTemp 1	➢ When setting up from the cold to the warm, it should have disappeared after temperature adjustment and 1-2 resets ➢ Warning – replace I/O board at next customer visit	Warning	
41	InvalidRefTemp 2	➢ When setting up from the cold to the warm, it should have disappeared after temperature adjustment and 1-2 resets ➢ Warning - replace I/O board at next customer visit	Warning	
42	InvalidRefTemp1+2	➢ Errors on 2 reference temperatures ➢ When setting up from the cold to the warm, it should have disappeared after temperature adjustment and 1-2 resets ➢ If error comes up several times, replace IO board	Stop	
43	Invalid Thermo-Signals	➢ Replace I/O Board	Stop	
44	Error temperature sensor 1, heating with no visible effect	➢ Please contact Eloma ➢ Unit cannot be used	Stop	

45	Error temperature sensor 2, heating with no visible effect	➢ Please contact Eloma ➢ Unit cannot be used	Stop	
46	Communication error sensor 1	➢ Check temperature sensors ➢ Check cables and connectors ➢ Replace I/O Board	Stop	Can be reset with a unit reset. For SW 4.01 or older, please upgrade the software
47	Communication error sensor 2	➢ Check temperature sensors ➢ Check cables and connectors ➢ Replace I/O Board	Stop	Can be reset with a unit reset. For SW 4.01 or older, please upgrade the software
48	Temperature sensor 2 or TC add on board short cut to earth	➢ Check connector (bridge) on TCC Add On board ➢ Check temperature sensor ➢ Check meat probe ➢ Replace I/O Board	Stop	Table-Top units only
49	Error steam discharge temperature sensor	➢ Check temp sensor status in the service menu ➢ Check meat probe ➢ Check steam discharge temp sensor ➢ Replace I/O board	Stop	
81	Software error	➢ Re-start unit	Stop	Call Eloma
82	Set points not available	➢ Re-start unit	Stop	Call Eloma
83	Simulation mode	➢ Missing I/O board	Stop	Call Eloma
84	Hardware error I/O lost communication	➢ Connection between CPU - I/O-board -Frequency Converter - Gasboard missing ➢ Check cable on port X22 (CPU) and X81 (I/O) ➢ I/O-board Firmware damaged after software upgrade – LED2 flashes 4 times fast ➢ Missing power on I/O board	Stop	When connecting again, please check external power supply connection, measure voltages L1-L2-L3-N # see also error 981
85	Software Error	➢ gui not connected	Stop	
86	Software Error Lost communication	➢ Missing link CPU to I/O board – software failure ➢ Check/replace CPU board and/or I/O Board and connection cable	Stop	Contact Eloma
87	Gas Board not connected	➢ Check gasboard ➢ Check connection gas board, CPU and I/O board	Stop	
88	Watchdog Error	➢ Software Error	Stop	
89	Watchdog Error	➢ Software Error	Stop	

111	Probe chamber 1 (top) No signal from sensor or short cut on TC-AddOn board	➢ Check probe 0,789mV at 20°C, ➢ Check TC-AddOn board for short-cut	Stop	
112	Probe chamber 2 (bottom) No signal from sensor or short cut on TC-AddOn board	➢ Check probe 0,789mV at 20°C, ➢ Check TC-AddOn board for short-cut	Stop	
113	Core probe No signal sensor 1	➢ Check probe 0,789mV at 20°C, ➢ Meat probe operation is possible	Warning	
114	Core probe No signal sensor 2	➢ Check probe 0,789mV at 20°C, ➢ Meat probe operation is possible	Warning	
115	Core probe No signal sensor 3	➢ Check probe 0,789mV at 20°C, ➢ Meat probe operation is possible	Warning	
116	Core probe No signal sensor 4	➢ Check probe 0,789mV at 20°C, ➢ Meat probe operation is possible	Warning	
117	Steam discharge temp sensor No signal	➢ Check probe 0,789mV at 20°C ➢ Check core temperature sensor for short circuit or short circuit to ground	Warning (SW 4.06+) Stop (SW <4.06)	
119	Temperature too high sensor 1	➢ Temperature value above 400°C or below - 30°C	Stop	
120	Temperature too high sensor 2	➢ Temperature value above 400°C or below - 30°C	Stop	
130	All meat probe sensors defective	➢ No operation if meat probe is activated ➢ Warning if core probe not used ➢ No signal of all 4 meat probe sensors	Stop/ Warning	Please check sensors inside Service Level
131	Temperatur too high during Auto Clean	➢ Temperature during cleaning above 120°C, let the oven cool down ➢ Stop of operation during Auto-Clean	Stop	
210	Main Contactor	➢ The state of the contactor deviates from the target state	Stop	

211 	Upper chamber safety chain is open	➢ Reset upper safety temperature limiter. ➢ If the safety temperature limiter has not released, please check: - motor temperature sensor (bi-metal strip, that reset itself when cooled down) - fuses on the I/O board - main contactor - check for 12VDC - K1 support contactor check 24V on I/O board GMT1		With the EB30MT and Joker, please also check that 12V is stable and that there is no problem with connected 12V consumers (flow meter, lifting magnet, door switch, tank sensor) and that correct halogen lamps are used.
212 	Lower chamber safety chain is open	➢ Reset lower safety temperature limiter. ➢ If the safety temperature limiter has not released, please check: - motor temperature sensor (bi-metal strip, that reset itself when cooled down) - fuses on the I/O board - main contactor - check for 12VDC - K1 support contactor - check 24V on I/O board GMT1	Stop	
213 	No motor signal from speed sensor – motor on top	➢ Check the main / motor fuses ➢ Check main contactor ➢ Check status frequency converter ➢ Check speed sensor + cable connection ➢ Check motor	Stop	Lower Motor 233
214	Software too old – I/O Firmware <9.00	➢ Firmware I/O Board and/or software CPU Board too old ➢ Software upgrade required	Warning	No motor speed control
215	Interner Firmware- failure	➢ MULTIMAX and GMT2 - Stop	Stop	Replace SD carte
216	Replace Frequency Converter without power for 2 years	➢ Reset CPU time, shortcut battery contacts	Stop	
220	BUS-FU 1 Communication-Error	➢ Cable connection failure frequency converter to I/O board	Stop	After software upgrade, please check parameter 340 in service level
221	BUS-FU2 Error	➢ Check sub-code list with frequency converter error codes	Stop	

222	BUS-FU 2 Communication-Error	➢ Cable connection failure frequency converter to I/O board	Stop	After software upgrade, please check parameter 340 in service level
223	BUS-FU1 Error	➢ Check sub-code list with frequency converter error codes	Stop	
233 	No engine signal Rotation monitoring - lower motor	➢ Check main contactor ➢ Check status frequency converter ➢ Check speed sensor + cable connection ➢ Check motor	Stop	Motor on top 213
250	I/O Watchdog error	➢ Please upgrade Firmware ➢ Replace I/O Board	Stop	
251	Fuse 4 broken, 4AT	➢ Replace fuse ➢ Check reason for blown fuse	Stop	JMT, GMT1 and MM floor mounted units
252	Fuse 5 broken, 4AT	➢ Replace fuse ➢ Check reason for blown fuse	Stop	JMT, GMT1 and MM floor mounted units
253	Fuse 6 broken, 4AT	➢ Replace fuse ➢ Check reason for blown fuse	Stop	JMT, GMT1 and MM floor mounted units
254	Fuse 3 in IO2 board	➢ Replace Fuse 4A delayed (5x20)	Stop	MM, GMT, EB30MT, Joker20
255	Fuse 2 in IO2 board	➢ Replace Fuse 4A delayed (5x20) ➢ KH & vapor elimination disturbed	Warning	MM, GMT, EB30MT, Joker20
256	Fuse 1 in IO2/ autoclean board	➢ Replace Fuse 4A delayed (5x20) ➢ For units without autoclean board – check for jumper	Stop	MM GMT2 For units without AC-Shortcut IO 2 board X22 X22/1<->X22/8 PressureSwitch X22/7<->X22/11 Status F1
257	AC activated but no AC board installed	➢ Please deactivate AC in the service menu	Stop	
258	Standby temperature aktiv	➢ Unit is working in stand-by modus	Information	
311 	No water / low water pressure	➢ Open the water tap. ➢ The water flow pressure must be checked, 2 bar / 29 PSI for soft water. ➢ Autoclean will pause until pressure is high enough.	Warning	Cooking / baking mode - warning Autoclean operation - pause
312	Not enough water	➢ Info from flow meter	Warning	Genius T only

313	Hand shower de-activated	➢ Hand shower disabled via service menu	Warning	Service level: Parameter: 221
314	Sensor water level water tank	➢ units with water tank option only	Warning	Service level: Parameter 231 / 331
315	Water is running without demand	➢ Check Solenoid Chamber 1 ➢ Check flow meter ➢ Check the RC element on the solenoid valve ➢ Check software version	Stop	update software if version before 6.32 present
316	No water pressure during autoclean	➢ Autoclean action ➢ Refer code 311	Stop	
317	Water is running without a demand	➢ Check Solenoid Chamber 2 ➢ Check flow meter ➢ Check the RC element on the solenoid valve ➢ Check software version	Warning	update software if version before 6.32 present
318	Check solenoid valve 1 (top)	➢ Check amount of water upper chamber ➢ Warning	Warning	Only devices with a flow meter - # Flowmeter has recorded less than 50% of the expected water flow
319	Correct solenoid valve 2 (bottom)	➢ Check amount of water lower chamber ➢ Warning	Warning	Only devices with a flow meter - # Flowmeter has recorded less than 50% of the expected water flow
320	Hand shower blocked	➢ Hand shower automatically disabled at temperatures above 230°C	Warning	
350	WaterTank-Fresh Water below 30%	➢ Information at switch-on	Warning	
351	WaterTank-Fresh Water below 15%	➢ Information at switch-on, operation and program start and during operation	Warning	
352	WaterTank-Fresh Water below 5%	➢ Information at switch-on, operation and program start and during operation	Warning	
353	WaterTank-Fresh Water 0%	➢ Program stop ➢ Water valve will be closed	Stop	
360	Waste Water-Tank, capacity 30%	➢ Information at switch-on	Warning	

361	Waste Water-Tank, capacity 15%	➢ Information at switch-on, operation and program start and during operation	Warning	
362	Waste Water-Tank, capacity 5%	➢ Information at switch-on, operation and program start and during operation	Warning	
363	Waste Water-Tank, capacity 0%	➢ Program stop ➢ Water valve will be closed	Stop	After emptying the tank must be reset
370	No water seen by flowmeter 1	➢ Oven without Full-Flowmeter: no verification ➢ Oven with simplified Flowmeter: Warning ➢ Oven with Full-Flowmeter: Warning	Warning	update software if version before 6.32 present
371	No water seen by flowmeter 2	➢ Oven without Full-Flowmeter: no verification ➢ Oven with simplified Flowmeter: Warning ➢ Oven with Full-Flowmeter: Warning	Warning	update software if version before 6.32 present
372	No water pressure	➢ During cleaning: Program will stop and wait ➢ During normal operation: Warning	Stop/ Warning	See also error 311
373	No water pressure soft water	➢ During cleaning with soft water: Program will stop and wait ➢ During normal operation: Warning	Stop/ Warning	See also error 311
511	PCB temperature above 65°C	➢ Check and clean air filter, located at the bottom of the front panel ➢ Check that both fans underneath front panel and underneath unit centre are up and running	Warning	
512	PCB temperature above 70°C	➢ Check and clean air filter, located at the bottom of the front panel ➢ Check that both fans underneath front panel and underneath unit centre are up and running	Stop	
513	PCB temperature above 68°C	➢ Slow heating, main contactor will be switched off	Stop	Only Geräte GT, MA,MB, JokerB,JokerT, EBT 30(XL), EB 50/80
514	CPU board temperature too high	➢ Check and clean air filter, located at the bottom of the front panel ➢ Check that both fans underneath front panel and underneath unit centre are up and running	Stop	
550	Software Failure	➢ Reset Unit	Stop	Call Eloma
551	USB malfunction	➢ Missing USB stick on active USB port ➢ USB stick or USB port defective	Warning	
552	Software Failure	➢ Reset Unit	Stop	Call Eloma

600	Cleaner Status	➢ Attention ➢ 15% of Cleaner remaining	Warning	
601	Rinse Aid Status	➢ Attention ➢ 15% of Rinse Aid remaining	Warning	
602	Water Filter Status Time	➢ Change water filter	Warning	Reset after water filter exchange
680	Cleaning program ended	➢ For information only	Note	
681	Care program is running	➢ Information when calling up cleaning page	Note	
682	Use care program next time	➢ The next time you start cleaning, there is a message indicating the required care program	Note	
683	Water hardness is outside the specification	➢ The set water hardness is 14°dH or higher	Note	
685		➢		
603	Water Filter Status Volume	➢ Change water filter	Warning	Reset after water filter exchange
604	Cleaner Status	➢ Attention ➢ 30% of Cleaner remaining	Warning	
605	Rinse Status	➢ Attention ➢ 30% of Rinse Aid remaining	Warning	
650	Service recommended	➢ Shown when activated in service menu ➢ To be reset in service menu N° 15	Warning	
660	Cleaning recommended	➢ Shown after defined time depending from executed programs	Warning	
680	Cleaning Program ended	➢ For Information only	Note	
681	Care program running	➢ Info when calling up cleaning page	Note	
682	Use care program next time	➢ The next time you start cleaning, there is a message indicating the care program required	Note	
683	Water hardness is outside the specification	➢ The set water hardness is 14 ° dH or higher Note	Note	
685	Cleaning Image	➢ Internal Information	Internal	Not visible
712 	No flame lower chamber	➢ Ensure phase is at L1, polarity! ➢ Kitchen ventilation system working? ➢ Check the ionisation current of the gas system chamber 2 ➢ Reset unit: Pressing restart.	Stop	
713	Time out from error 711 after 300 sec	➢ Pause, see 711	Warning	

714	Time out from error 712 after 300 sec	➢ Pause, see 712	Warning	
771	Fresh water tank empty	➢ For information	Warning	
773	Fresh water is not enough for the selected program	➢ For information	Note	
774	The remaining amount of water is sufficient for 5 minutes	➢ Issued when the sensor no longer detects water	Warning	
776	Level sensor deactivated	➢ Emergency mode for tank devices if the level sensor has been deactivated	Warning	
777	Position sensor deactivated	➢ Emergency mode for tank units if the position sensor has been deactivated	Warning	
778	Level sensor and position sensor deactivated	➢ Emergency mode for tank units if the level sensor and position sensor have been deactivated	Warning	
779	Fresh water tank is missing	➢ Steaming and cleaning not possible	Warning	
780	Check tanks	➢ Before the semi-automatic cleaning, the fresh water tank must be filled and the waste water tank emptied	Warning	
781	The waste water tank is full	➢ Empty the waste water tank, the supply air is closed and the fresh water pump is switched off	Warning	
782	Waste water tank almost full	➢ Empty the waste water tank within the next 5 minutes, approx. 5l already in the waste water tank	Warning	
783	Waste water tank or waste water pan (under the drip channel) is missing	➢ Device cannot work	Warning	
784	Waste water tray (under the drip channel) is missing	➢ Device cannot work	Warning	
800	PreHeat TimeOut	➢ Preheat set point not reached after 2 h ➢ Check heating ➢ Check program settings	Warning	
810	Open door	➢ Open the door to cool down	Warning	
815	Exceeding the set holding temperature	➢ Temperature is 5k above target	Warning	

820	Display in multi-cooking with target time	➢ If synchronization is activated in multicooking, but the operator puts the products into the oven too late or not at all	Warning	
900	Upgrade Error	➢ *Subcode 100* Damaged I/O or Gas board or FU connection or wrong device elec/gas unit settings ➢ Replace parts and/or check settings ➢ *Subcode 101 – 306* ➢ Redo upgrade ➢ *Subcode 307* ➢ Replace SD card	Warning	
901	Retain Memory Failure	➢ Reset unit ➢ In case repeated failure messages – replace CPU	Warning	Error writing data to memory
911	Lost Protocol Messages	➢ Reset unit	Warning	
980	Hold temperature too high	➢ Temperature too high during special mprogram “hold”	Warning	Cooking chamber temperature has to be reduced
981	Error Modbus connection	➢ No communication via a Modbus interface, ➢ device can be operated, 84 and 220 occur in parallel for the frequncy converter, only after program start: Error	Warning	I/O-Board – CPU I/O-Board – Gas-Board I/O-Board – FU
983	Cleaning finished	➢ cleaning program is finished	Information	
984	Wastewater tank missing	➢ Wastewater tank missing ➢ Without the tank a cooking program cannot be started	Warning	Units with wastewater tank only
985	Freshwater tank missing	➢ Freshwater tank missing ➢ Without the tank a cooking program cannot be started	Warning	Units with freshwater tank only
988	Data corrupted	➢ Mismatch data on CPU and SD card ➢ Please RESET the unit ➢ Replace SD card and/or CPU board	Warning	1 / not critical after upgrade 2 / Date & time and logs not saved and are lost after PowerON
989	Data mismatch CPU and SD card	➢ Shown after Software Update ➢ Failure will disappear after 10 sec	Information	

7.1 BUS-frequency converter subcode information

Sub-code	Text-code	Description	Remedy
0	nOF	No failure seen	Replace Freqency Converter, send the defective part back to Eloma
1	InF	No info in data sheet	Replace Freqency Converter, send the defective part back to Eloma
3	CFF	Incorrect configuration	Replace Freqency Converter, send the defective part back to Eloma
4	CFI	Invalid configuration	Replace Freqency Converter, send the defective part back to Eloma
5	***SLF1***	***Modbus communication***	***Check modbus cables. If nothing found - replace FU and CPU.***
8	EPF1	No info in data sheet	Replace Freqency Converter, send the defective part back to Eloma
9	***OCF***	***Overcurrent***	***Check the state of the mechanism.*** ***Check the ground connection of drive, motor cable and insulation.***
10	***CrF1***	***Precharge***	***Check power connection to frequency converter and fuses.*** ***Check stability of the main power supply.***
16	***OHF***	***Drive overheat***	***Check cooling system and fan wheel mechanism.***
17	***OLF***	***Motor overload***	***Check fan wheel mechanism.***
18	***ObF***	***Overbraking***	***Check line supply voltage, it has to be under acceptable maximum (20% over maximum line supply during run status)***
19	***OSF***	***Main overvoltage***	***Check the line voltage***
20	***OPF1***	***1 output phase loss***	***Check the connections from the drive to the motor***
21	***PHF***	***Input phase loss***	***Check the power connection and the fuses.***
22	***USF***	***Undervoltage***	***Check the line voltage***
23	***SCF1***	***Motor short circuit***	***Check connection drive to the motor, and the motor insulation.*** ***Replace motor.***
24	***SOF***	***Overspeed***	***Check the motor and fan wheel mechanism.***
25	tnF	Auto-tuning	Replace Freqency Converter, send the defective part back to Eloma
26	InF1	Unknown drive rating	Replace Freqency Converter, send the defective part back to Eloma
27	InF2	Unknown/incompatible power board	Replace Freqency Converter, send the defective part back to Eloma
28	InF3	Internal serial link	Replace Freqency Converter, send the defective part back to Eloma
29	InF4	Invalid industrialization zone	Replace Freqency Converter, send the defective part back to Eloma
32	***SCF3***	***Ground short circuit***	***Check connections.*** *Replace Freqency Converter, send the defective part back to Eloma*
33	***OPF2***	***3-phase output phase loss***	***Check the connections from the drive to the motor***
42	SLF2	SoMove communication	Replace Freqency Converter, send the defective part back to Eloma
45	SLF3	HMI communication	Replace Freqency Converter, send the defective part back to Eloma
51	InF9	Current measurement circuit failure	Replace Freqency Converter, send the defective part back to Eloma
53	InFb	Internal thermal sensor failure	Replace Freqency Converter, send the defective part back to Eloma
54	***tJF***	***IGBT overheat***	***Check the motor and fan wheel mechanism.***
55	SCF4	IGBT short circuit	Replace Freqency Converter, send the defective part back to Eloma
56	***SCF5***	***Load short circuit***	***Check cable connection drive to the motor, and the motor's insulation.***
69	InFE	Internal CPU failure	Replace Freqency Converter, send the defective part back to Eloma

77	CFI2	Invalid configuration download	Replace Freqency Converter, send the defective part back to Eloma
100	ULF	Process underload failure	Replace Freqency Converter, send the defective part back to Eloma
101	OLC	Process overload failure	Replace Freqency Converter, send the defective part back to Eloma
102	SPIF	No info in data sheet	Replace Freqency Converter, send the defective part back to Eloma
106	LFF1	All current lost fault	Replace Freqency Converter, send the defective part back to Eloma
253	----	Problem of applied Firmware	Replace Freqency Converter, send the defective part back to Eloma

8 Documents

8.1 Maintenance protocol

ESTP - maintenance checklist

annual inspection - maintenance protocol Eloma electric combi steamers

address of the service company		address of the customer
	name:	
	zip/city:	
	street:	
	phone:	
	fax:	
	email:	

device type: serial number:

service report number: software version:

Ask the operating staff/customer about defects and note them under **Remarks**.

1 = faulty 2 = not present 3 = OK or repaired

Visual inspection :	1	2	3
Check water treatment for function (current capacity:_____liter)	❒	❒	❒
Check device for mechanical and thermal damages and corrosion	❒	❒	❒
Check cooking chamber, fan wheel for lime deposits and cracks	❒	❒	❒
Check grease filter for cleanliness and function	❒	❒	❒
Check door seal and rubber buffer for damage and wear	❒	❒	❒
Check drip tray and drain (seal)	❒	❒	❒
check door and door adjustment	❒	❒	❒
door lock - check adjustment and wear	❒	❒	❒
Visual inspection of the electrical wiring and components	❒	❒	❒
Check operating panel for damages	❒	❒	❒
check air filter for cleanliness and function	❒	❒	❒
check cooling fan for function	❒	❒	❒
check transverse seal for damage and wear	❒	❒	❒
check equipment alignment (Does the bulkhead plate of the tray trolley cover 1/	❒	❒	❒

Page 1 of 3

1 = faulty 2 = not present 3 = OK or repaired

component check : (service menu - 13 component Test/ Check 1)	1	2	3
fan motor top fast: clockwise rotation - 100/ counterclockwise rotation - 103	❒	❒	❒
fan motor bottom fast: clockwise rotation - 110/counter clockwise rotation - 112	❒	❒	❒
fan motor top slow: clockwise rotation - 101/ counterclockwise rotation - 104	❒	❒	❒
fan motor bottom slow: clockwise rotation - 111/counter clockwise rotation - 114	❒	❒	❒
hydraulics: steam top - 300/ steam bottom - 310	❒	❒	❒
hydraulics: steam discharge - 320	❒	❒	❒
additional function: lighting - 410/ loudspeaker - 420	❒	❒	❒
additional function: air intake valve open - 440/ closed - 441	❒	❒	❒
autoclean®: pump cleaner - 600/ rinse aid - 610/ motor autoclean - 620	❒	❒	❒
autoclean®: magnetic valve hard water - 630/ soft water - 640	❒	❒	❒
temperature sensor: sensor test - 700	❒	❒	❒
switch: door contact - 800/ pressure switch - 810	❒	❒	❒
safety flushing	❒	❒	❒

general safety check:	1	2	3
save protocol data on USB flash drive	❒	❒	❒
hand shower - check retract, leakage and function	❒	❒	❒
check all screw connections for tightness	❒	❒	❒
1 = faulty 2 = not present 3 = OK or repaired	1	2	3

leak test general:			
check door for tightness during operation	❒	❒	❒
check the sensor lead-through for leaks	❒	❒	❒
check the axis-hub assembly autoclean® for leaks	❒	❒	❒
check water assemblies for leaks	❒	❒	❒
Check gas assemblies for damage/leakage (visual check and leak test)	❒	❒	❒

water check:	
total hardness:	°dH
carbonate hardness:	°dH
conductance:	µS/cm

final check:	1	2	3
replace missing screws and small parts	❒	❒	❒
data back up to USB and hand over to customer (14 Backup & Restore)	❒	❒	❒
functional check and handover of the device to customer	❒	❒	❒
safety check according to VDE 0701 performed	❒	❒	❒

comments:

City, date

name technician
(In print letters)

signature technician

name customer
(In print letters)

signature customer

8.2 Commissioning check list

Commissioning check list, Joker

After commissioning, please send this form urgently to Eloma GmbH in Maisach in order to register the warranty for the device.

Fax: +49 (0) 8141 395 156 E-mail: service@eloma.com

Warranty claims can not be processed without this information.

Please adhere to the installation instructions and the local regulations!

1 Customer details

Customer address:	Company	Commissioning performed by:
	Name/ Technician1	
	Name/ Technician2	
	Street address	
	Town/city and post code	
	E-mail	
	Telephone	

2 Device data:

Model:	ST	☐	MT	☐		
Device size:	6-23	☐	6-43	☐	6-11	☐
Door hinge:	RH	☐	LH	☐		
Operating panel:	horizontal	☐	vertical	☐		
CombiMix station:	Device, top	☐	Device, bottom	☐		
Accessories:	KH	☐	BF	☐	Base kit	☐

Device
Serial No.: ELN__ __ __ __ __ __
Operating panel
Serial No.: ELN__ __ __ __ __ __
Software version: __.__ __
Firmware version: IO2:__ __ __ __+__ __ __
Commissioning date: _____._____._____
Remarks: .....

3 Device alignment:

Please adhere to the clearance distances in the handbook!

	Yes	No
• Level floor/installation location:	☐	☐
• Could the station be aligned:	☐	☐
• Device secured to prevent slipping:	☐	☐
• Door adjustment checked after alignment:	☐	☐
• Minimum clearance (50 mm) maintained all around:	☐	☐
• Minimum clearance upwards with hood (50 mm):	☐	☐
• Minimum clearance upwards without hood (1000 mm):	☐	☐
• External hood implemented above steamer:	☐	☐

Enter clearances here

Remarks: .....

4. Water connection:

	Yes	No
• Water supply connected correctly (flexible hose, return flow inhibitor (EA), shut-off valve and water temperature (max.50°C) provided by the user!):	☐	☐
• Flow pressure on the device (between 2 bar and 6 bar):	☐	☐

Remarks: .....

5. Water quality:

	upstream of the filter	In front of device
• Overall hardness GH in °dH:	_____°dH	_____°dH
• Carbonate hardness KH in °dH:	_____°dH	_____°dH
• Conductivity LW in µS/cm:	_____ µS	_____ µS

Remarks: .....

.....

6. Water filter:

	Yes	No
• Water filter installed:	☐	☐
• Manufacturer/Designation: ..... /		
• Setting: ..... Flow rate: ml/ Waste: %		

Remarks: .....

.....

7. Waste water connection:

	Yes	No
• Implemented	☐	☐
• Temperature resistant waste water pipe (as per DIN16560, min. 5% inclination):	☐	☐
• Diameter of drain pipe (DN50 recommended): ..... _____mm		
• Connection: Direct: ☐ Siphon with vent: ☐ Funnel siphon: ☐		

Remarks: .....

.....

8. Electrical connection:

	Yes	No
• All-pole disconnector implemented:	☐	☐
• Equipotential bonding connected:	☐	☐
• Floating-potential contact (option) connected:	☐	☐

- Measured voltage: ..... L1-L2:_____V L1-L3:_____V L2-L3:_____V
  L1-N:_____V L2-N:_____V L3-N:_____V N-PE:_____V
- Measured current consumption: ..... L1:_____A L2:_____A L3:_____A
- Installed circuit breaker (CB) (Characteristics D): ..... CB: _____ A
  Residual current device (RCD) (Characteristic B): ..... RCD:___mA

Remarks: .....

.....

9.autoclean® PRO:

	Yes	No
• Cleaner installed under device:	☐	☐
• Is Eloma cleaner used (Multi-Clean PRO special cleaner):	☐	☐

Remarks: .....

.....

10.Functional test:

	Yes	No
• Electrical connections correctly implemented:	☐	☐
• Water, wastewater and cleaner connections correctly implemented:	☐	☐
• Commissioning of autoclean® PRO performed:	☐	☐
• All operating modes and the function of the condensation hood tested:	☐	☐
• Direction of rotation of blower rotor checked:	☐	☐

Remarks: .....

.....

Other : .....

.....

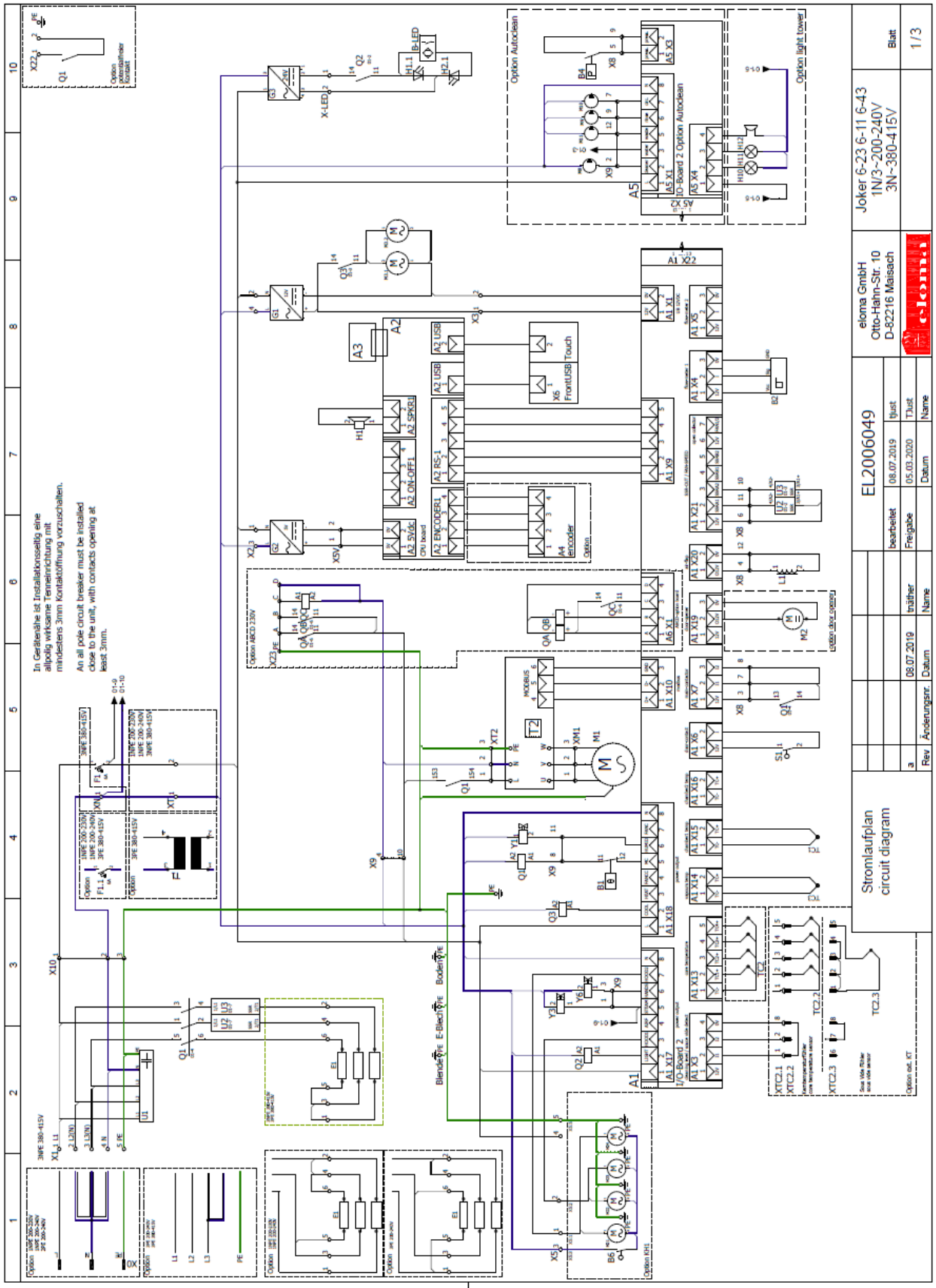
Date; location

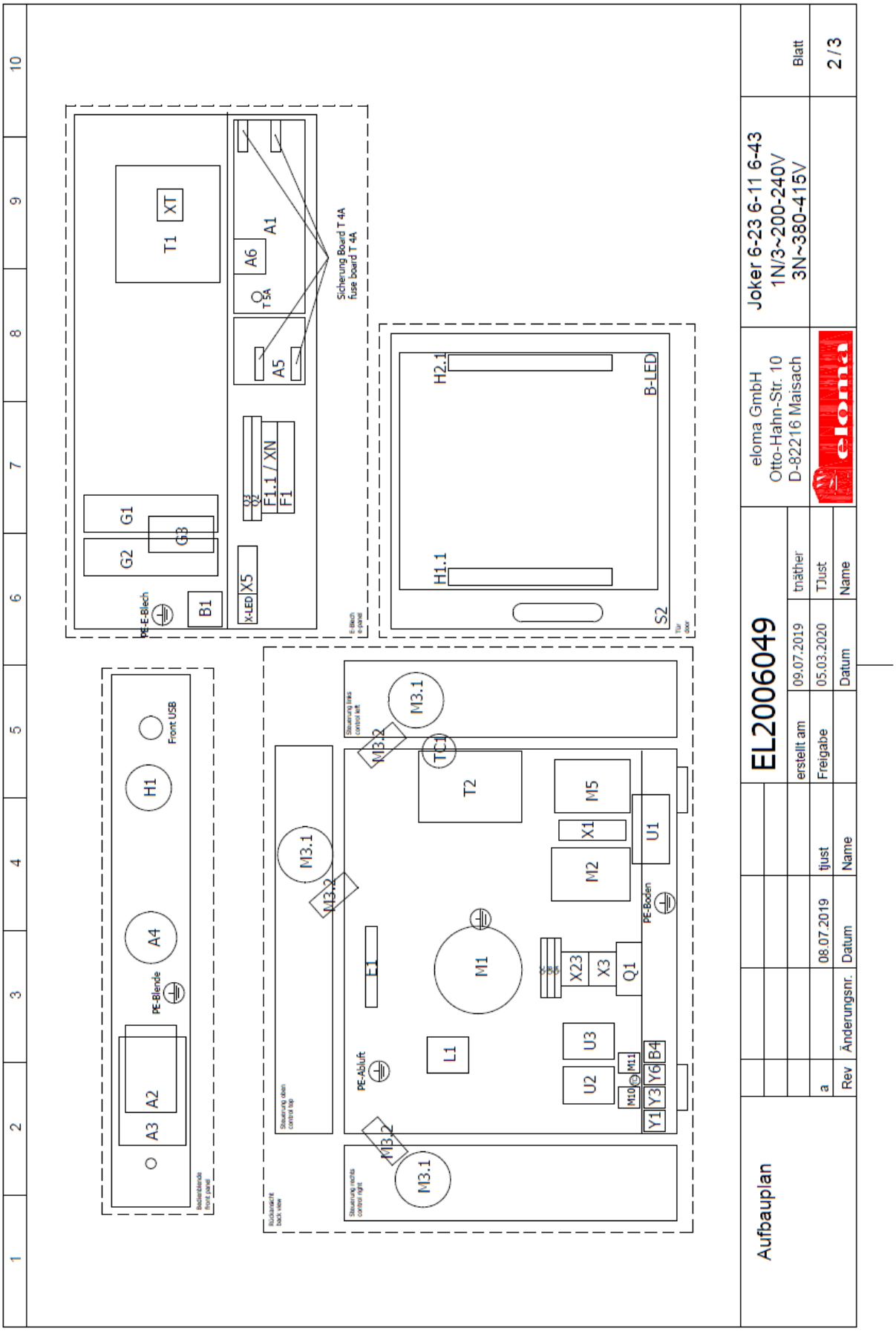
Customer's signature

Technician1 signature

Technician2 signature

8.3 Circuit diagram




EL2006049
Joker 6-23 6-11 6-43
1N/3~200-240V
3N~380-415V
eloma GmbH
Otto-Hahn-Str. 10
D-82216 Maisach
Aufbauplan
Blatt
2/3
erstellt am
09.07.2019
tnäther
Freigabe
05.03.2020
TJust
Datum
Name
Änderungsnr.
Datum
Name
08.07.2019
tjust
Rev
a
T1
XT
A1
A6
A5
T5A
F1.1 / XN
F1
G1
G2
G3
B1
X5
X-LED
PE-E-Blech
Sicherung Board T 4A
fuse board T 4A
H2.1
H1.1
B-LED
S2
A3
A2
A4
H1
Front USB
PE-Blende
M3.1
M3.2
T2
TC1
M5
X1
M2
U1
M1
E1
L1
X23
X3
Q1
U3
U2
M10
M11
Y1
Y3
Y6
B4
PE-Abluft
PE-Boden

1	2	3	4	5
Eloma Art.-Nr.	**BMKZ**	**Beschreibung/Name dt**	**description/name eng**	**Option**
EL2005370	A1	I/O Board	I/O board	
EL2002917	A2	Prozessor	central processor unit	
	A3	Display	screen	
EL2002832	A4	Steuerung: Encoder	controls: encoder	
EL2003068	A5	I/O Board	I/O board	Autoclean
EL2003214	A6	ABCD Board	ABCD board	ABCD
EL0503630	B1	Sicherheitstemperaturbegrenzer	safety temperature limiter	
EL0509008	B2	Durchflussmesser	flow sensor	
EL0784028	B4	Druckschalter (Wasser)	pressure switch (water)	Autoclean
EL0570540	B6	Endschalter	limit switch	KH
EL2003565	B-LED	LED-Türkontakt	LED-door contact	
EL2006380	E1	Heizkörper 6-23	heating element 6-23	1NPE 200-230V 3.4kW
EL2006381	E1	Heizkörper 6-23	heating element 6-23	3PE 200-230V 5.7kW 3PE 380-415V 5.7kW 3NPE 380-415V 5.7kW
EL2005606	E1	Heizkörper 6-11	heating element 6-11	3PE 200-230V 7.5kW 3PE 380-415V 7.5kW 3NPE 380-415V 7.5kW
EL2006157	F1 F1.1	Sicherungsautomat	circuit breaker	
EL2005054	G1	Netzteil I/O-Board	power supply I/O-board	
EL2005053	G2	Netzteil CPU	power supply cpu	
EL2005311	G3	Netzteil Licht	power supply light	
EL2003111	H1	Lautsprecher	speeker	
	H10 H11 H12	Signalleuchte 2 Signalleuchte 1 Signalhupe	light tower 2 light tower 1 buzzer	light tower / buzzer
EL2004379	H1.1 H2.1	LED-Streifen	LED-stripe	
EL2003126	L1	Luftklappe	air flap	
EL2005058	M1	Garraum Lüfter	chamber fan	
EL0501313	M8 M9	Pumpe (Reiniger) Pumpe (Klarspüler)	pump (cleaning agent) pump (rinse agent)	Autoclean
EL2006401	M10 M11	Umwälzpumpe	pump (cleaning)	Autoclean
EL0693456	M21 M22 M23 M24	Lüfter KH	fan KH	KH
EL2006425	M3.1	Kühlungslüfter	cooling fan	120mm
EL2006426	M3.2	Kühlungslüfter	cooling fan	80mm
EL2000765	Q1	Hauptschütz	main contactor	
EL2000770	Q1	Hautschütz Hilfskontakt	main contactor additional contact	
EL0742813	Q2 Q3	Relais	relay	

6	7	8	9	10
Eloma Art.-Nr.	**BMKZ**	**Beschreibung/Name dt**	**description/name eng**	**Option**
EL0764116	QA QB	Relais (A) Relais (B)	relay (A) relay (B)	ABCD
EL0742813	QC	Relais (C)	relay (C)	ABCD
EL2003565	S1	Türkontakt	door contact	
EL0503606	T1	Sonderspannungstrafo	transformer special voltage	3PE 380-415V
EL2005402	T2	Frequenzumrichter	frequency converter	
EL2004399	TC1	Temperaturfühler	temperature probe	
EL2003514	TC2	Kerntemperaturfühler	core temperature sensor	
EL2004399	TC3	Temperaturfühler (Wrasen)	temperature probe	
EL2001735	TC2.2	Kerntemperaturfühler	core temperature sensor	ext. coretemp.
EL2001737	TC2.3	Sous Vide Fühler	sous vide sensor	ext. coretemp.
EL0586013	U1	Netzfilter	line filter	
EL2005202	U2 U3	Solid State Relais	solid state relay	
EL0188921	X0	Netzstecker	power plug	1NPE 200-230V
EL2004602	X1	Netzanschlussklemme	power terminal	
	X2 X3 X5 X6 X22 X23 XN	Klemme Netzteile Klemme Netzteil 12V Klemme Dunstabzugshaube USB-Steckverbinder potentialfreier Kontakt Energieoptimierung Neutralleiterklemme	terminal power supply terminal power supply 12V terminal condansation hood USB-plug potential-free contact energy optimization terminal neutral	
EL2000170	Y1	Dampfventil	valve steam	
EL0508945	Y3 Y6	Magnetventil (Wrasenablöschung) Magnetventil (Schlauchbrause)	solenoid valve (drain cooling) solenoid valve (hand shower)	

Betriebsmittelstückliste Bill of materials					EL2006049		eloma GmbH Otto-Hahn-Str. 10 D-82216 Maisach	Joker 6-23 6-11 6-43 1N/3~200-240V 3N~380-415V	Blatt
					bearbeitet	08.07.2019 tjust			
	a		08.01.2020	TJust	Freigabe	05.03.2020 TJust	eloma		3 / 3
	Rev	Änderungsnr.	Datum	Name		Datum Name			

9 Notes

Eloma Service

Phon:	+49 (0)35023 63 888
Fax:	+49 (0)35023 63 156
E-Mail:	service@eloma.com
Web:	https://www.eloma.com/

Version: **1.0.1.722** 04/2020

Technische Änderungen Vorbehalten