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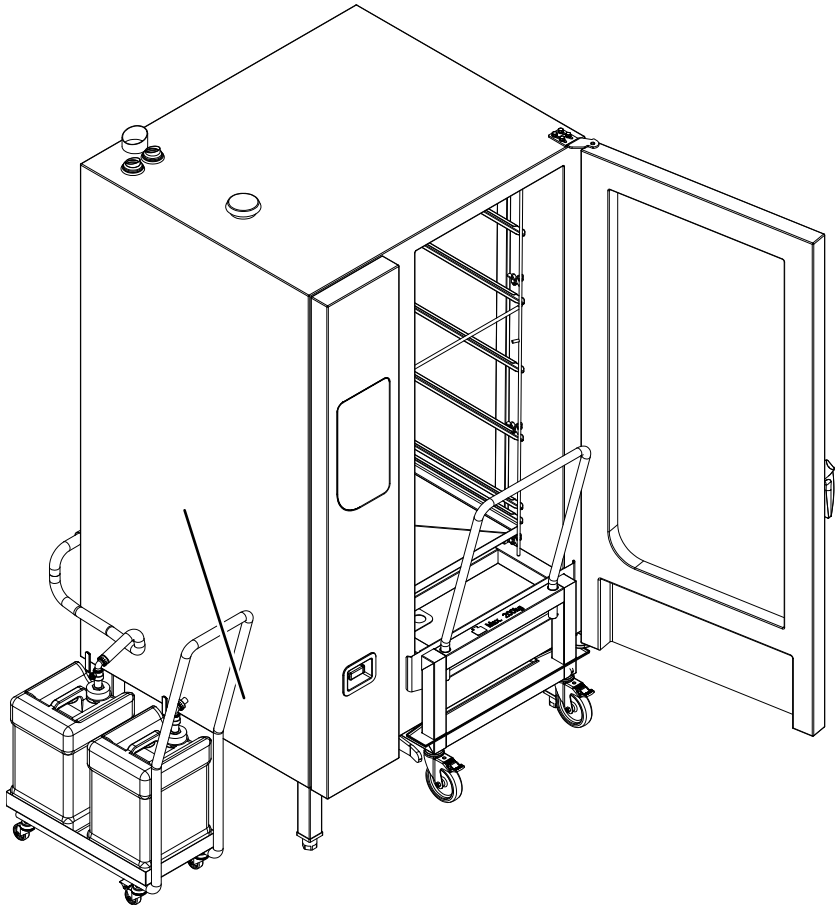
Engineered to Last

Service-instructions

FlexFusion® GAS PLATINUM COMBI incl. grease collection



Model

FPG-**221**
Software
1.91

Translation from the original document • FM06-143C • 10/24/2024

FM06-143C en-US

Henny Penny Corporation
P.O.Box 60
Eaton,OH 45320
USA

Phone +1 937 456-8400
Fax +1 937 456-8402

Toll free in USA
Phone +1 937 417-8417
Fax +1 937 417-8434

www.hennypenny.com

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1 Password overview

Range	Password	Description	Described in
Service menu incl. CO_2 Gas calibration	1967	Service range for authorized service technicians.	Service instructions
Installation / commissioning	2100	Setting all basic parameters (for example time / date).	Installation instructions
CO_2 gas calibration	999	Verification and calibration of exhaust emissions. Only for energy type - gas.	Service manual Installation manual
Network settings	2000	Input network addressing. Only for units with touchscreen control.	Installation instructions
Basic settings / user	111	Setting of basic values for the user, functions, software update.	Operating instructions
Lockscreen	369	Deactivating the lockscreen in cooking mode. Only for units with touchscreen control.	Operating instructions
Trade show mode	888	Activation / deactivation for exhibition mode.	Service instructions

2 Introduction

2.1 About this manual

This service manual contains information needed by the service technician for professional and correct fault isolation, repair and maintenance of the unit. The service technician must also observe the contents of the installation instructions and the user manual.

Target group Target group for this service manual is qualified personnel who are familiar with the technical functioning and operation of the unit and have been trained to work on electrical units.

Figures All figures in this service manual are intended as examples. Discrepancies can arise between this and the actual unit.

Spare parts To ensure the reliability of the unit and the individual components, it is essential that only genuine OEM parts be used.
Spare parts can be identified exactly with the aid of the online database.

2.2 Warranty

The warranty is void and safety is no longer assured in the event of:

- Modifications or technical changes to the unit,
- Improper use,
- Incorrect startup, operation or maintenance of the unit,
- Problems resulting from failure to observe these instructions.

3 Safety instructions

For servicing tasks, the service technician must be familiar with and observe regional regulations.
In addition, the notes in the service manual must be observed.

⚠ DANGER

Danger to life due to electric current

✓ Disconnect power prior to performing gas and electrical work.

- Disconnect unit from the mains supply and secure it against restart.
- Check to ensure absence of voltage.

⚠ DANGER

Risk of fatal injury from gas

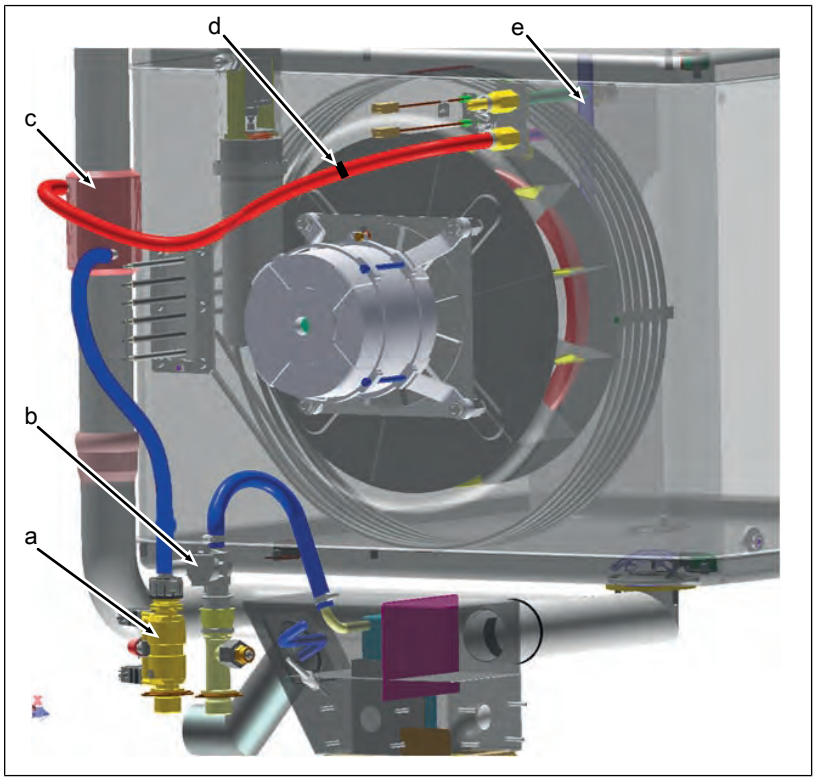
✓ Disconnect the unit from gas supply prior to performing gas installation tasks.

- Lock site gas supply and secure it against restart.

4 Description of operation

4.1 DynaSteam

Overview



a Steaming appliance with pressure switch
b Magnetic valve water vapor elimination
c Heat exchanger (up to approx. 50°degrees)
d Reduction
e Water supply pipe

Description

- The electronics control the DynaSteam steaming appliance. They regulate the water quantity for generating steam. DynaSteam guarantees, regardless of the water pressure, the precise supply of the required quantity of water. The prerequisite for this is a customer-supplied water flow pressure between 2 and 6 bar. The water pressure is monitored using a pressure switch.
- The DynaSteam steaming appliance cannot be calibrated and is completely electronically controlled.
- The heat exchange heats the water in advance up to 50°C. The heat from the exhaust pipe is used for this.
- The water comes through the water supply pipe to the fan impeller in the cooking chamber. The fan impeller creates small water drops, which evaporate in the hot oven atmosphere. The water evaporates in the cooking chamber and on the fan impeller. The tapering of the hose stabilizes the water flow of the pulsing steaming unit.

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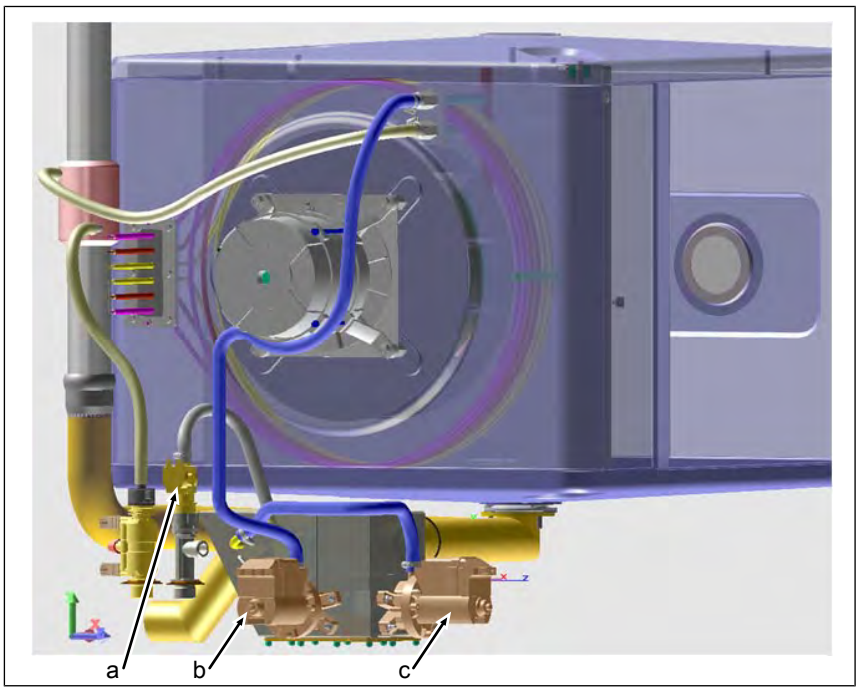
4.2 WaveClean

Functional overview



a Magnetic valve K12
b Pump G16
c Pump G24

The following purification stages are available on the fully automatic cleaning WaveClean:

- Short: duration of about one hour
- Normal: duration about two hours
- Extra: duration approximately three hours

Description

1. Testing the cooking chamber temperature.
   ↳ Automatic cooling of the cooking chamber, if > 55°C.
2. Inserting the WaveClean cartridge.
3. Water exchange of siphon content by the siphon pump G24 and solenoid valve K12.
4. Circulation of water by means of pump G16. Thus pre-cleaning of the cooking chamber. Then anew siphon water exchange.
   ↳ The heater heats the oven to 55°C.
5. Start cleaning.
   ↳ Fan motor and WaveClean pump G16 active.
   ↳ Heating active. Heating the cooking chamber to about 70°C.
   ↳ The first layer of wax melts in the WaveClean cartridge. The cleaner falls into the cooking chamber and mixes with water.
   ↳ The fan motor operates in both directions of rotation and at different speeds.
   ↳ The cleaning phase duration depends on the selected program.

6. A new water exchange of siphon content by means of the siphon pump G24 and solenoid valve K12.
7. Start of rinsing.
   ↳ Identical to step 5 (cleaning).
   ↳ Differences: Heating of the cooking chamber to 92°C. The second layer of wax melts in the WaveClean cartridge. The rinse agent drops into the cooking chamber and mixes with water.
   ↳ Final rinse to bring the pH value to the normal level.
8. In the programs "normal" and "extra" additional drying of the interior occurs by means of hot air.
9. Finally, an indicator for withdrawing the WaveClean cartridge appears, and has to be confirmed.

INFORMATION

Despite different cleaning durations, all cleaning steps require the same amount of water.

During the cleaning process about 3 liters of water are provided by the steaming unit into the oven.

WaveClean termination

INFORMATION

WaveClean forced rinsing

The WaveClean forced rinse is automatically started by the operator in case of failure or premature termination. The duration is 12 minutes. An entry is made into the HACCP and in the diagnostic memory.

5 Opening and closing the unit

5.1 Control panel

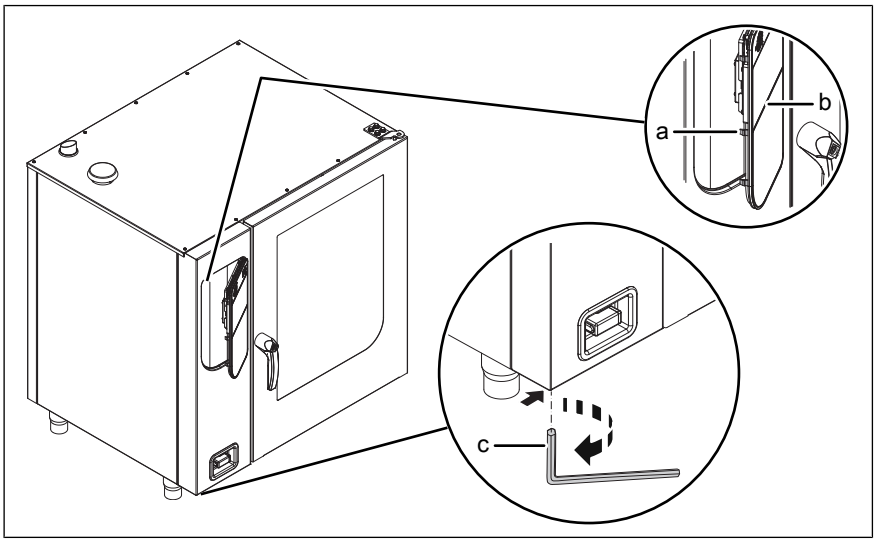


Image: Opening the control panel

a	Lock (cam)	b	Operating panel
c	Hex key		

Opening the control panel

1. Insert hex key (5 mm) into screw and turn it clockwise.
   ↳ The operating panel is now unlocked.
   ↳ The operating panel pops up automatically.
2. Withdraw the hex key.

Closing the control panel

NOTICE

Damage due to vapor / moisture

There should be no gap between the control panel and housing.

1. Press and hold operating panel on the left.
   ↳ Repeat as many times as necessary.
   ↳ The operating panel snaps in audibly.

↳ The operating panel is secured against unauthorized opening.

5.2 Side wall

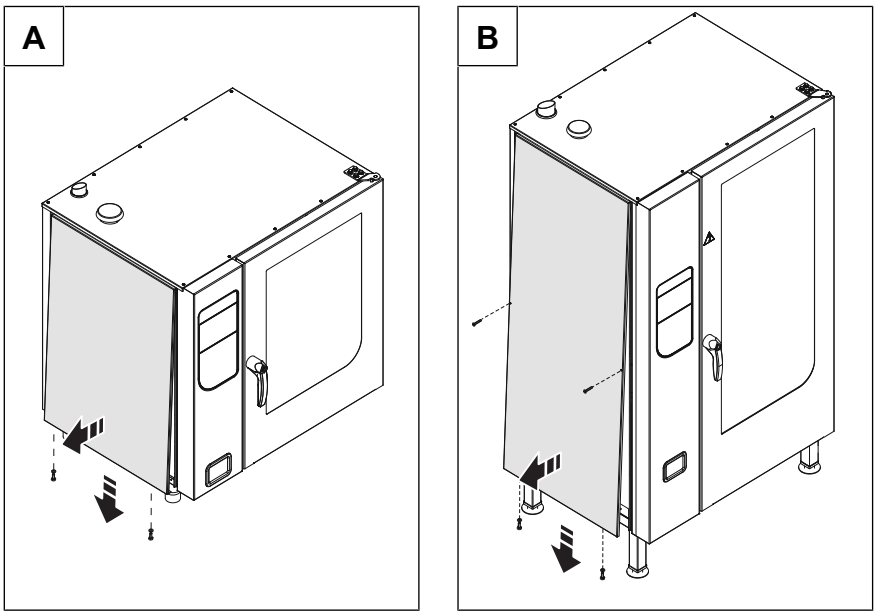


Image: A Sizes 6.x and 10.x; B Size 20.x

Removing the side wall

1. Unscrew the screws in the side wall.
2. Pull the bottom edge of the side wall forwards.
3. Remove the side wall.

Attaching the side wall

NOTICE

Risk of property damage from leaky housing

- Check seals when attaching the housing parts.
- Replace damaged seals.

1. Insert top edge of side wall.
2. Carefully push the bottom of the side wall inward.
3. Secure the bottom of the side panel with screws.
4. Check that the side wall is in contact with the unit on all sides.

6 Component overview

6.1 Operating panel / control

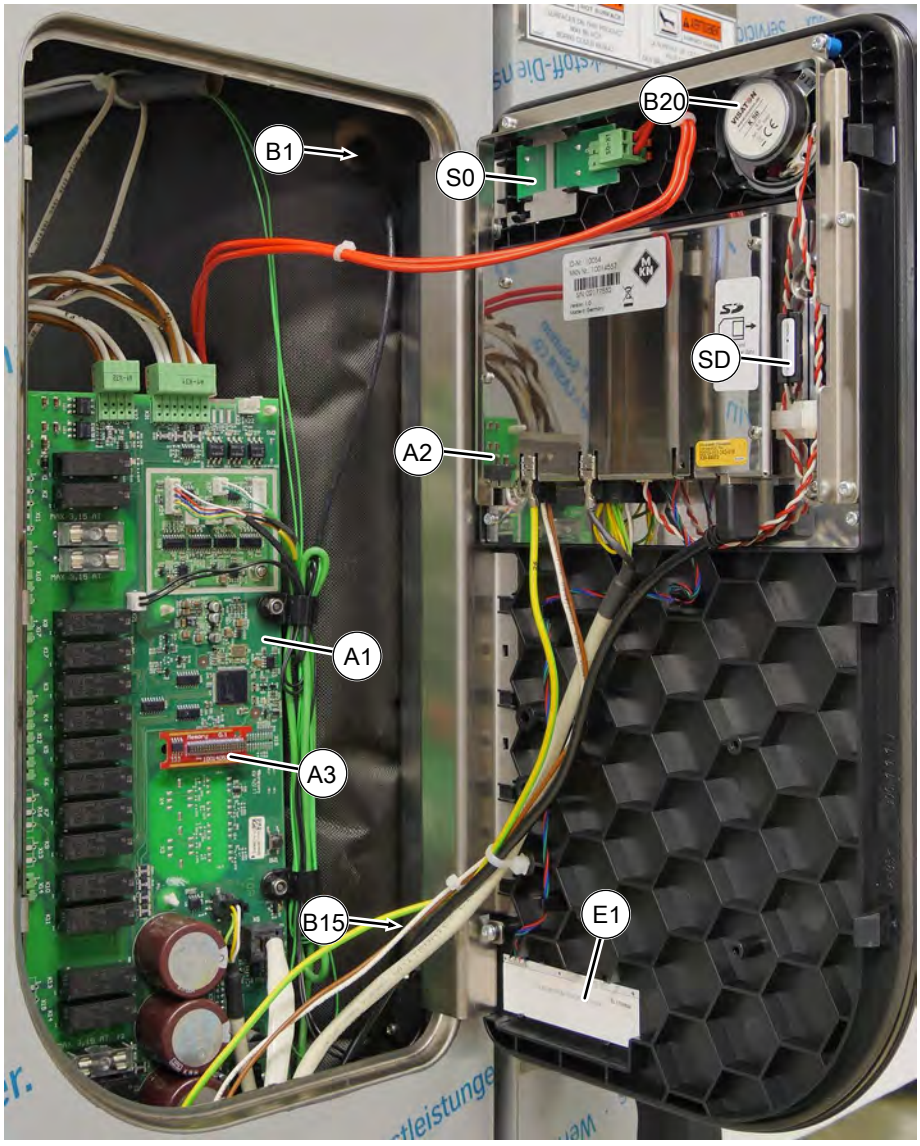
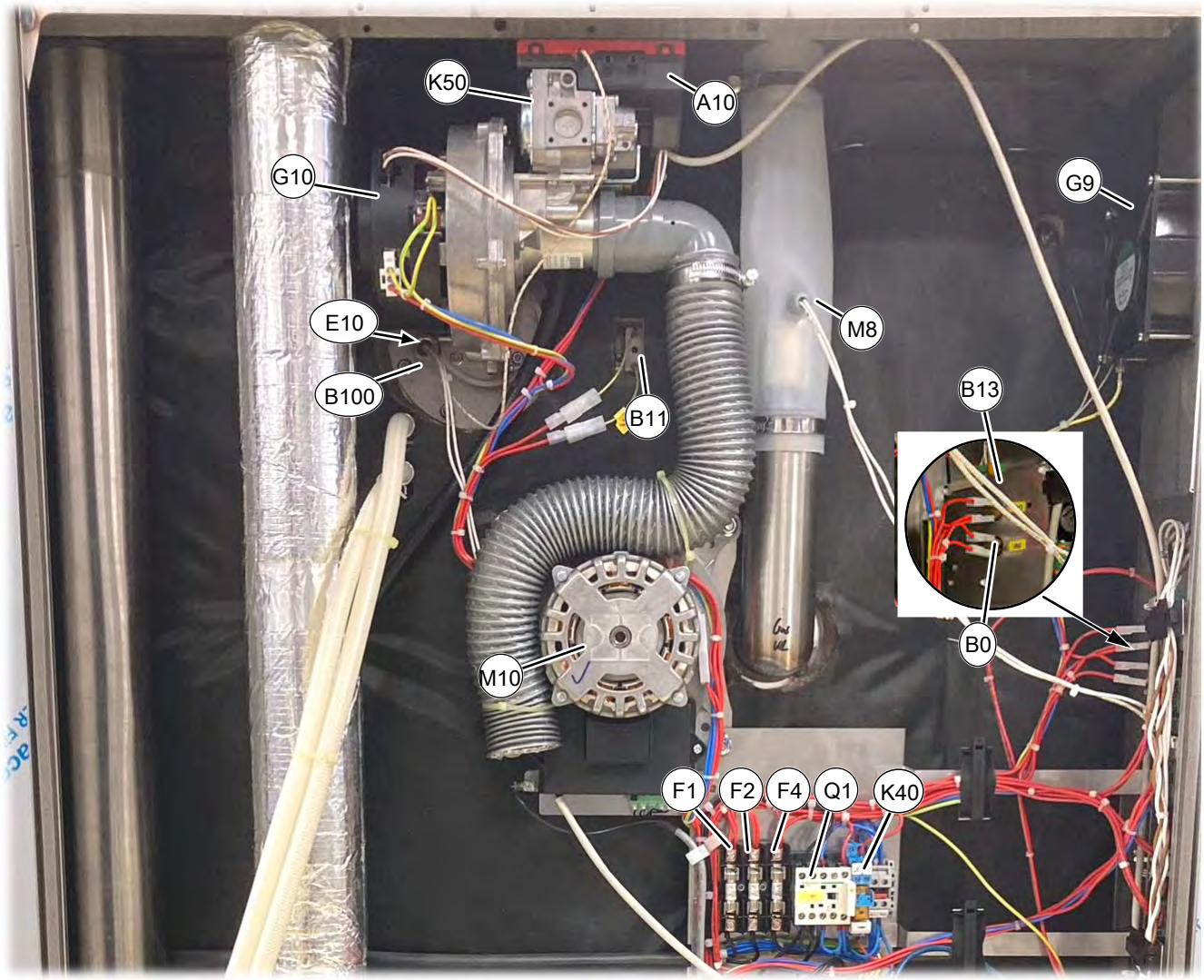


Image: Touch operating panel area - FKE/ FKG

A1	Control board	A2	Operating panel
A3	Digital memory	B1	Core temperature sensor
B15	Reed contact switch	B20	Loudspeaker
E1	Insert with LED lighting	S0	On / Off switch
SD	SD card		

6.2 Left side

Upper area



A10	Ignition module	B0	Thermoswitch 158°F NC
B11	Safety temperature limiter	B13	Thermoswitch 122°F NO
B100	Glow electrode	E10	Ionization electrode
F1	Fuse 10 A, slow-blow	F2	Fuse 10 A, slow-blow
F4	Fuse 6 A, slow-blow	G9	Cooling fan (119 x 119mm)
G10	Gas fan	K40	Relay
K50	Gas magnetic valve	M8	Lift magnet
Q1	Main contactor		

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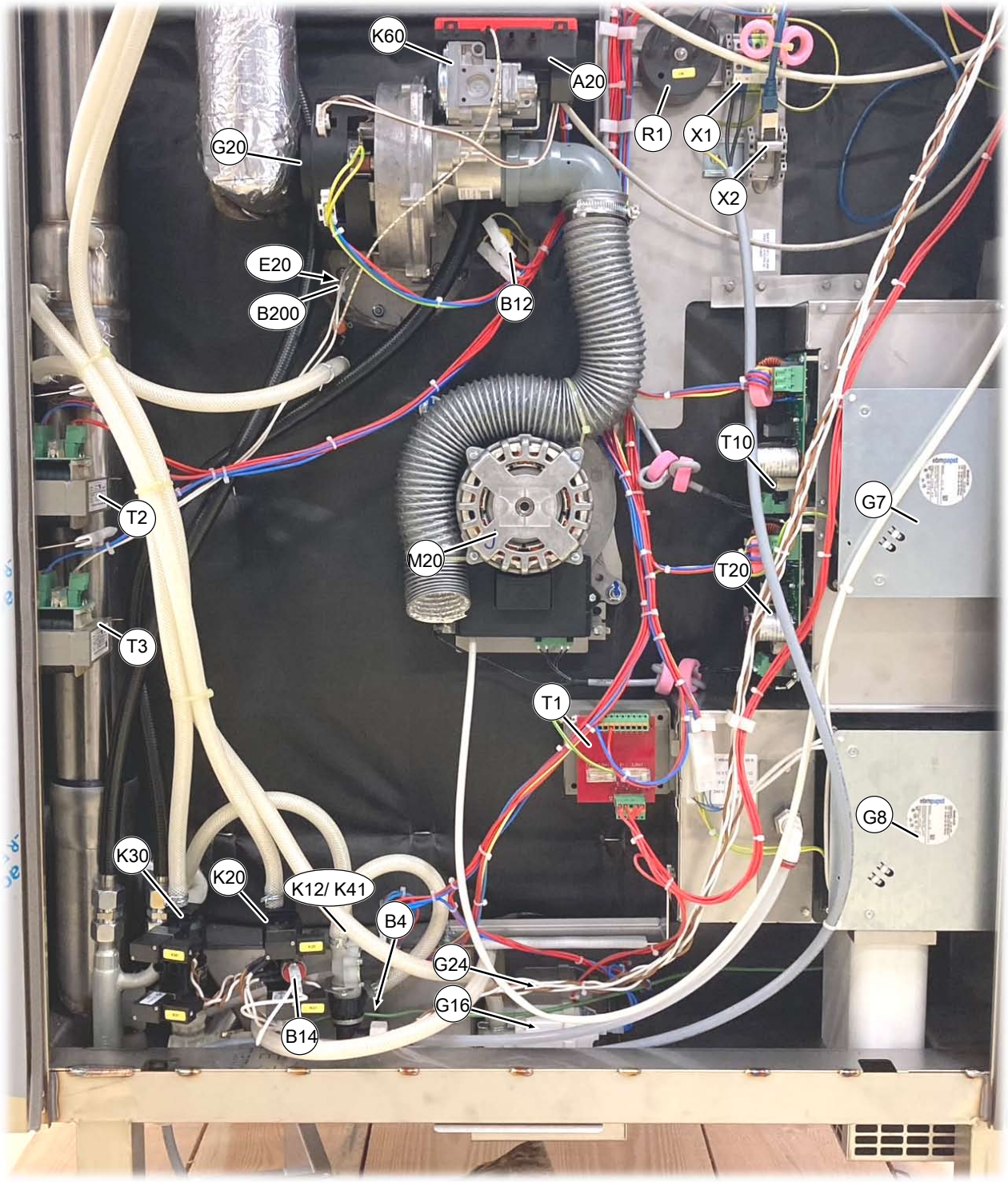
Lower area


K60
A20
G20
R1
X1
X2
E20
B200
B12
T10
G7
T2
M20
T20
T3
T1
G8
K30
K20
K12/ K41
B4
G24
G16
B14

A20	Ignition module	B4	Vapor sensor
B12	Safety temperature limiter	B14	Pressure switch
B200	Glow electrode	E20	Ionization electrode
G7	Cooling fan (180 x 180 mm)	G8	Cooling fan (180 x 180 mm)
G16	Circulation pump	G20	Gas fan
G24	Drain pump	K12	Solenoid valve Steam
		K41	Solenoid valve Flushing Grease system
K20	DynaSteam unit with pressure switch	K21	DynaSteam unit without pressure switch
K60	Gas magnetic valve	M20	Fan motor
R1	Filter	T1	Transformer (supply)
T2	Transformer for glow electrode (top)	T3	Transformer for glow electrode (bottom)
T10	Power supply for fan motor (top)	T20	Power supply for fan motor (bottom)
X1	Power connection terminal	X2	Ethernet port

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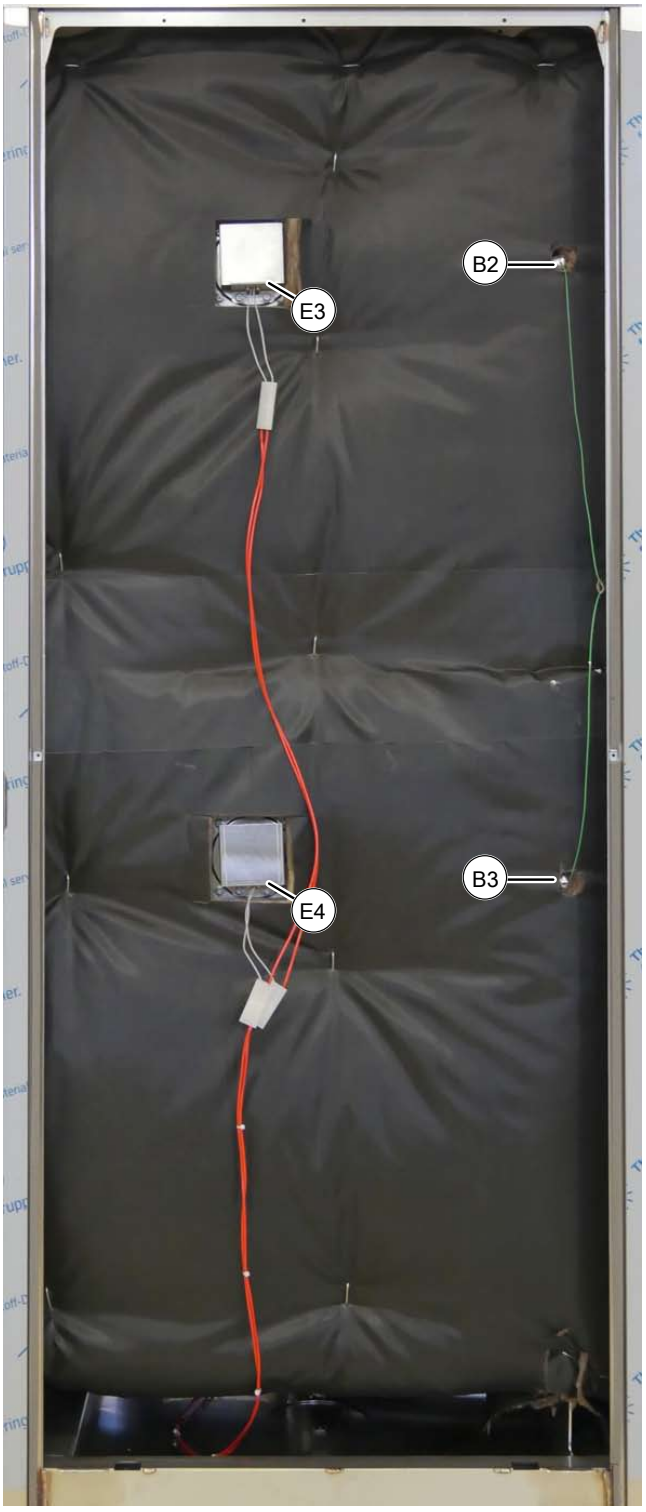
6.3 Right side



B2 = To cooking chamber sensor
B3 = Bottom cooking chamber sensor
E3 = Cooking chamber light
E4 = Cooking chamber light

FKE/ FKG – View of right side

6.4 Rear side

Image: Grease collection system

C40 Capacitor

G40 Pump grease system

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7 Service menu - appliance test

7.1 Service menu

The service area permits functional testing of individual components, adjustment of basic settings and updating of the software.

Accessing the Service menu

→ Tap the "Unit functions" field.

→ Tap the "Unit settings" field.
→ Enter PIN 1967 and confirm it.
↳ Display of the Service menu.

Service menu overview

Selecting a menu element

→ Display of the menu elements in the left area.
→ Page change by swiping upward/downward.
→ Select menu element by touching.

7.2 Appliance information

Overview

Description Display of the appliance-specific information
→ Software version
→ Cookbook version
→ Unit configuration
→ Serial number
→ Date of last CombiDoctor diagnosis.
→ Contact data

Overview

Exiting the appliance information Touch the *Back* field.

Leaving the area

Touch the *Back* field.

7.3 Status information

Status 1
Heating circuit

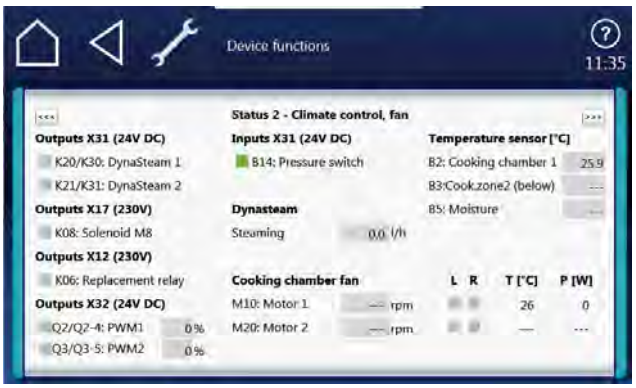
PWM Heat requirement in %.

POS Performance optimization system (option).

B3 Lower chamber sensor. Only present in 20.x floor-mounted appliances.

Status 2

Climate control, fan



B14 Pressure switch on the DynaSteam unit

PWM Heat requirement in %.

M20 Bottom fan motor. Only present in 20.x floor-mounted appliances.

B3 Bottom cooking chamber sensor. Only present in 20.x floor-mounted appliances.

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Status 3

WaveClean

K04 Magnetic valve for water vapor elimination & siphon filling
B15 Reed contact switch
B14 Pressure switch on the DynaSteam unit
B3 Bottom cooking chamber sensor. Only present in 20.x pedestal unit

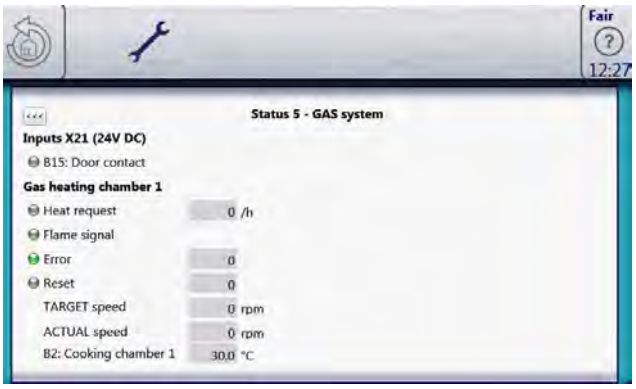
Status 4

Miscellaneous

K10 Activation for optional condensation hood
B15 Reed contact switch
K03, K07 Not in use
K13, K14 Not in use
B3 Bottom cooking chamber sensor. Only present in 20.x pedestal unit

Status 5

Gas system



B15	Reed contact switch
Chamber 1	Top heating system
Chamber 2	Bottom heating system. Only present in 20.x pedestal unit
Flame signal	Flame was detected by ionization electrode / ignition module.
Error	LED green if error was reported by the ignition module and error number in the last hour.
Reset	LED green if reset signal is sent by the I/O board to the ignition module and error number in the last hour.

7.4 CombiDoctor

Description

The CombiDoctor offers an automatic check of the climate control system and WaveClean automatic cleaning. The tests are possible individually or as overall test. For instructions on performing, see the touchscreen.

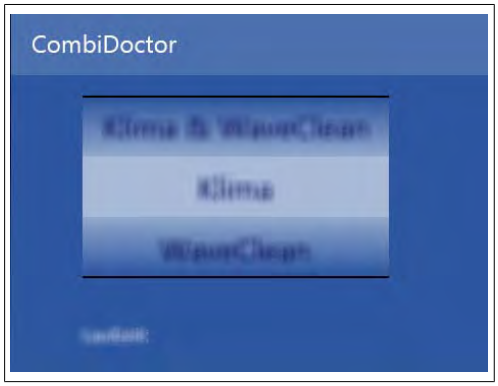


Image: Select CombiDoctor test

CombiDoctorStart

Selecting a program → Select a program by adjusting the roller.

Starting the program → Touch the "START" field.

Evaluation → The test result appears on the touchscreen.

↳ Entry in HACCP memory.

Description of the test steps

Step 1 (test door contact)

1. Open cooking chamber door and close again.

   ↳ If test successful, proceed with the next test step.

   ↳ If the door is not recognized as having been opened and closed again within the specified time (60 seconds), the test is not passed.

Step 2 (prepare for WaveClean)

1. Preparation for WaveClean test.
   Automatic water exchange via the siphon pump and the solenoid valve for steam elimination.

Step 3 (heat output)

1. Check of heat output.
   ↳ Display switches to green = test successful.
   ↳ Display switches to red = test not successful.

↳ Check of on-site voltage supply.

↳ Check of heating element

↳ Check of solid-state relay

↳ Check of internal fuse for load circuit (depends on unit version).

Step 4 (steam generation)

1. Check of DynaSteam² steam generation.
   ↳ Display switches to green = test successful.
   ↳ Display switches to red = test not successful.

↳ Ensure that water is being supplied on-site.

↳ Check of DynaSteam steaming.

↳ Check of water supply pipe for calcification.

Step 5 (steam reduction)

1. Check of steam reduction (lift magnet).
   ↳ Display switches to green = test successful.
   ↳ Display switches to red = test not successful.

↳ Check of lift magnet via relay test. A fault is present on the component or the control board. Check associated fuses.

Step 6 (WaveClean circulation pump)

1. Check of WaveClean circulation pump.
   ↳ Display switches to green = test successful.
   ↳ Display switches to red = test not successful. Test 7 and 8 are not evaluated.

↳ Check of circulation pump via relay test. A fault is present on the component or the control board. Check the fuse on the control board.

Step 7 (water supply to WaveClean)

1. Check of solenoid valve for steam elimination.
   ↳ Display switches to green = test successful.
   ↳ Display switches to red = test not successful.

↳ Ensure that water is being supplied on-site.

↳ Check of solenoid valve via relay test. A fault is present on the component or the control board. Check the fuse on the control board.

Step 8 (WaveClean siphon pump)

1. Check of WaveClean siphon pump.
   ↳ Display switches to green = test successful.
   ↳ Display switches to red = test not successful.

↳ Check of siphon pump via relay test. A fault is present on the component or the control board. Check the fuse on the control board.

Step 9 (temperature control)

1. Check of temperature control.
   ↳ The temperature in the cooking chamber must reach 140 °C (284 °F) within the time specified.
   ↳ Display switches to green = test successful.
   ↳ Display switches to red = test not successful.

↳ Check region around cooking chamber sensor for soiling.

↳ Check temperatures via calibration in the service menu.

↳ If necessary, replace cooking chamber sensor or control board.

7.5 Relay test

Overview

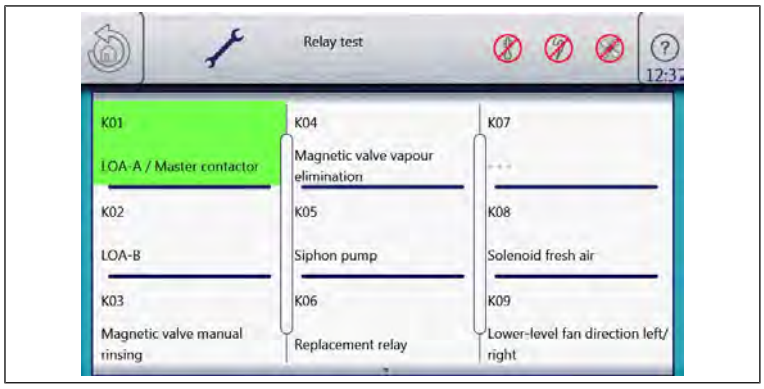


Image: Relay test page 1

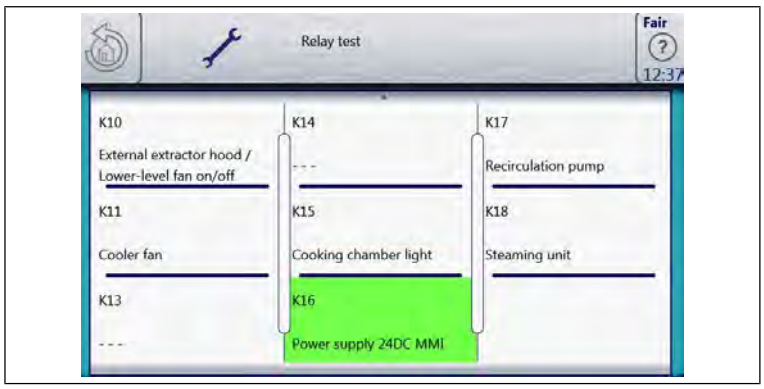


Image: Relay test page 2

Relay overview

Relay	Connector	No.	Description	Info Electric	Info Gas
K1	X10	2	Main contactor Q1	208V AC	110V AC
K3			*Not in use*		
K4	X12	3	Magnetic valve for water vapor elimination K12	208V AC	110V AC
K5	X12	4	Siphon pump G24	208V AC	110V AC
K6	X12	5	Backup relay K6	208V AC	110V AC
K7			*Not in use*		
K8	X17	1	Lift magnet fresh air M8	208V AC	110V AC
K9			*Not in use*		
K10	X13	1/2	Control for condensation hood	Potential-free	
K10			*Not in use*		
K11	X14	2	Cooling fan G7	208V AC	110V AC
K13	X15	2	Relay K40 for grease pump	208V AC	110V AC
K14	X15	4	Solenoid valve K41 Grease system	208V AV	110V AC

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Relay	Connect or	No.	Description	Info Electric	Info Gas
K15	X1	2	Cooking chamber light	10.7V AC	10.7V AC
K16	X9	1/2	Supply for control panel (MMI)	24V DC	24V DC
K17	X12	1	Circulation pump G16 (only when cooking cabinet door is closed)	208V AC	110V AC
K18	X31	1 -4	Steaming unit (switched directly, not via relay)	24V DC	24V DC

Description

The test permits separate activation of various functions.

- Testing the relay.
- Testing of individual components.

Activating/deactivating a function

Activating a function

→ Press the button for the area to test.

↳ The function is active.

↳ The button for the selected function is highlighted in green.

Deactivating a function

→ Press the button highlighted in green to deactivate the selection.

↳ The function is now inactive.

↳ The button is now highlighted in gray.

INFORMATION

Several functions can be activated simultaneously.

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7.6 WaveClean Test

Description

→ WaveClean test program for function check.
  ↳ Circulation pump
  ↳ Siphon pump
  ↳ Magnetic valve for water filling
  ↳ Door seal / leak tightness in door area.

INFORMATION

The test is used exclusively for functional testing and not to clean the cooking chamber.

Starting the test

→ Press the "START" button.
  ↳ Checking of the cooking chamber temperature.
  ↳ Automatic cooling off of the cooking chamber if > 70 °C (158 °F).
→ Rinse and fill up siphon.
  ↳ Draining by pump G24.
  ↳ Filling by magnetic valve K12.
→ Circulation and heating.
  ↳ The circulation pump G16 is switched on.
  ↳ Heating of the cooking chamber to 55 °C (131 °F).
→ Rinse DynaSteam and siphon
  ↳ The valve for steaming is energized.
  ↳ Another water change from the siphon.

After 30 minutes, the WaveCleanTest ends.

Ending the test

An abortion is possible at any time.
→ Tap the "Stopp" button.
  ↳ Automatic rinsing of the siphon.

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7.7 Temperature sensor calibration

Description

Description

→ Calibration for cooking chamber sensor and core temperature sensor.

↳ Testing the calibration.

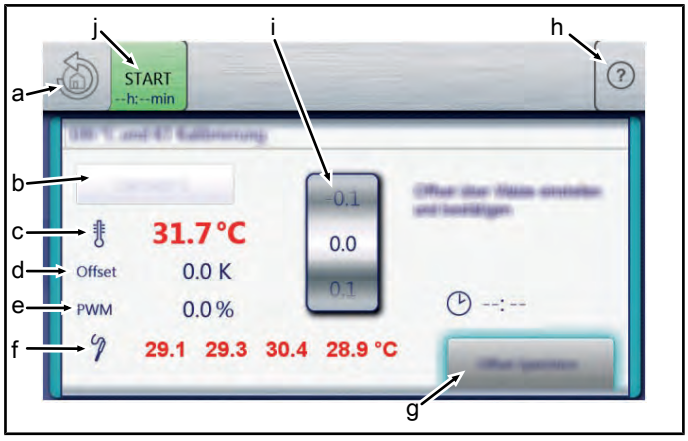
↳ Performing the calibration.

The cooking chamber sensor and core temperature sensor calibration is performed in one step.

INFORMATION

The units are factory calibrated. Recalibration is required only in exceptional cases.

Overview



a Back to the appliance test

b Switching cooking chamber 1 (top) / 2 (bottom) Only for two-chamber appliance 20.x

c Cooking chamber temperature

d Saved offset

e Average heat requirement

f Core temperature measurement values

g Save changed offset

h Help function (not used)

i Offset setting

j "Start/Stop" button

Color detection of the temperature values

INFORMATION

During calibration, the temperatures are displayed in color:

Red = temperature in invalid calibration range

Green = temperature in valid calibration range

Check calibration

INFORMATION	Two-chamber appliances (20.x) are equipped with two cooking chamber sensors.

Separation of the two chambers required

INFORMATION	A separation into two regions (chambers) is required for temperature measurements. This can be achieved, for instance, by placing a baking sheet on the middle shelf of the tray trolley.

Prerequisite

Two calibrated digital measurement devices or two-channel measurement device.

The temperature in the cooking chamber is < 100°C.

→ Fix the temperature sensor of the two external measurement devices in the middle of the top and bottom chambers in the cooking chamber respectively. Fix the core temperature sensor in the middle of the bottom chamber.

↳ Use a grill rack for this.

↳ Point the sensor tips upward in order to prevent measurement errors.

Checking the calibration

→ Touch the "START" field.

↳ The cooking chamber is heated up to 100°C.

↳ Display of the current temperature on the touch screen.

→ Wait until the cooking chamber temperature indicates 100°C (± 1°C).

↳ Compare displayed cooking chamber temperature with temperature of external measurement device.

↳ The external measurement device for the cooking chamber 1 top must display a temperature between 99°C – 99.5°C.

→ Touch the "Cooking chamber 1" field

↳ Switch to cooking chamber 2 bottom

↳ The field changes to "Cooking chamber 2"

↳ The external measurement device must display a temperature between 99°C – 99.5°C.

→ If the values are within the range, end checking.

↳ Touch the "STOP" field.

→ If one of the values is outside of the range, calibration must be done.

↳ Continue with calibration (see „ Calibrate cooking chamber sensor“, Page 35).

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Calibrate cooking chamber sensor

INFORMATION	Two-chamber appliances (20.x) are equipped with two cooking chamber sensors.

Separation of the two chambers required

INFORMATION	A separation into two regions (chambers) is required for temperature measurements. This can be achieved, for instance, by placing a baking sheet on the middle shelf of the tray trolley.

Prerequisite
→ Execute *Check calibration* and do not switch appliance off.
↳ Cooking chamber 1 and cooking chamber 2 indicate 100°C.

Calibration
→ Adjust offset value by adjusting the roller.
→ Change between the values of the top and bottom chamber with the field "Cooking chamber 1" / "Cooking chamber 2"
↳ Let 10 minutes adjustment time elapse.
↳ The external measurement devices must display a temperature between 99°C – 99.5°C.
→ If necessary, adjust offset again.
↳ Let 10 minutes adjustment time elapse.
→ If the value is within the range, save calibration.

Saving the calibration
→ Touch "Save offset" field.
↳ Saving of set value.
↳ Automatic calibration of core temperature sensor.

Canceling the calibration
→ Touch the "STOP" field.
↳ The calibration ends.

Exiting the calibration
→ Tap the field *Back* .

Storing the calibration on SD card
→ Save data additionally on internal SD card.

7.8 DynaSteam test

Description

INFORMATION

Dual-chamber units (20.x) have two DynaSteam steaming units with parallel control. The specified quantity of water refers to one chamber. Perform DynaSteam test for each chamber separately.

Description The DynaSteam test allows a function test of DynaSteam steaming. Calibration is not possible / necessary.

Prerequisite

→ Access to the water supply pipe in the cooking chamber.

↳ Left hooking-in point or tray trolley removed.

↳ Air baffle in the cooking chamber unlocked and unfolded.

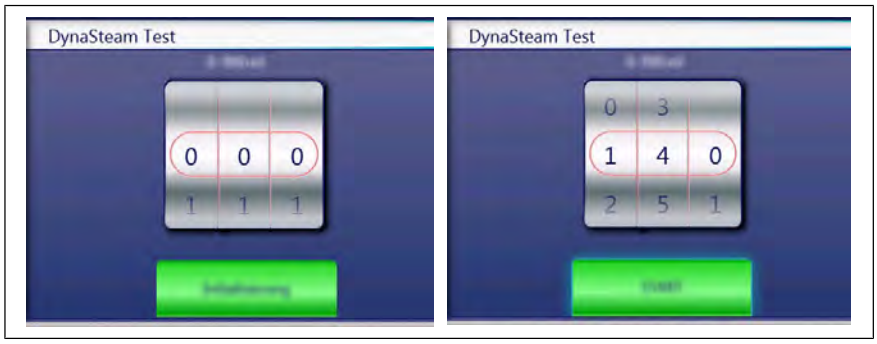

Image: Overview of DynaSteam test

Starting the test

→ Touch "Initialization" field.

↳ Automatic pre-rinse.

↳ Field changes to "START".

→ Set water quantity using the rollers.

→ Touch the "START" field.

↳ Energize solenoid valve for steaming.

↳ The water comes runs from the water supply pipe into the cooking chamber.

Check the water quantity

Collect the water from the supply pipe with a measuring container.

→ Starting water test.

↳ After the predetermined amount of water has gone through, activation stops automatically.

↳ Compare amount of water with the set value. A deviation of +- 10% is within tolerance.

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7.9 Emptying the water

Description

Water drainage removes water residue from the unit to prevent frost damage during transport and idle period.

Prerequisite

→ Both water connections are connected to compressed air.

↳ The pressure may not exceed 6 bar.

→ The cooking chamber temperature is < 130°C.

Image: Overview

Running a program

Start drain water

→ Touch the "START" field.

↳ Start of the automatic water drainage.

↳ Display of the cooking chamber temperature and remaining time.

Canceling the water drainage

→ Touch the "STOPP" field.

7.10 Data and time

→ Tap the value to be changed.

→ Use the number block to set the desired values by tapping.

→ Tap the "OK" field.

↳ Changes saved.

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7.11 Setting the set-up height

Overview

Image: Overview

Setting the set-up height

→ Set the set-up height by adjusting the rollers.
→ Tap the "OK" field.
↳ Changes saved.

Canceling the selection

→ Tap the "Back" field.

7.12 Audio settings

Overview

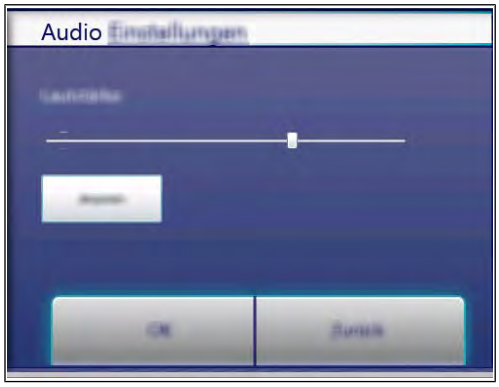

Image: Overview

Setting the volume

→ Use the slider to set the desired volume.
→ Tap the "OK" field.
↳ Changes saved.

Canceling the selection

→ Tap the "Back" field.

7.13 Select signal tones

Set signal tones

→ Set the profile by adjusting the rollers.
→ Tap the "OK" field.
↳ Changes saved.

Canceling the selection

→ Tap the "Back" field.

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7.14 Exporting log data

Description

Log data export to an external USB flash drive. The function is only required after consultation.

Exporting log data

→ Perform according to instructions on the touchscreen.
→ Press the *Confirm* button.
↳ Log data export begins.

7.15 Software update

Description

→ Update of the software via the USB interface.

INFORMATION

Sounds, cookbooks, help texts and videos are not part of the software update.
These require importing via "Importing additional content".

Performing the update

→ Perform according to instructions on the touchscreen and software description.
→ Tap the "OK" field.
↳ Update begins.
→ A confirmation then appears on the touchscreen.

7.16 Importing additional content

Description

Import of additional content (sounds, videos, graphics, help texts).

INFORMATION

Import is absolutely essential after the operating panel has been replaced.

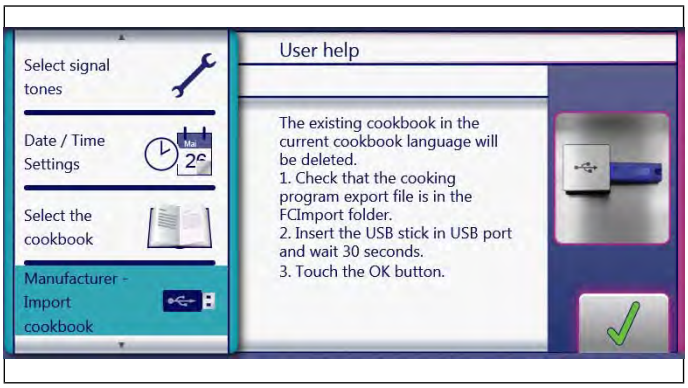
Importing content

Import of the additional contents via the USB interface. See also chapter *Importing additional content*.

7.17 Importing manufacturer's cookbook

Description

The manufacturer's cookbook is stored on the SD card. As this must be adopted when replacing the control panel, it is not usually possible to import it. Some customer groups use different cookbooks.



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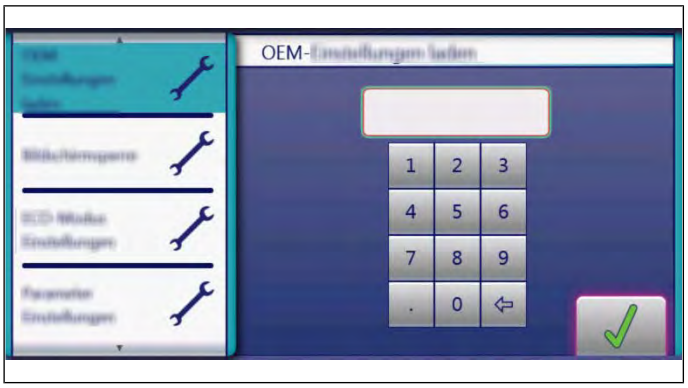
Importing manufacturer's cookbook

→ Insert USB stick
→ Tap the "Import manufacturer cookbook" field.
→ Tap the "OK" field.
↳ The data is imported.
↳ Finally, a confirmation appears on the touchscreen.
→ Tap the "OK" field.
→ Perform unit restart via key *On Off*.

7.18 Load OEM settings

Description

OEM settings contain default settings defined for customer groups. These are loaded by entering the OEM code.



Enter OEM code

→ Enter the OEM code and tap the *confirm* field.
↳ Data is loaded.
↳ The software restarts automatically.

7.19 Restoring data

Description

Import function of parameters stored on the SD card.

INFORMATION	Importing is required after the operating panel or control board have been replaced.

Importing data

Prerequisite Service menu is displayed

→ Press the "Restore data" button.

→ Press the *Confirm* button.

↳ Restore data from the SD card.

↳ A confirmation then appears on the touchscreen.

→ Tap the "OK" button.

7.20 Backing up data

Description

Backup function for parameters (for example, customer settings, calibration values). Saving data on the internal SD card and USB stick (if plugged in).

Backing up data

Prerequisite Service menu is displayed

→ Tap the " Backup data" button.

→ Press the *Confirm* button.

↳ Backup data on the SD card.

↳ A confirmation then appears on the touchscreen.

→ Tap the "OK" button.

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7.21 Water filter maintenance

Description

With use of a water filter on the soft water connection of the unit, a maintenance note may appear after the stored flow quantity has been reached.
For this, the appropriate filter capacity must be determined and entered.

Prerequisite

- The water filter supplies only one combi steamer.
- Only the soft water connection is connected to the filter.

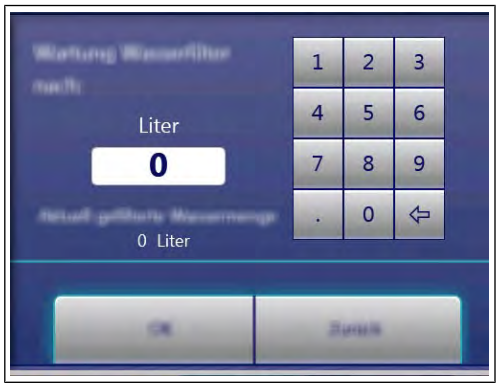


Image: Overview

Entering the water quantity

→ Use the number block to set the desired value.
→ Tap the "OK" button.
↳ Changes saved.

7.22 Importing contact data

Description

Import of service contact data. This data can be accessed by the operator under "Equipment information".

Preparing the data

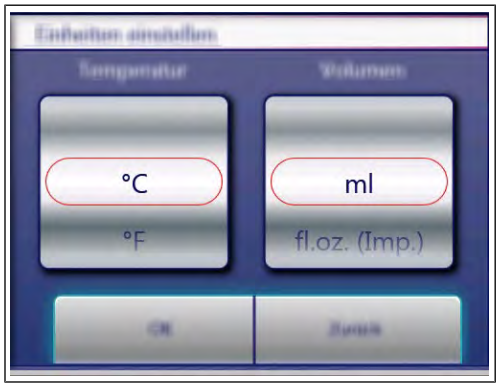
Perform according to instructions on the touchscreen.
→ Create the file "ContactData.txt" with favorite text editor on the computer.
→ Open the file on the computer.
→ Enter contact data distributed over 6 text lines.
→ Save file on a USB flash drive.
↳ The file must be stored in the folder "FCImport".

Importing data

→ Perform according to instructions on the touchscreen.
→ Press the *Confirm* button.
↳ Import the created contact data.
↳ A confirmation then appears on the touchscreen.

7.23 Setting units

Overview



Changing values

1. Select the desired temperature and volume.
2. Tap the "OK" button.

7.24 Settings parameters

Description

→ Querying and setting additional parameters.

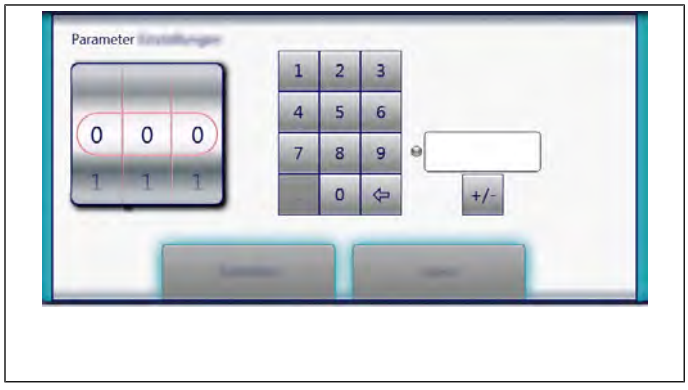


Image: Overview

Selecting parameters

→ Selecting parameters by adjusting the caster.
→ Tap the "Read" button.
↳ Display of set parameters.

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Changing parameters

→ Use the number block to set the desired value.
→ Tap the "Write" button.
↳ Changes saved.

Parameter overview

No.	Basic setting	Standard worth	Adjustment range	Explanation
7	User menu password	111	0 - 300	Password for the user menu (basic settings)
16	Cooking chamber 1 temperature offset (upper sensor on 20.x pedestal units)		-9.9 - +9.9°K	Ability to retrieve the saved temperature offset values. The can also be changed and saved. The calibration function in the Service menu is used for calibration!
17	Cooking chamber 2 temperature offset (lower sensor on 20.x pedestal units)		-9.9 - +9.9°K	
18	Sous vide temperature offset		-9.9 - +9.9°K	
21	Internal core temperature offset, sensor 1		-9.9 - +9.9°K	
22	Internal core temperature offset, sensor 2		-9.9 - +9.9°K	
23	Internal core temperature offset, sensor 3		-9.9 - +9.9°K	
24	Internal core temperature offset, sensor 4		-9.9 - +9.9°K	
25	External core temperature offset, sensor 1		-9.9 - +9.9°K	Ability to retrieve the saved temperature offset values. The can also be changed and saved. The calibration function in the Service menu is used for calibration!
26	External core temperature offset, sensor 2		-9.9 - +9.9°K	
27	External core temperature offset, sensor 3		-9.9 - +9.9°K	
28	External core temperature offset, sensor 4		-9.9 - +9.9°K	
45	Generator mode	0	0 = Off 1 = On	Only when using generators on ships.
48	Steam elimination mode	1	0 = Low 1 = Normal 2 = High	"Low" setting: Minimum water consumption, but higher condensate temperature and greater steam volume. "High" setting: Maximum water consumption, but lower condensate temperature and smaller steam volume.
49	Controls the cooking chamber lamp when opening the cooking chamber door	0	0-60 seconds	
50	Controls the cooking chamber lamp when closing the cooking chamber door	1	0-60 seconds	
602	Maximum power outage duration for a warm start	100 s	90 – 600 seconds	Time within which the cooking program will continue after interruption of the power supply.

No.	Basic setting	Standard worth	Adjustment range	Explanation
607	Ready to Cook active	1	0 = Off 1 = On	With value "0" Ready2Cook is permanently deactivated.
609	Interval for saving the temperatures in the HACCP log	120 s	1 – 180 seconds	
618	Ready to Cook – Finished message interval	60 s	0 – 300 seconds	Reminder interval after reaching the Ready2Cook temperature
624	SES status	1	0 = Off 1 = On	When the value is "0", the SES function is permanently deactivated.
625	Minimum duration of cooking program for SES	6 min.	4-6 minutes	If the overall duration of a cooking program is less than this value, the SES does not run.
655	Limitations for Arabic	0	0 = Off 1 = On	When the value is "1", no cooking programs for pork are displayed
662	Lock screen active	0	0 = Off 1 = On	Display of Lock Screen menu item
674	Auto-start	0	0 = No autostart 1= Direct favorites 2=Always	Automatic start of a cooking program after selection from AutoChef / Favorite
678	Scanner button available	1	0 = Hidden 1= Visible	Display of scanner function in the title bar.
695	PIN for operation lock	369	0 – 99999	
726	Cleaning reminder	1800	0 = Off 1800 = On	Activation / deactivation of the WaveClean cleaning reminder

7.25 Backing up the SD card

Description

Export the data from the internal SD card and external USB stick.

Backing up data

Perform according to instructions on the touchscreen.

→ Tap the *OK* button.

↳ Back-up of the data.

↳ A confirmation then appears on the touchscreen.

→ Tap the *OK* button.

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7.26 Restoring the SD card

Description

Import the data from a backup of the SD card from a USB stick. Required after replacing the SD card.

Restoring data

Perform according to instructions on the touchscreen.

→ Press the *Confirm* button.

↳ Restoring of the data from the SD card.

→ Tap the "OK" button.

↳ Automatic restart of the software.

7.27 Background lighting

Changing the brightness of the touchscreen

1. Select the desired brightness.
2. Tap the "OK" field.

7.28 Hour meter

Description Display of hour meters, service life, cleaning use and consumption. The arrow keys in the upper region are used to switch between the pages.

This region is currently undergoing further development. At the moment, data backup is not yet possible.

7.29 Favorites mode settings

Which view appears on the control panel once the unit is started is selected in the *Settings for favorites*. This limits the functions that can be used by the operator.

7.30 Backup relay

Description

The control board has a spare relay, which allows alternative use in case of a relay failure. This is only possible with the listed relays.

Locate defective relay

→ Call relay test in the service menu.

↳ Perform relay test. Locate defective relay by examining the output voltage at the corresponding outputs on the control circuit board.

Occupying the spare relay

→ Do rewiring according to the table.

Example: When using it for K8 (lift magnet M8), rewire line from connector X17.1 to X12.5.

INFORMATION

In case of changes to the wiring, label or deposit note in the unit.

Assigning the backup relay

→ Select the defective relay by means of the roller.

→ Tap the "OK" field.

↳ Changes saved.

Relay overview

Relay overview

Relay	Connector	No.	Description	Instruction
K1	X10	2	Main contactor Q1	Reconnect the line from X10.2 to X12.5 and to assign a reserve relay to it.
K4	X12	3	Magnetic valve for water vapor elimination K12	Reconnect the line from X12.3 to X12.5 and to assign a reserve relay to it.
K5	X12	4	Siphon pump G24	Reconnect the line from X12.4 to X12.5 and to assign a reserve relay to it.
K6	X12	5	Backup relay K6	Reconnect the line from X12.5 to X12.5 and to assign a reserve relay to it.
K8	X17	1	Lift magnet fresh air M8	Reconnect the line from X17.1 to X12.5 and to assign a reserve relay to it.
K17	X12	1	Circulating pump G16	Reconnect the line from X12.1 to X12.5 and to assign a reserve relay to it.

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Restore original condition

After changing the control board the original state is restored. Thus, the backup relay is not used unnecessarily.

→ Establish the original condition of the wiring (from X12. 5 to Xx).

→ Calling up the "Backup relay" in the Service menu.

→ Select "OFF" using the roller.

↳ The backup relay is deactivated.

→ Tap the "OK" field.

↳ Changes saved.

8 Status overview direct access

8.1 Description

Direct access allows display of all processes and temperatures during operation.

INFORMATION

The status overview is intended only for the service technician.

a Hidden field for access to status overview

8.2 Opening the status overview

→ Tap the invisible field three times quickly.

↳ This changes the display to the status overview.

8.3 Exiting the status overview

→ Tap the *Back* button.

↳ Change to the display of the cooking process.

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9 Sam's Club settings

9.1 Access service area

→ Switch the appliance on.
→ Tap the "Unit functions" field.
↳ Display menu *Unit functions*.
→ Tap the "Unit settings" field.
↳ Display window *PIN*.
→ Enter password "**1967**" and tap field *Confirm*.
↳ Display from service area

9.2 Loading settings

Enter OEM code

Overview OEM code

OEM Partner	OEM code
	112769

→ Select the page with the "Load OEM settings" field in the left-hand menu area by swiping.
→ Tap the "Load OEM settings" field.
→ Enter the OEM code and tap the *confirm* field.
↳ Data is loaded.
↳ The software restarts automatically.

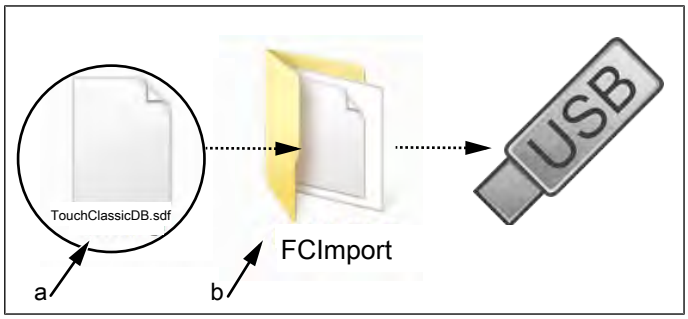
Select the cookbook

Prerequisite Menu *Settings* displayed

→ Wipe to select the page with the "Load OEM settings" field in the left menu area.
→ Tap the "Select cookbook" field.
→ Select the cookbook and confirm with OK.
→ Perform unit restart via key *On Off*.
↳ After the restart, the software jumps directly to the Favorites display.

9.3 Importing the manufacturer's cookbook

Preparing the USB stick



a Update file b FCImport folder

Prerequisite USB stick.

Maximum size 64 GB. FAT formatting (default).

The disk should be empty if possible.

Current additional content. The update is provided as packed ZIP file.

1. Open and download Zip file and unzip. In general, the unzipped folder is in the same directory as the previously compressed one.
2. Copy the unzipped folder "FCImport" to the USB stick.

   ↪ There can be subfolders in the folder. The directory structure must not be changed.

Import cookbook

1. Insert the USB stick
2. Switch the appliance on.
3. Tap the "Unit functions" field.

   ↪ Display menu *Unit functions*.
4. Tap the "Unit settings" field.

   ↪ Display window *PIN*.
5. Enter password "**1967**" and tap field *Confirm*.

↪ Display from service area

6. Select the "Import manufacturer cookbook" field in the left menu area by swiping.
7. Tap the "Import manufacturer cookbook" field.
8. Tap the "OK" field.

   ↪ The data is imported.

   ↪ Finally, a confirmation appears on the touchscreen.
9. Tap the "OK" field.
10. Perform unit restart via button *On Off*.

10 Software

10.1 Software update

Preparing the USB stick

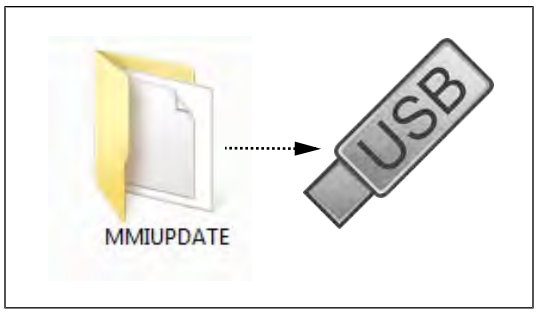
Prerequisite USB stick.

Maximum size 64 GB, formatting FAT (standard).

The disk should be empty if possible.

Current software update. The update is provided as packed ZIP file.

1. Open and download Zip file and unzip. In general, the unzipped folder is in the same directory as the previously compressed one.
2. Copy unzipped folder "MMIUpdate" to the USB stick.
   ↳ The folder contains the update files
   ↳ The files have the extensions ".ugl", ".ugln" and .ugls.
   ↳ For example "018400.ugl", "018400.ugln" and "018400.ugls" (software update V1.84).



Updating the software

1. Insert the USB stick
2. Switch the appliance on.
3. Tap the "Unit functions" field.
   ↳ Display menu *Unit functions*.
4. Tap the "Unit settings" field.
   ↳ Display window *PIN*.
5. Enter password "**1967**" and tap field *Confirm*.

↳ Display from service area

6. Select the "Software update" field in the left menu area by swiping.
7. Tap the "Software Update" field.
8. Tap the "OK" field.
   ↳ The update begins.
   ↳ Finally, a confirmation appears on the touchscreen.
9. Tap the "OK" field.
   ↳ The software restarts automatically.

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INFORMATION	The update can take up to 15 minutes. The software is restarted several times. Do not switch unit off.

INFORMATION	After the update, a blue screen may appear and the software does not start. In this case, switch the unit off and then back on. In rare cases, this may happen again.

INFORMATION	Sounds, cookbooks, help texts and videos are not part of the software update. For this purpose, the additional content must be imported.

10.2 Importing additional content

Description

Description The additional content includes the following files:

- Pictures for AutoChef
- Help information
- Sound files

Import of additional content (sounds, videos, graphics, help texts).

INFORMATION Import is absolutely essential after the operating panel has been replaced.

Preparing the USB stick

Prerequisite USB stick.

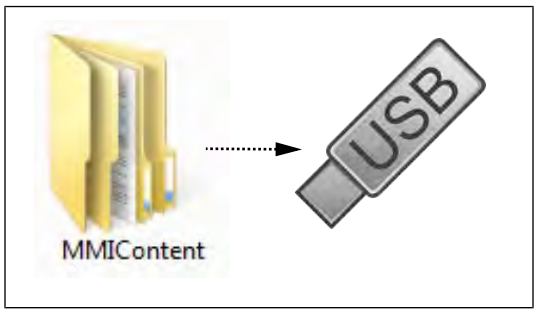
Maximum size 64 GB. FAT formatting (default).

The disk should be empty if possible.

Current additional content. The update is provided as packed ZIP file.

1. Open and download Zip file and unzip. In general, the unzipped folder is in the same directory as the previously compressed one.
2. Copy the unzipped folder "MMIContent" to the USB stick.

   ↳ In the folder there are other subfolders. This may not be changed.



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Importing additional content

1. Insert the USB stick
2. Switch the appliance on.
3. Tap the "Unit functions" field.

   ↳ Display menu *Unit functions*.
4. Tap the "Unit settings" field.

   ↳ Display window *PIN*.
5. Enter password "**1967**" and tap field *Confirm*.

↳ Display from service area

6. Select the "Import additional content" field in the left menu area by swiping.
7. Tap the "Import additional contents" field.
8. Tap the "OK" field.

   ↳ The data is imported.

   ↳ Finally, a confirmation appears on the touchscreen.
9. Tap the "OK" field.

11 Trade show mode

Description Trade show mode allows appliance operation for demonstration purposes.

Prerequisite A single-phase power supply is required for operation.

→ Appliance is connected on L1 and N.

↳ See also installation instructions.

Calling up the selection

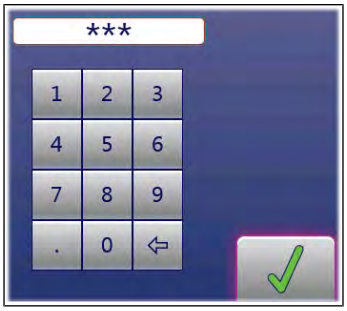
→ Switch appliance on "I"

→ Touch the "Appliance functions" field.

↳ Display of *Appliance functions* menu.

→ Touch "Settings" field.

↳ Display of *PIN* window.



→ Enter password **888** and touch *Confirmation* field.

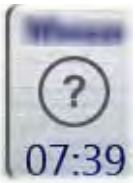
↳ Display of *Trade show* menu.

Switching trade show mode on

→ Touch the "Trade show mode is off" field.

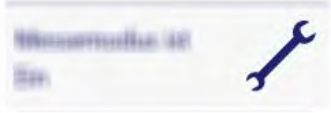
↳ Automatic restart of the software.

↳ Appliance is in trade show mode



↳ The active trade show mode is indicated on the screen.

Switching off trade show mode



→ Call up the *Trade show mode* menu.

→ Touch the "Trade show mode is on" field.

↳ Automatic restart of the software.

↳ Appliance is normal operation.

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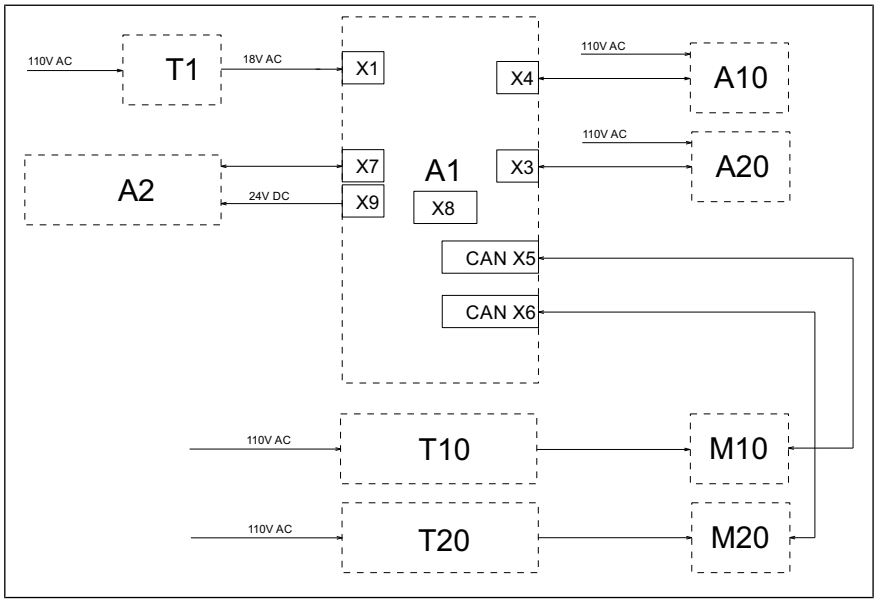
12 Electronics

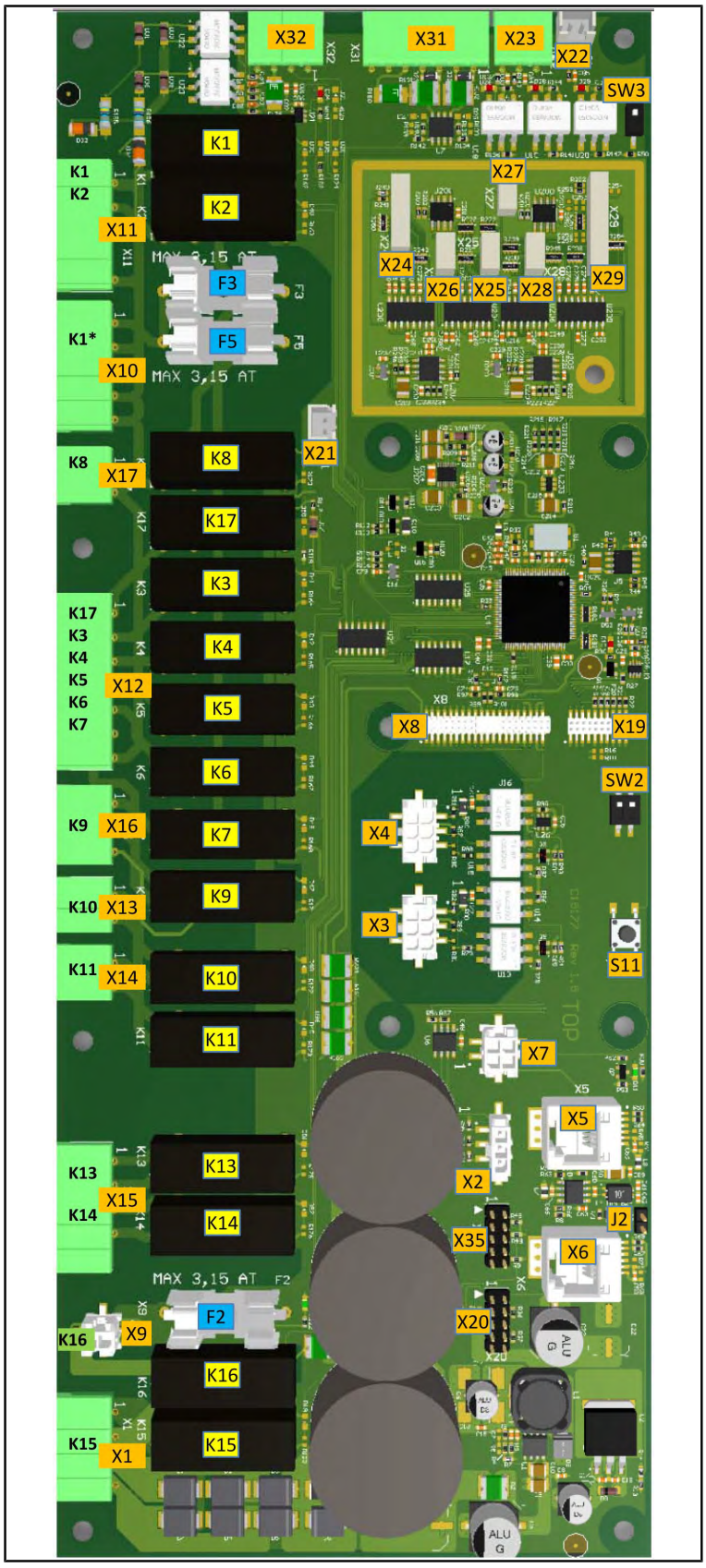
12.1 Overview of the controller



A1	Control board	M20	Lower fan motor (215, 221 only)
A2	Operating panel	T1	Transformer
A10	(Upper) ignition module	T10	Upper) electronic ignition
A20	Lower ignition module (only 215,221)	T20	Lower electronic ignition (215, 221 only)
M10	(Upper) fan motor	X8	Digital key

12.2 Control board

Layout



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Configuration of the control board

Connector X1

No.	Description
1	Input 10.7 V AC for lighting
2	
3/4	Power supply I/O board 18V AC

Connector X2 Not in use

Connector X3 Digital ignition module for lower system

Connector X4 Digital ignition module for upper system

Connector X5 CAN bus line to upper motor M1

Connector X6 CAN bus line to lower motor M2

Connector X7 MMI communication

Connector X8 Digital key contains device-specific information.

Connector X9 (24V DC)

No.	Description
1/2	Supply for control panel (MMI)

Connector X10 (110V AC)

No.	Description
1	Supply voltage for relay
2	Output K1, main contactor Q1
3	-
4/5	N

Connector X11 (110V AC) Not in use

Connector X12 (208V AC)

No.	Description
1	Output K17, WaveClean pump G16
2	-
3	Output K4, solenoid valve K12
4	Output K5, siphon pump G24
5	Output K6, backup relay
6	-
7	N

Connector X13 Not in use

Plug X14 (floating)

No.	Description
1	Input K11, cooling fan G7, G8, G9 (110V AC)
2	Output K11, cooling fan G7, G8, G9 (110V AC)

Connector X15 (110V AC)

No.	Description
1	Input K13, supply line from fuse F1
2	Output K13, relay K40 for grease pump control
3	Input K14, supply line fuse F1
4	Output K14, magnetic valve K41

Connector X16 Not in use

Connector X17 (110V AC)

No.	Description
1	Output K8, lift magnet M8
2	Neutral for lift magnet M8

Connector X19 / X20 Not in use

Connector X21 Reed contact switch for cooking chamber door B15

Connector X22 / X23 Not in use

Connector X24 B1 core temperature sensor 1

Connector X25 B2, Upper cooking chamber sensor 1

Connector X26 B3, lower cooking chamber sensor 2

Connector X27 B4 Vapor sensor

Connector X28 Not in use

Connector X29 Not in use

Connector X31 (24V DC)

No.	Description
1	Output +, steaming unit valve 1
2	Output -, steaming unit valve 1
3	Output +, steaming unit valve 2
4	Output -, steaming unit valve 2
5	Output +, pressure switch B14
6	Input +, from pressure switch B14
7	0 V

Connector X32 Not in use

Connector X35 Not in use

Button The buttons have no function and are intended for internal use.

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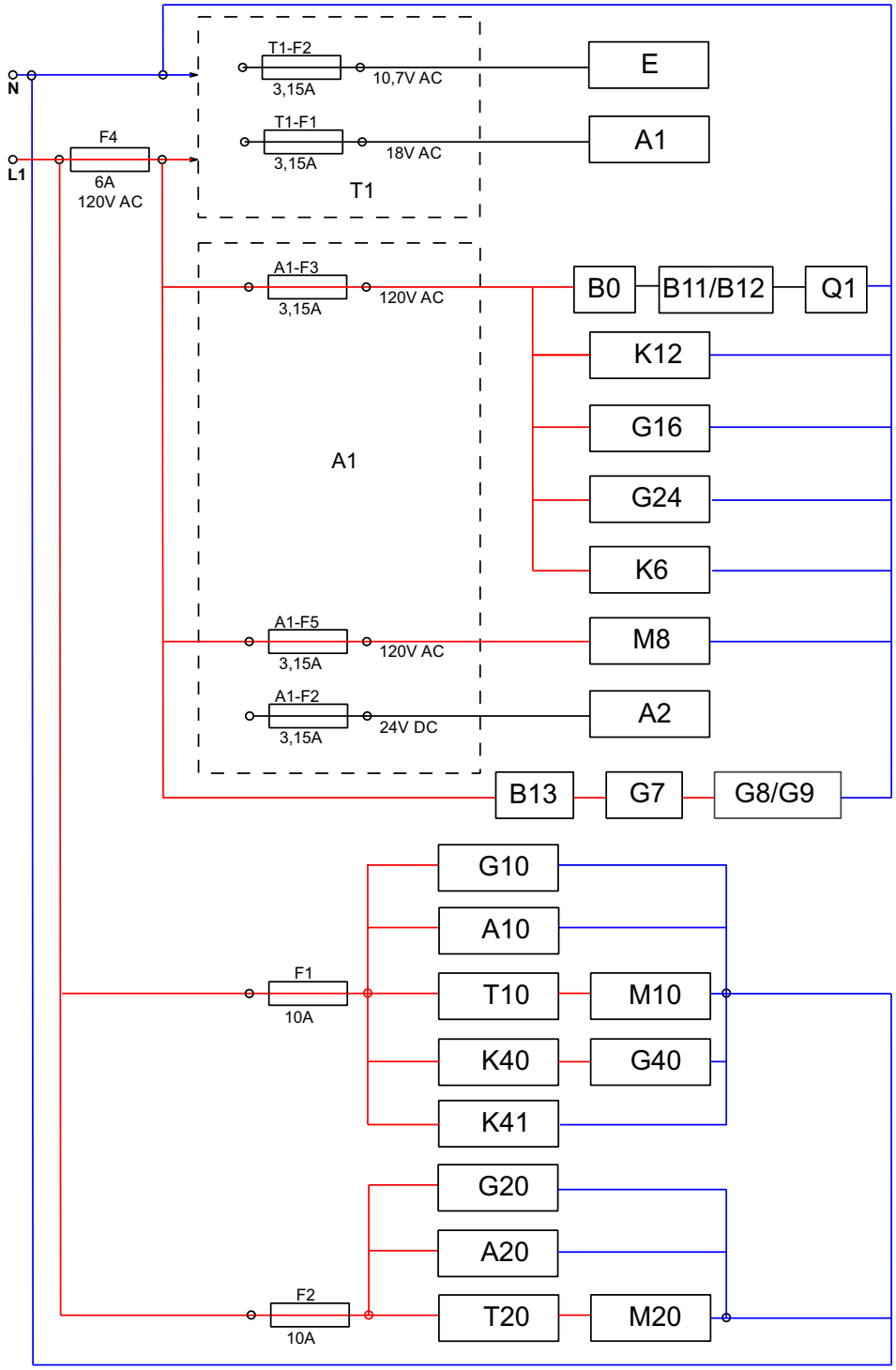
12.3 Safety overview

Overview



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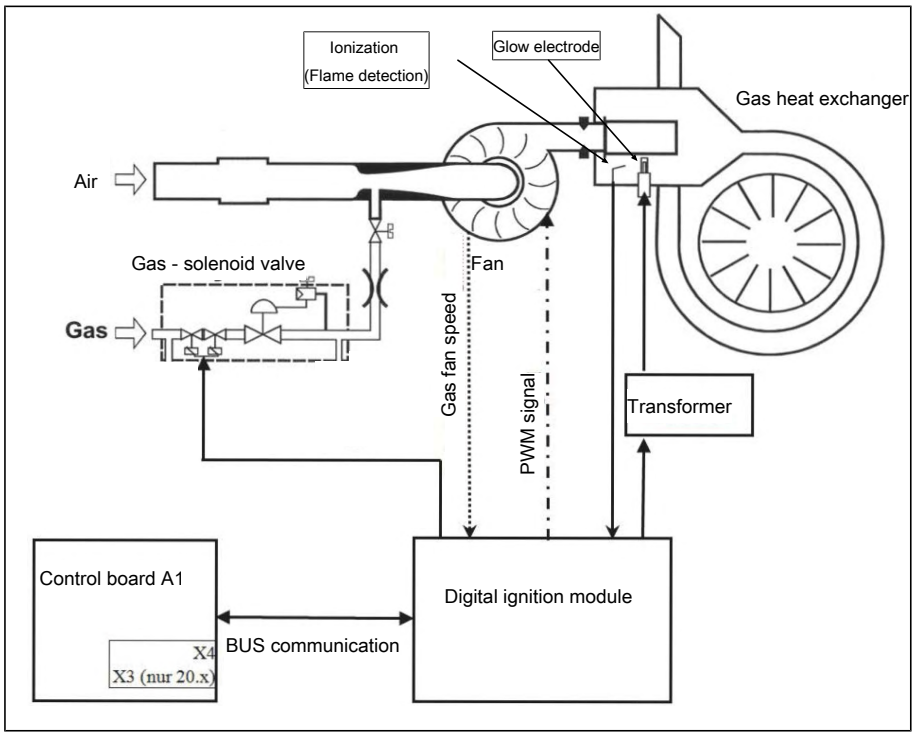
Legend

A1	Control board	A2	Operating panel
A10	Upper ignition module	A20	(Lower) ignition module
B0	Thermoswitch 158°F NC	B11	Upper cooking chamber STB 1
B12	Lower cooking chamber STB 2	B13	Thermoswitch 122°F NO
E	Cooking chamber light	F	Fuse
G7	Cooling fan	G8/ G9	Cooling fan
G10	Upper gas blower	G20	Lower gas blower
G16	WaveClean pump	G24	Siphon pump
G40	Grease pump	K6	Backup relay
K12	Magnetic valve extinguishing	K40	Relay control grease pump
K41	Solenoid valve flushing grease system	M8	Lift magnet
M10	Upper fan motor	M20	Lower fan motor
Q1	Main contactor	T1	Transformer
T10	Upper power board	T20	Lower ignition module

13 Gas technology

13.1 Basic principles

Functional diagram



Functional description

1. The control board issues a request to the electronic ignition unit.
2. The electronic ignition starts the gas fan. A feedback of the speed is issued.
3. The glow electrode is turned on.
4. After a preheating time of 2 seconds the gas solenoid valve is additionally actuated.
5. The combustion process begins.
6. The flame is detected by the control unit via the ionization electrode.
7. The heating capacity is regulated over gas fan speed.

INFORMATION

There is permanent communication between the control board and ignition module. All information is visible in the status overview or in the CO_2 calibration. Faults are indicated by corresponding error messages.

13.2 CO2 setting

Notes on safety

⚠ DANGER

Risk of personal injury and property damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained qualified personnel.

⚠ WARNING

Risk of poisoning from exhaust gases

- Ensure that exhaust gases are discharged properly and that the necessary amount of combustion air is supplied.
- Ensure that a maximum CO content of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

Opening the Setting menu

⚠ DANGER

Risk of personal injury and property damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained qualified personnel.

⚠ WARNING

Risk of poisoning from exhaust gases

- Ensure that exhaust gases are discharged properly and that the necessary amount of combustion air is supplied.
- Ensure that a maximum CO content of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

INFORMATION

Some measurements on the unit require it to be at opeating temperature.

- The operating temperature is reached when the temperature in the cooking chamber is between 130 °C —180 °C.

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Prerequisite Gas connection line connected
Checked for leaktightness outside the unit
Connection pressure checked
Checked for leaktightness inside the unit
Left side wall removed

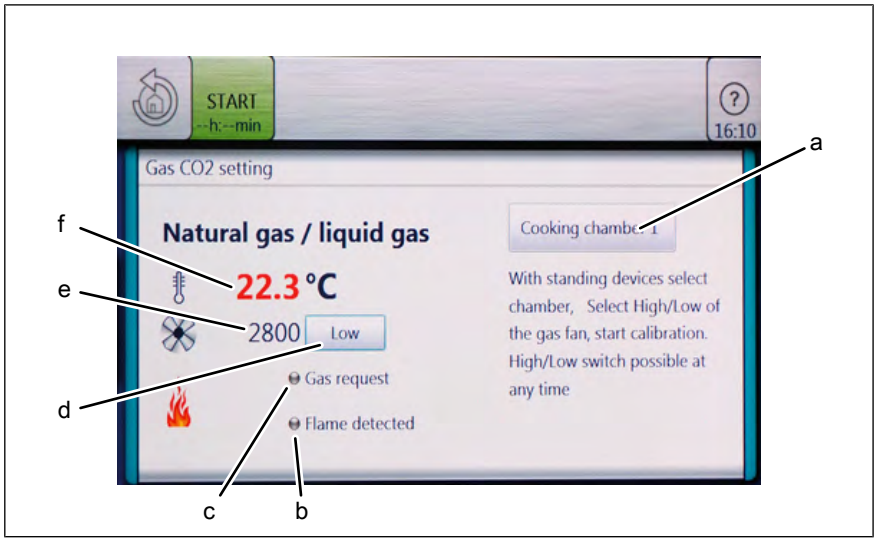
1. Check the rated heat input at maximum output.
2. Check the rated heat input at minimum output.
3. Check the primary air quantity.
4. Check the exhaust gas values.

Preparations

1. Switch on the unit.
2. Tap the "Unit functions" button.
   ↳ The *Unit functions* menu is displayed.
3. Tap the "Settings" field.
   ↳ The *PIN* window opens.
4. Enter password "999".
5. Tap the *Confirm* button.

↳ The *CO2 setting* appears.

As an alternative, access is possible via the service menu.



a Cooking zone (burner)
b Flame status detected
c Gas request detected
d Output
e Gas blower speed
f Cooking chamber temperature

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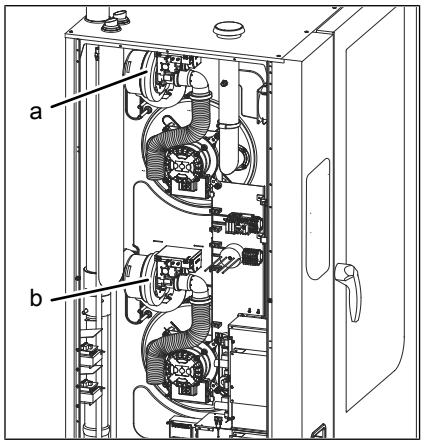

Image: Size 2xx

a Burner 1 (cooking chamber 1)

b Burner 2 (cooking chamber 2)

Check and adjust exhaust gas values

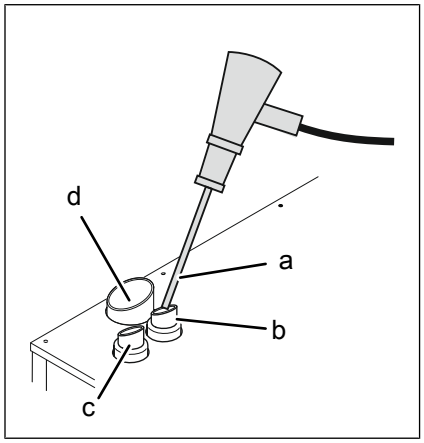

Image: Exhaust gas measurement

a Exhaust gas measuring device

b Waste gas connection, burner 1

c Waste gas connection, burner 2 (size 2XX only)

d Steam outlet nozzle

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High power (full load)

Checking the exhaust gas values

1. *CO2 settings* (via password "999" or in the service menu).
2. Set "Output" field to high output ("High").
3. On models with two burners, select the "Cooking zone 1" field for burner 1.
4. Press the "Start" button.
   ↳ The burner status "Gas request" appears in green.
   ↳ The burner status "Flame detected" appears in green.
   ↳ Unit is operated at high power (full load).
5. Measure the CO_2 content of the exhaust gases with an approved exhaust gas measuring device in the exhaust pipe at operating temperature.
   ↳ The temperature in the cooking chamber is displayed in green.
   ↳ To regulate the cooking chamber temperature, open the cooking chamber door slightly.
6. Check whether the measured CO content is within the specified range.
   ↳ If CO content is not within the specified range, adjust basic gas setting (see "Adjusting exhaust gas values (CO_2 setting)").
7. On models with two burners: Repeat the procedure for the second burner.

Gas type	CO_2 at high power	CO_2 at low power	CO (ppm) range	CO (ppm) optimal
Natural gas	8.6 – 9.6 %	0.5 - 1.2% lower than at high setting	0 - 1000	< 100
Liquefied petroleum gas (LP)	10.0 – 11.0%			

Set exhaust gas values

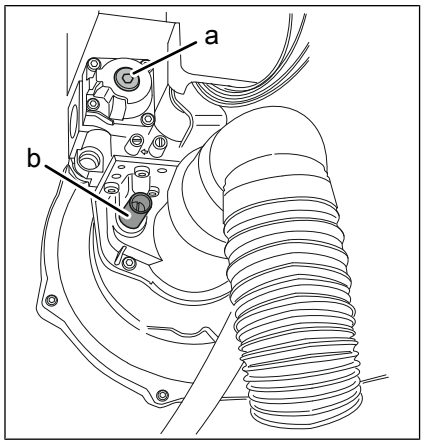

Image: Adjusting screws on the burner

a Adjusting screw for minimum output (TX40)

b Adjusting screw for maximum power (4 mm Allen key or 1.2 x 6.5 mm screwdriver)

INFORMATION

Nature and source of danger

If the measured exhaust gas value deviates significantly from the setpoint, it can be adjusted with the adjustment screw *Full load* .

If the exhaust gas value is close to the setpoint, the low power (partial load) should be set first.

Prerequisite Unit is in the CO_2 settings.
Adjusting screw *Full load* screwed in approx. 10 mm.

1. Set "Output" field to high output ("High").
2. Press the "Start" button.
   ↳ The burner status "Gas request" appears in green.
   ↳ The burner status "Flame detected" appears in green.
3. Unit is operated at high power (full load).
4. Measure the CO_2 content of the exhaust gases with an approved exhaust gas measuring device in the exhaust pipe at operating temperature.
   ↳ The temperature in the cooking chamber is displayed in green.
   ↳ To regulate the cooking chamber temperature, open the cooking chamber door slightly.
5. Check that the measured CO_2 content is within the specified range.

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6. Set the CO_2 content to the specified range using the adjusting screw for full load (maximum output).
   ↳ Turn the adjustment screw *Power* to the right to reduce the CO_2 content.
   ↳ Turn the adjusting screw *Power* to the left to increase the CO_2 content.
   ↳ If the CO_2 content continues to be outside the specified range, the nominal heat load must be set manually. To do this, remove the gas orifice.
7. On models with two burners: Repeat the procedure for the second burner.
8. Check the exhaust gas values.
9. Press the "Stop" button.
   ↳ The flame extinguishes.
   ↳ The burner is off.

Low power (partial load)

Checking the exhaust gas values

1. *CO2 settings* (via password "999" or in the service menu).
2. Set "Output" field to low output ("Low").
3. On models with two burners, select the "Cooking zone 1" field for burner 1.
4. Press the "Start" button.
   ↳ The burner status "Gas request" appears in green.
   ↳ The burner status "Flame detected" appears in green.
   ↳ Unit is operated at low power (partial load).
5. Measure the CO_2 content of the exhaust gases with an approved exhaust gas measuring device in the exhaust pipe at operating temperature.
   ↳ The temperature in the cooking chamber is displayed in green.
   ↳ To regulate the cooking chamber temperature, open the cooking chamber door slightly.
6. Check whether the measured CO content is within the specified range.
   ↳ If CO content is not within the specified range, adjust basic gas setting (see "Adjusting exhaust gas values (CO_2 setting)").
7. On models with two burners: Repeat the procedure for the second burner.

Gas type	CO_2 at high power	CO_2 at low power	CO (ppm) range	CO (ppm) optimal
Natural gas	8.6 – 9.6 %	0.5 - 1.2% lower than at high setting	0 - 1000	< 100
Liquefied petroleum gas (LP)	10.0 – 11.0%			

Set exhaust gas values

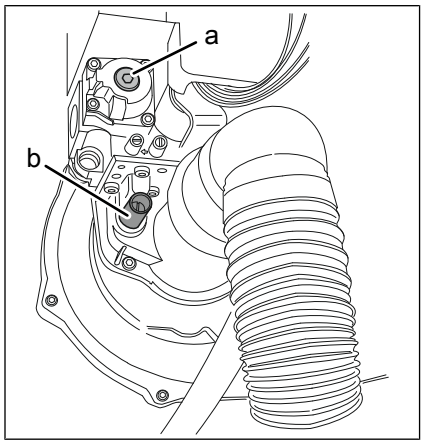

Image: Adjusting screws on the burner

a Adjusting screw for minimum output (TX40)

b Adjusting screw for maximum power (4 mm Allen key or 1.2 x 6.5 mm screwdriver)

Prerequisite Unit is in the CO_2 settings.

Unscrew the cap on the gas valve.

1. Select the "Power" field to high power "Low".
2. On models with two burners, select the "Cooking zone 1" field for burner 1.
3. Press the "Start" button.
   ↳ The burner status "Gas request" appears in green.
   ↳ The burner status "Flame detected" appears in green.
   ↳ Unit is operated at low power (partial load).
4. Measure the CO_2 content of the exhaust gases with an approved exhaust gas measuring device in the exhaust pipe at operating temperature.
   ↳ The temperature in the cooking chamber is displayed in green.
   ↳ To regulate the cooking chamber temperature, open the cooking chamber door slightly.
5. Check that the measured CO_2 content is within the specified range.
6. Set the CO_2 content to the specified range for minimum output using the adjustment screw behind the cap.
   ↳ Turn the adjustment screw to the right to increase the CO_2 content.
   ↳ Turn the adjustment screw to the left to reduce the CO_2 content.
7. Screw on the cap of the gas valve.
8. On models with two burners: Repeat the procedure for the second burner.
9. Check the exhaust gas values.

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10. Press the "Stop" button.
    ↳ The burner is off.

13.3 Converting the gas type

⚠ DANGER

Risk of personal injury and property damage from electric shock

- Before working on the unit, ensure that the unit has been disconnected from the power supply.

⚠ DANGER

Risk of explosion and fire from escaping gas

- When bleeding air from or degassing the gas system and the unit, ensure that the air and gas are discharged to the outside in a technically correct manner and without creating a risk.

⚠ DANGER

Risk of explosion or fire from operating the unit with the wrong gas type because of missing or incorrect gas type supplemental label

- When converting to a different gas type, replace the gas type supplemental label on the unit with the appropriate gas type supplemental label for the gas type available.

⚠ DANGER

Risk of personal injury and property damage from electric shock

- Inspection and adjustment work that can be carried out only with the housing open and the unit under power must be performed only by electrically trained qualified personnel.

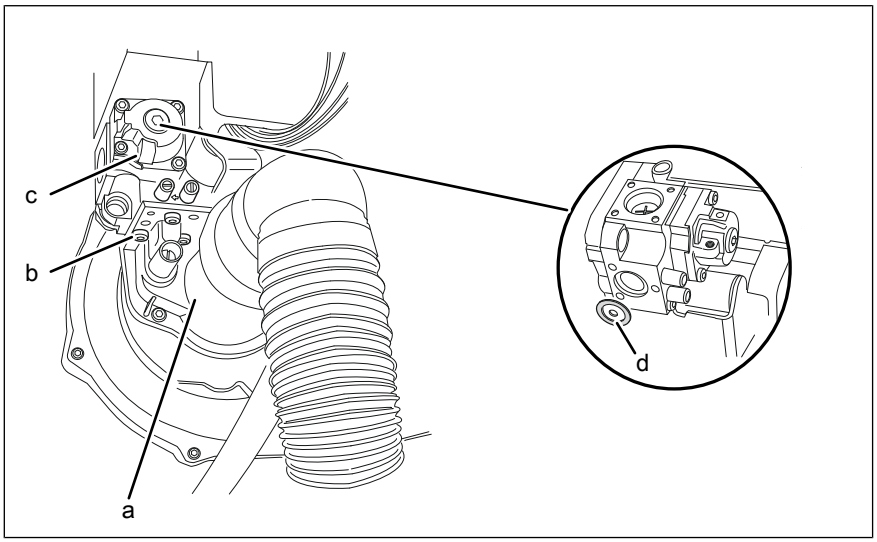

Image: Changing the gas orifice

a	Burner	c	Gas magnetic valve
c	Bolts (TX25)	d	Gas orifice with seal

Prerequisite Unit dead
Gas shut-off valve on the unit is closed
Left side wall removed

→ Unscrew the bolts from the gas solenoid valve.
→ Remove the gas solenoid valve.
→ Remove the gas orifice with seal.

⚠ DANGER

Risk of asphyxiation and explosion from damaged seals

- Check seals for damage
- Replace damaged seals
- Use only seals that are approved for use with gas

→ Select the gas orifice specified for the gas type available and install, together with seal, for place of the existing gas orifice. Replace damaged seal if necessary.
→ Replace the supplementary label for gas type on the unit with the appropriate supplementary label for the gas type available.
→ Replace the gas solenoid valve and secure it with the bolts.
→ On models with two burners: Repeat the procedure for the second burner.
→ Open the gas shut-off valve on the unit, while paying attention to the pressure in the gas connection line.

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⚠ DANGER

Risk of explosion and fire from escaping gas

- When bleeding air from or degassing the gas system and the unit, ensure that the air and gas are discharged to the outside in a technically correct manner and without creating a risk.

→ Check for leaks outside the unit.

⚠ WARNING

Risk of poisoning from exhaust gases

- Ensure that exhaust gases are discharged properly and that the necessary amount of combustion air is supplied.
- Ensure that a maximum CO content of < 0.1 vol. % or < 1000 ppm is achieved in undiluted exhaust gas.

→ Switch on the unit.
→ Check for leaks inside the unit.
→ Make CO_2 settings.
→ Switch off unit and attach side wall.

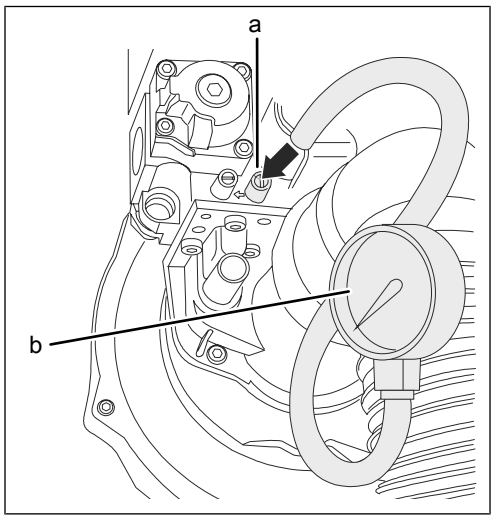
Valid from S/N 16212356

Gas Orifices CSA

Unit size	Gas orifice natural gas (Gas A)	Gas orifice liquid gas (Gas E)
615	680	470
115	590	420
215	590	420
621	590	430
121	580	400
221	580	400

13.4 Checking the connection pressure

Preparations



a Connection pressure measuring nozzle "IN

b Pressure measuring device

Prerequisite Gas connection line connected.

Measuring accuracy of the pressure measuring device at least 0.1 mbar.

→ Close the gas shut-off valve on the unit.
→ Unscrew the sealing plug from the connection pressure measuring point.
→ Connect the pressure measuring device.

Measuring the gas pressure

→ Restore the on-site gas supply.
→ Switch on unit and operate at maximum capacity.
→ Measure the connection pressure.

Gas type	Flow pressure (inch WC (mbar))	Flow pressure range (inch WC (mbar))
USA:		
Natural gas A	**8 (20)**	**6.8 – 10 (17 — 25)**
LP Gas B/P gas E	**12 (30)**	**10 – 14 (25-35)**

Connection pressure (static pressure) and flow pressure (dynamic pressure) must be within the specifications.

The flow pressure is to be measured at maximum heating power. If there are other gas appliances on the on-site supply line (e.g. another combi steamer), these must be operated in parallel at maximum power.

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13.5 Checking the offset pressure

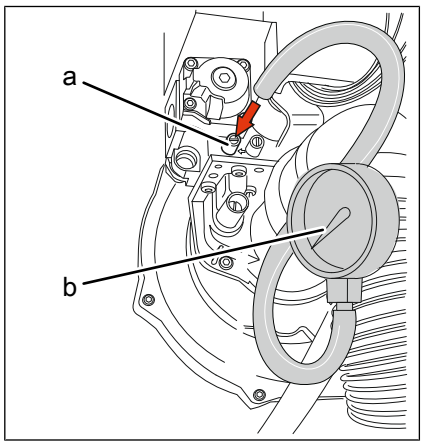

Image: Offset pressure

a Offset printing measuring nozzle „OUT“ b Pressure measuring device

Prerequisite

Gas connection line connected

Checked for leak tightness outside the unit

Connection pressure checked

Checked for leak tightness inside the unit

Left side wall removed

Measuring accuracy of the pressure measuring device at least 0.1 mbar.

1. Unscrew the sealing plug from the offset pressure measuring point.
2. Connect the pressure measuring device.
3. Switch on the unit.
4. Open *CO2 setting* in the service menu or enter the password *999* to open the setting menu directly .
5. Set "Output" field to low output ("Low").
6. On models with two burners, select the "Cooking zone 1" field for burner 1.
7. Press the "Start" button.

   ↪ The burner status "Gas request" appears in green.

   ↪ The burner status "Flame detected" appears in green.

   ↪ The unit operates under partial load.
8. Measure the offset pressure.
9. Check whether the measured offset pressure is within the specified range.
10. Set "Output" field to high output ("High").

    ↪ The unit operates at maximum power.
11. Measure the offset pressure.
12. Check whether the measured offset pressure is within the specified range.

13. Press the "Stop" button.
    ↳ The flame extinguishes.
    ↳ The burner is off.
14. Press the *Back* button twice.
    ↳ The main menu appears.
15. Switch off the unit.

Offset pressure overview

Output	Range (inch WC (mbar))	Optimal (inch WC (mbar))
High	**-0.32 – 0 (-0.8 — 0)**	**- 0.22 (-0.55)**
Low	**- 0.16 – 0 (-0.4 — 0)**	**- 0.06 (-0.15)**

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14 Grease collection system

14.1 Description of operation

Grease collection system

The grease collection system must be activated for each cooking step as required. During a cooking step with activated grease collection system, the fat pump is switched on in intervals. The intervals as well as the duty cycle are controlled by fixed software parameters.

The function is only available in the combi steaming and convection modes.

Automatic flushing

During the WaveClean automatic cleaning program, the grease collection system is also rinsed.

The hose to the collection container is not rinsed in the process. The intervals as well as the duty cycle are controlled by fixed software parameters.

14.2 Component overview grease collection system

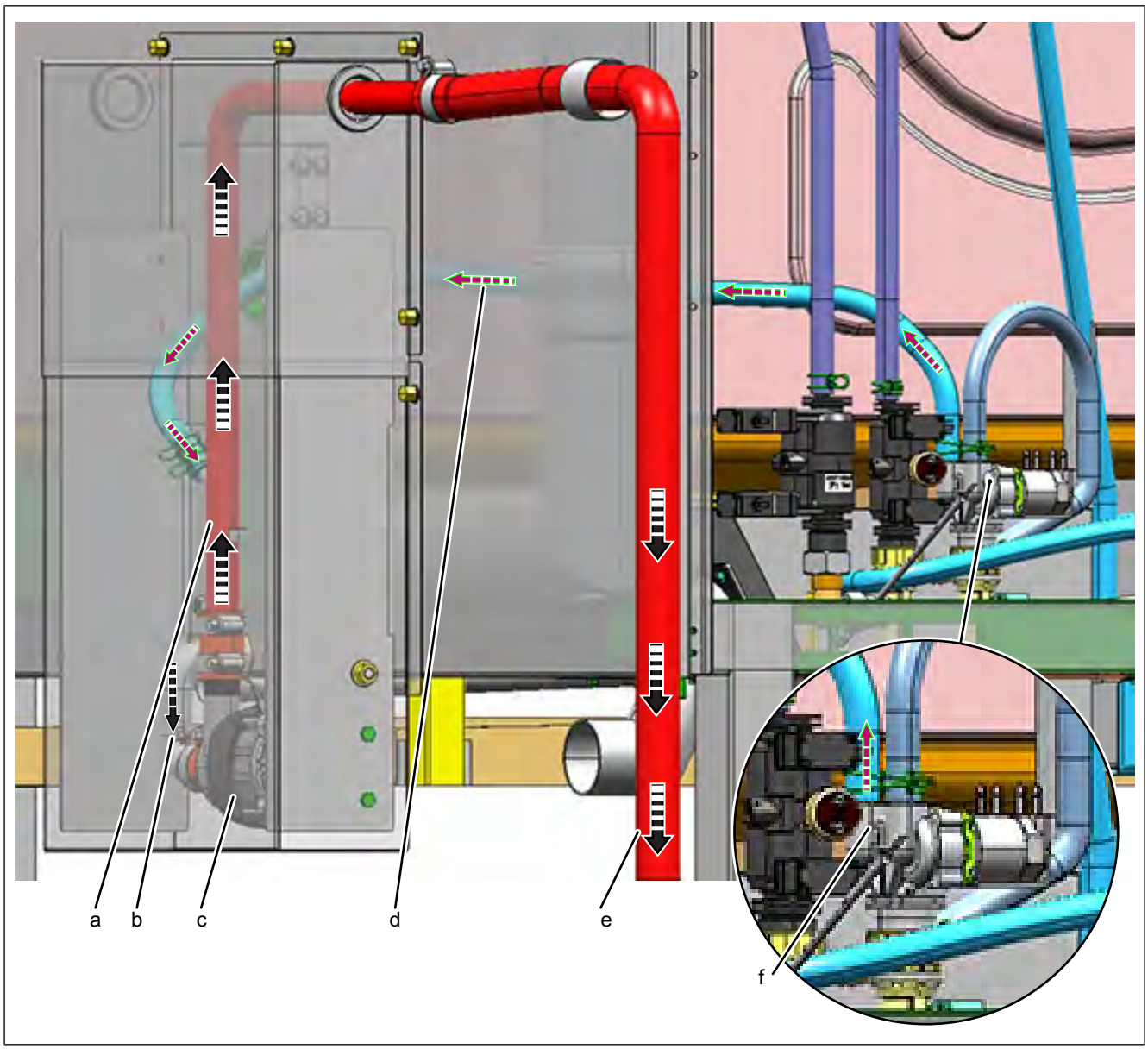

Image: Overview of grease drain system

a Pipe	b Grease drain from the siphon box to the grease pump
c Grease pump with condenser	d Water hose for flushing grease drain system
e Grease drain hose	f Double solenoid valve

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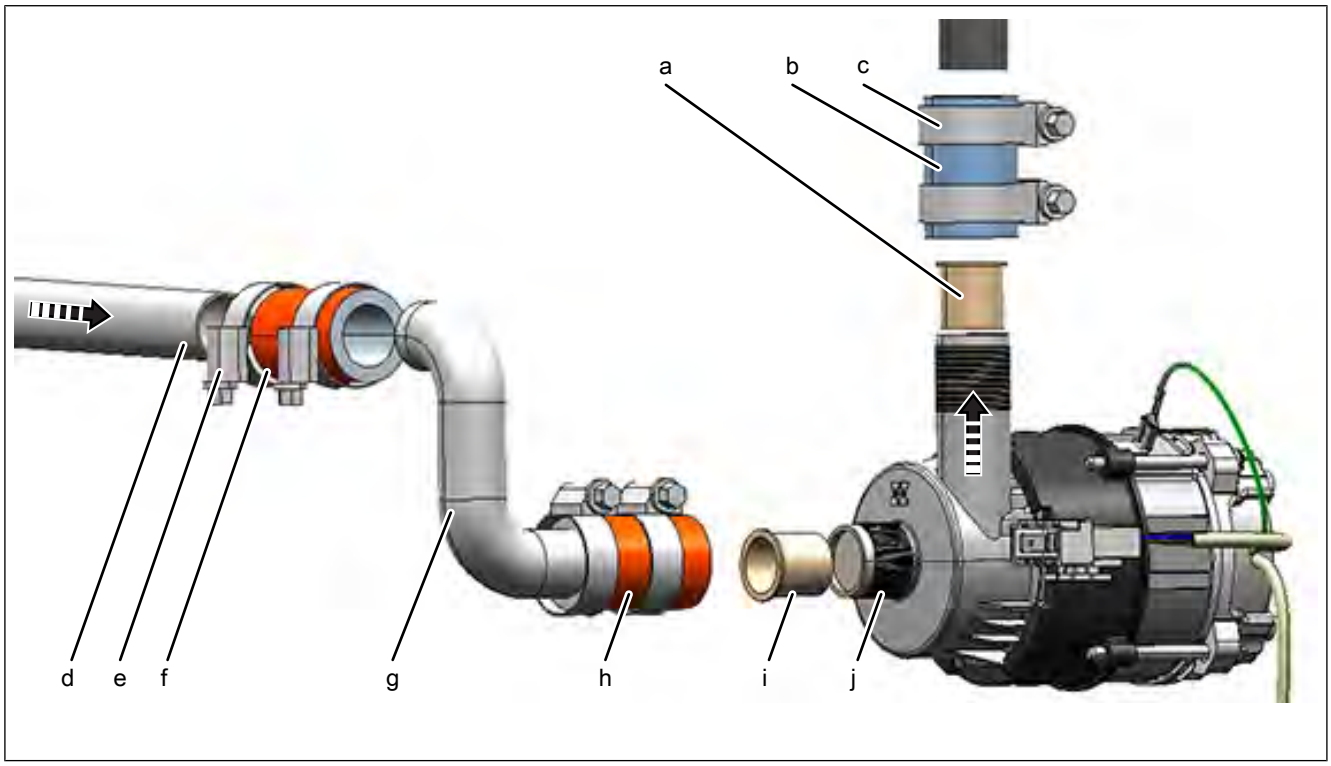

Image: Overview grease pump

a	Reduction, MM10030670	b	Hose 20 x 5 x 45 mm, MM10031483
c	Hose clamp, MM10012751	d	Supply line from siphon box
e	Hose clamp, MM10012751	f	Hose 20 x 5 x 45 mm, MM10031483
g	Pipe bend, MM10031306	h	Hose 20 x 5 x 45 mm, MM10031483
i	Reduction, MM10030670	j	Grease pump120V, MM 10029936

14.3 Circuit diagram overview grease collection system

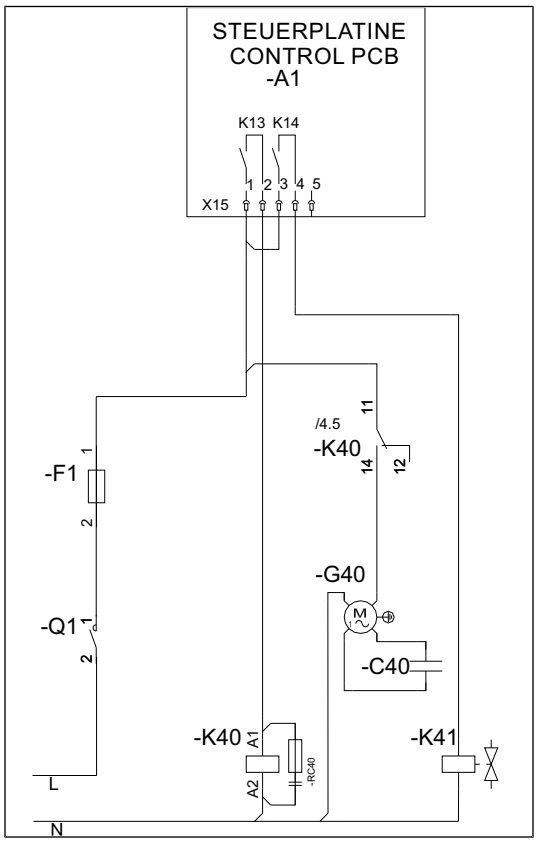

Image: Circuit diagram grease separator

A1	Control board, MM10013404	C40	Capacitor, MM10031308
F1	Fuse, 10A, MM202643	G40	Grease pump 120V, MM10029936
K40	Relay, 120V, MM10017207	K41	Solenoid valve 120V, MM10030669

Control of the grease pump

→ Relay K13 on control board A1 controls relay K40 with 120V.

↳ Grease pump G40 is switched on.

Control solenoid valve for flushing grease drain incl. grease pump

→ Relay K14 on control board A1 controls solenoid valve K41 with 120V.

↳ Solenoid valve K41 is switched on.

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14.4 Cleaning and maintenance

Clean grease collection system

Prerequisite Cooking program has ended

→ Detach the grease drain hose from the grease collector.
→ Connect grease drain hose to existing water hose.
→ Flush the system for approx. one minute.
↳ Cleaning is complete.
→ Disconnect the water hose from the grease drain hose.

Function test grease separator

→ Detach the grease drain hose from the grease collector.
→ Mount the backflush fitting on the grease drain hose.
→ Open the cooking chamber door.
→ Remove tray trlley
→ Spray water into the cooking chamber with the hand shower for at least 30 seconds.
→ Open the relay test in the service menu.
→ Activate relay K13. The grease pump switches on.
↳ Water/grease is pumped into the collection container = pump system in order.
↳ Water/grease is not pumped into the collection container = carry out troubleshooting.

Tap "K 13" to exit.

Function test Automatic flushing

Prerequisite
→ Detach the grease drain hose from the grease collector.
→ Mount the backflush fitting on the grease drain hose.
→ Open the cooking chamber door.
→ Remove tray trlley
→ Open the relay test in the service menu.
→ Activate relay K14.
↳ Solenoid valve K41 for flushing is switched on.
→ After approx. 30 seconds, additionally activate relay K13.
↳ Water is pumped into the collection tank = solenoid valve OK.
↳ Water and occasional lumps of grease are pumped into the collection container = clean the grease drainage system. Then repeat the test.
↳ Water is not pumped into the collection tank = carry out troubleshooting.
→ Tap "K 13" and "K14" to exit.

15 Error messages & troubleshooting

15.1 Symbols for errors

For some errors, an additional symbol appears in the title bar.

If the exact error is not known, switch the unit off and then back on. In the event of an error, the exact error will appear in the display.

Display on the left touchscreen	Description
	Cooking sensor defective. Unit in emergency mode Emergency operation.
	Core temperature sensor defective,
	Fan fault. Operation no longer possible. Switch the unit off and then back on.

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15.2 Emergency operation

Description

Description In order to allows limited use in case of error, the appliance has various emergency programs. Emergency operation is activated automatically and displayed. After elimination of the error indicated, the controller switches back into regular operation automatically. A reset is not necessary.

INFORMATION Emergency programs handle the limited further operation of the appliance until servicing. Deviating cooking results and temperature deviations are possible.

Overview

Error	Description
Upper chamber sensor faulty.	Measurement of the cooking chamber temperature is done exclusively by the bottom cooking chamber sensor.
Lower chamber sensor faulty.	Measurement of the cooking chamber temperature is done exclusively by the top cooking chamber sensor.
Vapour sensor defective	The software controls the water vapor elimination. This results in higher water consumption.
Internal core temperature sensor faulty. Cooking program was canceled. Cooking program can be restarted after changing to external core temperature sensor.	The core temperature sensor is deactivated.
External core temperature sensor faulty. Cooking program was canceled. Cooking program can be restarted after changing to internal core temperature sensor.	

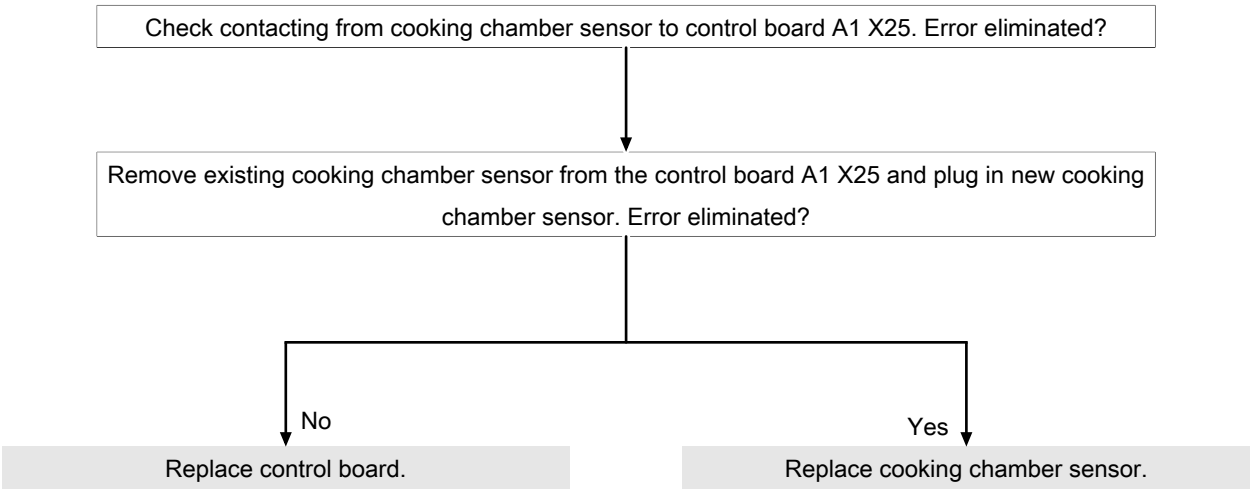
15.3 Temperature sensor area

Cooking chamber sensor faulty (694, 695)

Description

Emergency operation is activated automatically and displayed. The core temperature sensor takes over the function of the cooking chamber sensor. Cooking program with core temperature sensor is no longer available.

Troubleshooting

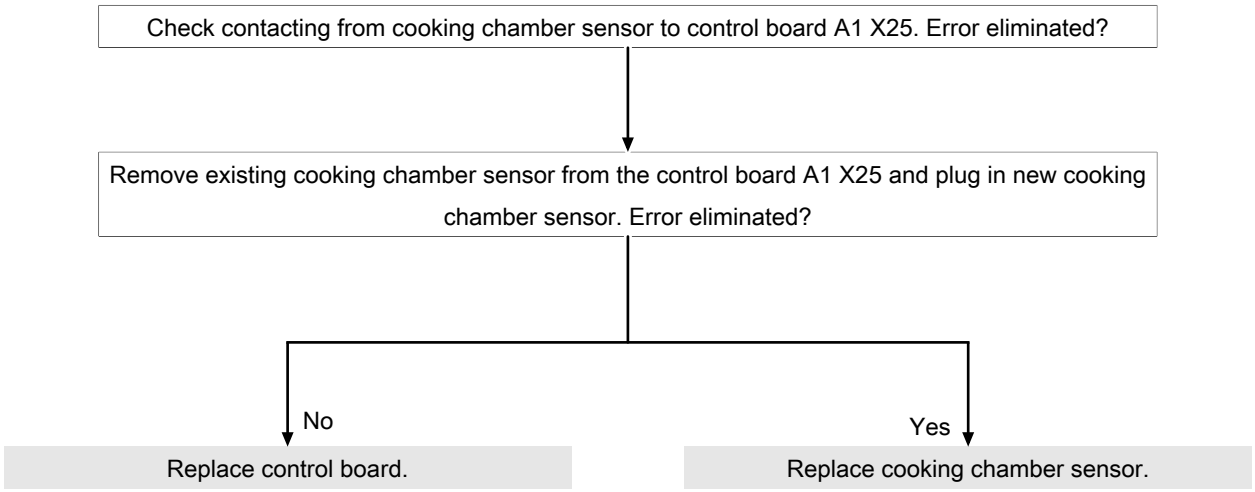


Upper cooking chamber sensor faulty (696, 728)

Description

Emergency operation is activated automatically and displayed. Measurement of the cooking chamber temperature is done exclusively by the bottom cooking chamber sensor.

Troubleshooting

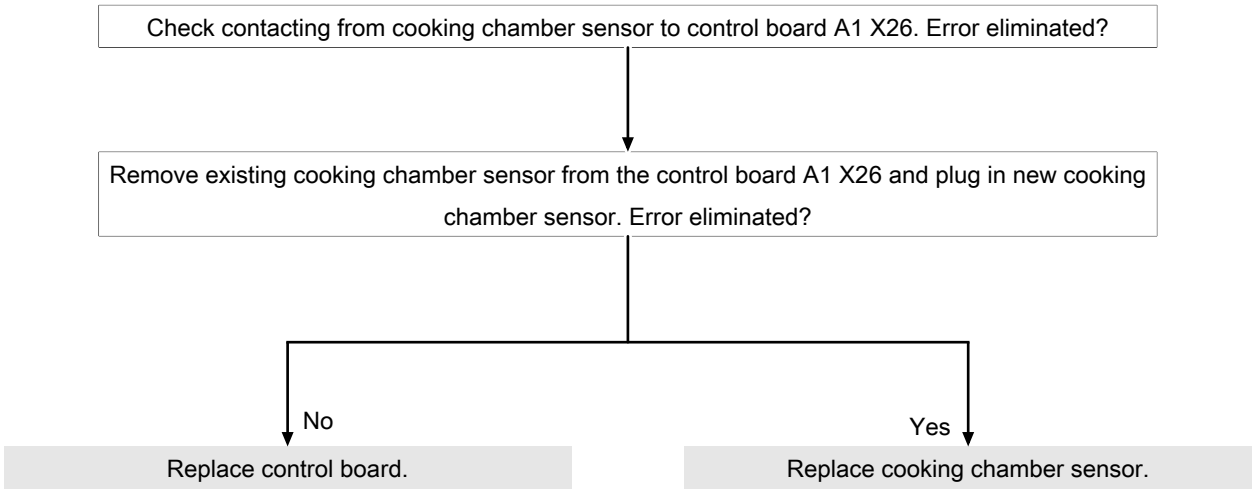


Lower cooking chamber sensor faulty (697, 729)

Description

Emergency operation is activated automatically and displayed. Measurement of the cooking chamber temperature is done exclusively by the top cooking chamber sensor.

Troubleshooting



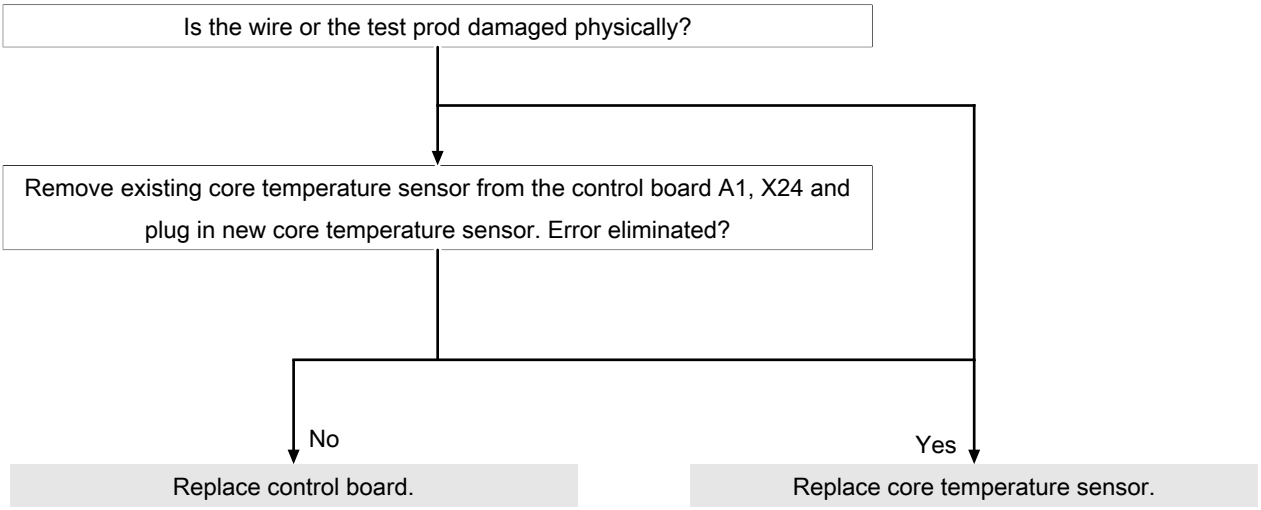
Alternatively, disconnect top cooking chamber sensor from A1 X25 for test purposes and connect to A1 X26 to see if the error "migrates".

Core temperature sensor faulty (699, 700)

Description

The core temperature function is no longer available.

Troubleshooting



Internal core temperature sensor faulty (714, 716)

Description

The internal core temperature sensor in the cooking chamber is deactivated.

Troubleshooting

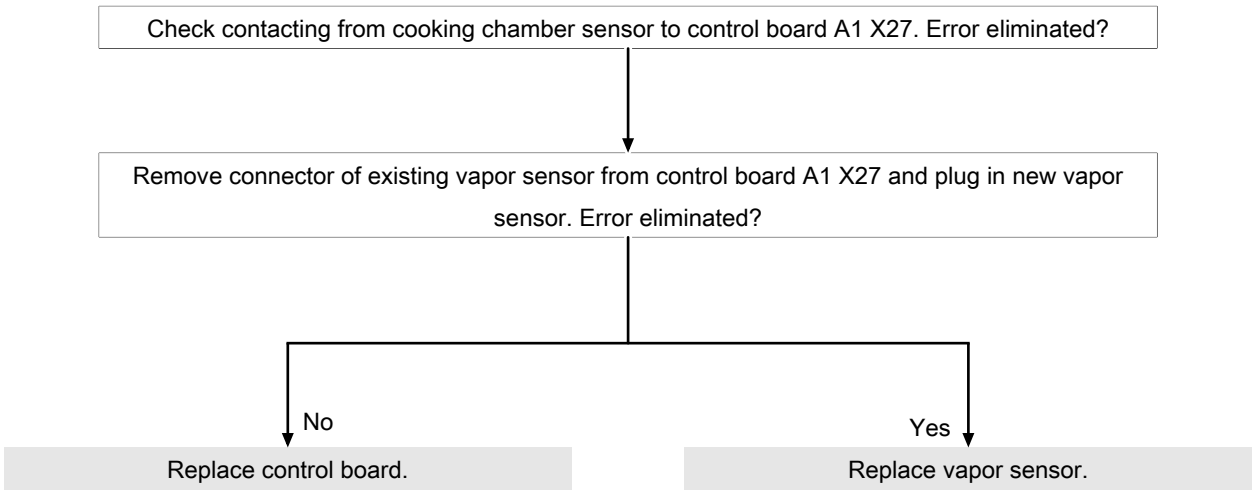
Identical to "Core temperature sensor defective" (see „ Troubleshooting“, Page 89).

Vapour sensor fault (710)

Description

In the event of an error, emergency operation is activated and displayed automatically. The software controls steam elimination. In this case, increased water consumption may result.

Troubleshooting



FM06-143C

Waste trap temperature very high (SOF_ID20, ID21)

Description The temperature in the siphon is >100°C. The water vapor sensor B4 is used for the measurement.

Prerequisite Water supply available on-site at both water connections.

Troubleshooting

→ Update software to version 1.71 or higher. As of this version the fault is ignored.

→ Fill the siphon with 2 liters of water from inside the cooking chamber.

→ Check the solenoid valve for steam elimination K12 via the relay test.

→ Perform the WaveClean test.

Risk of frost (TMP_ID72, MMI_ID51)

Description

The unit is not ready for use. The temperature sensor on the control board is measuring a temperature of <0°C.

Troubleshooting

→ Increase the room temperature and switch on unit again.

→ Change location of the unit.

Excess temperature in the cooking chamber (ID18, ID73)

Description

The measured temperature in the cooking chamber is outside the allowable range of more than 310°C. The unit is no longer operational until the cooking chamber cools down. The measurement is taken by the cooking chamber sensor and core temperature sensor.

Troubleshooting

→ Check the cooking cabinet sensor and protective basket for soiling. Clean if necessary.

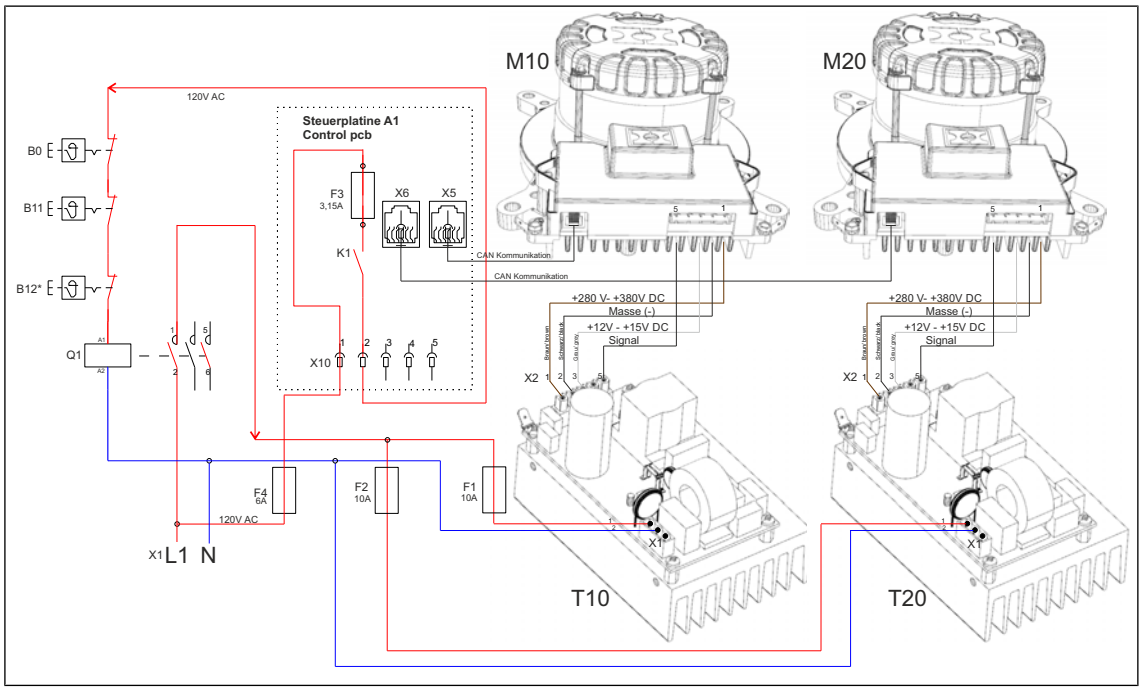
15.4 Motor area

⚠ DANGER

Warning: electric shock! Danger of death!

When working on the power board, make sure that energized parts are exposed. Work on these components during operation and up to 3 minutes after enabling is not allows. Even if the motor is stopped and the appliance is de-energized, the connection terminals and components can conducted dangerous voltage!

Overview



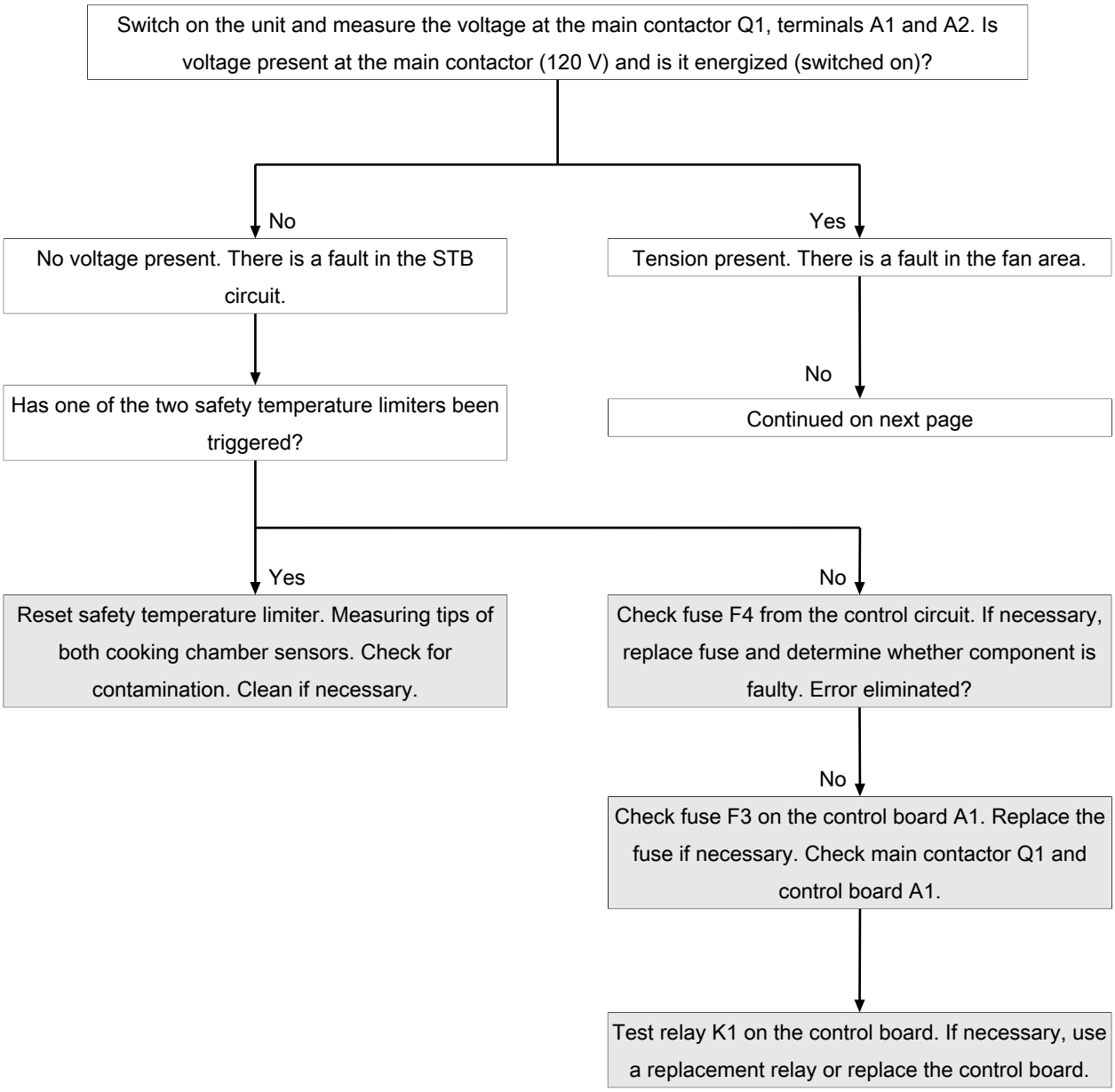
A1	Control board	B0	Thermal switch 158°F
B11	Safety temperature limiter	B12	Safety temperature limiter
F1	Fuse 10 A	F2	Fuse 10 A
F3	Fuse on control board, 3.15 A, slow-blow	F4	Fuse 6 A
K1	Relay on control board A1	M10	Fan motor (top)
M20	Fan motor (bottom)	T10	Power supply unit for motor (top)
T20	Power supply unit for motor (bottom)		

Fan faulty or temperature limiter tripped (702)

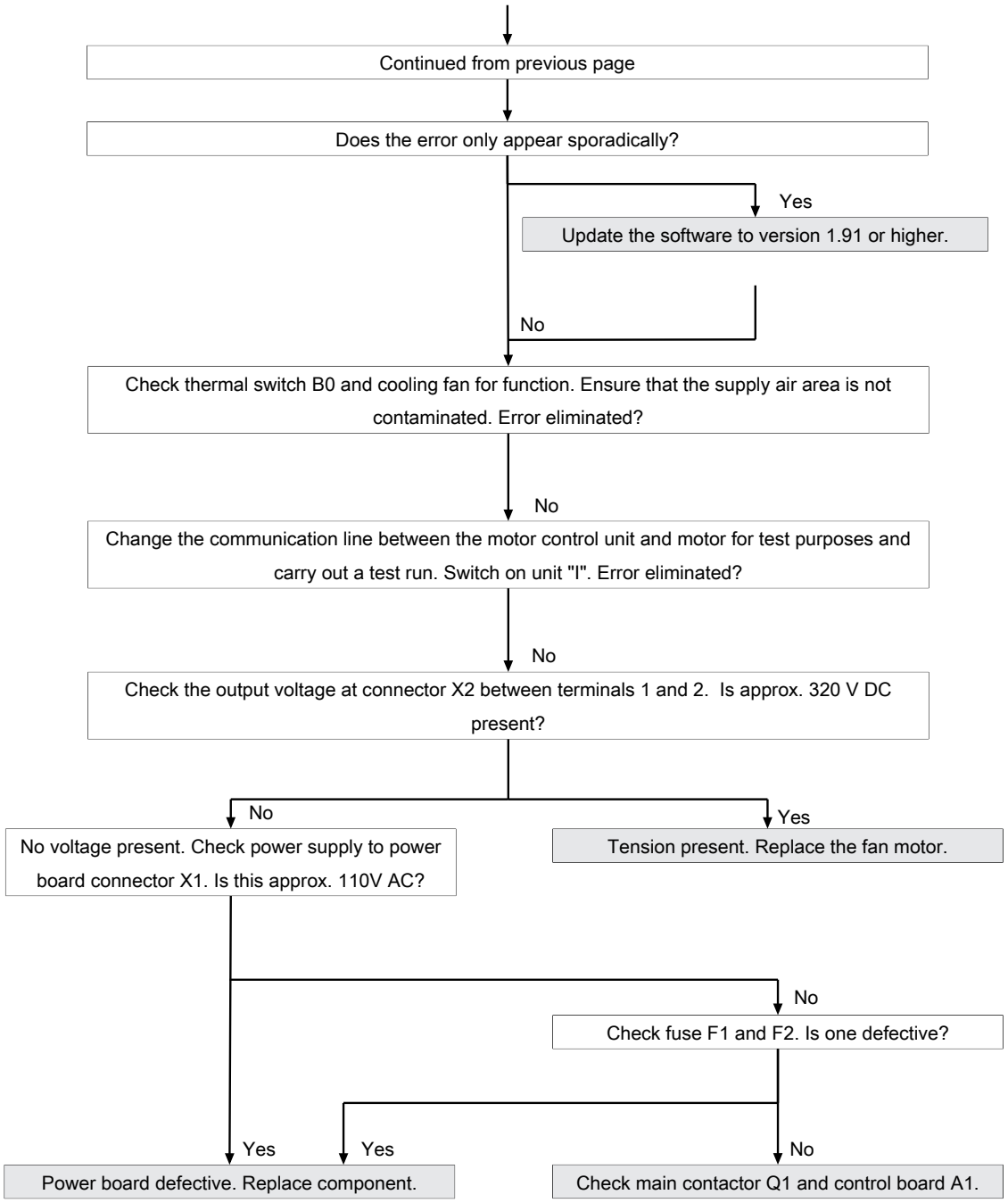
Description

The control board A1 does not receive any response via the CAN bus cable from fan motor M10. There is an error in the safety circuit or fan area.

Troubleshooting



FM06-143C


Continued from previous page
Does the error only appear sporadically?
Yes
Update the software to version 1.91 or higher.
No
Check thermal switch B0 and cooling fan for function. Ensure that the supply air area is not contaminated. Error eliminated?
No
Change the communication line between the motor control unit and motor for test purposes and carry out a test run. Switch on unit "I". Error eliminated?
No
Check the output voltage at connector X2 between terminals 1 and 2. Is approx. 320 V DC present?
No
Yes
No voltage present. Check power supply to power board connector X1. Is this approx. 110V AC?
Tension present. Replace the fan motor.
No
Check fuse F1 and F2. Is one defective?
Yes
Yes
No
Power board defective. Replace component.
Check main contactor Q1 and control board A1.

Fan faulty. Cooking program was cancelled (701)

Description

Description The control board A1 does not receive any response via the CAN bus cable from fan motor M10 when the fan is active.

Troubleshooting

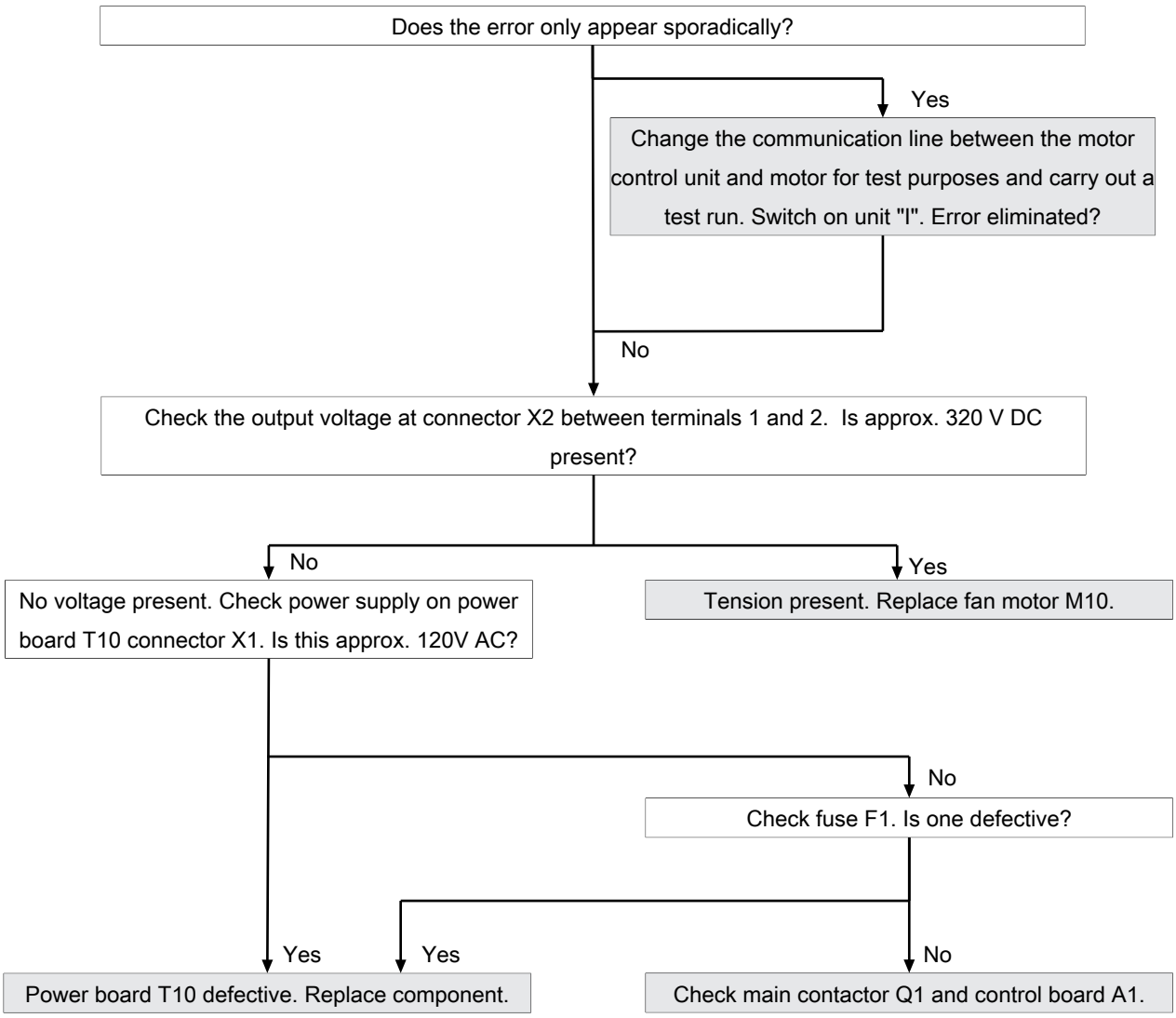
See "*Fan defective or temperature limiter triggered (702)*"

Upper fan faulty (1615, 1617)

Description

The control board A1 does not receive any response via the CAN bus cable from the top fan motor M10.

Troubleshooting



Upper fan faulty (703, 705)

Description

The control board A1 does not receive any response via the CAN bus cable from the top fan motor M10.

Troubleshooting

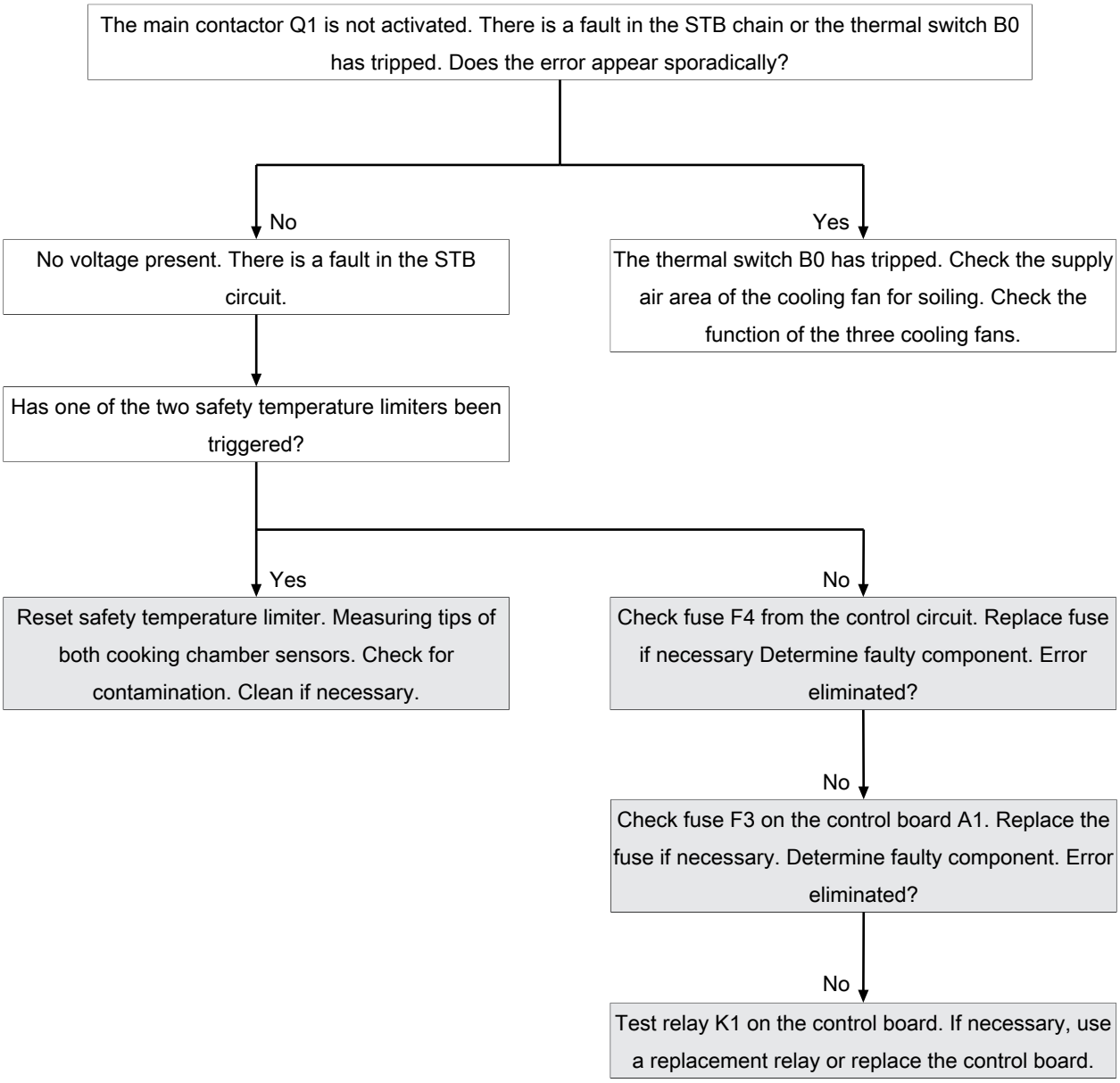
Update the software to version 1.91 or higher.

Upper and lower fan faulty (707, 708)

Description

The control board A1 does not receive any feedback via the CAN bus cable from the upper and lower fan motor M10/ M20. There is a fault in the safety circuit. The main contactor Q1 is not activated.

Troubleshooting

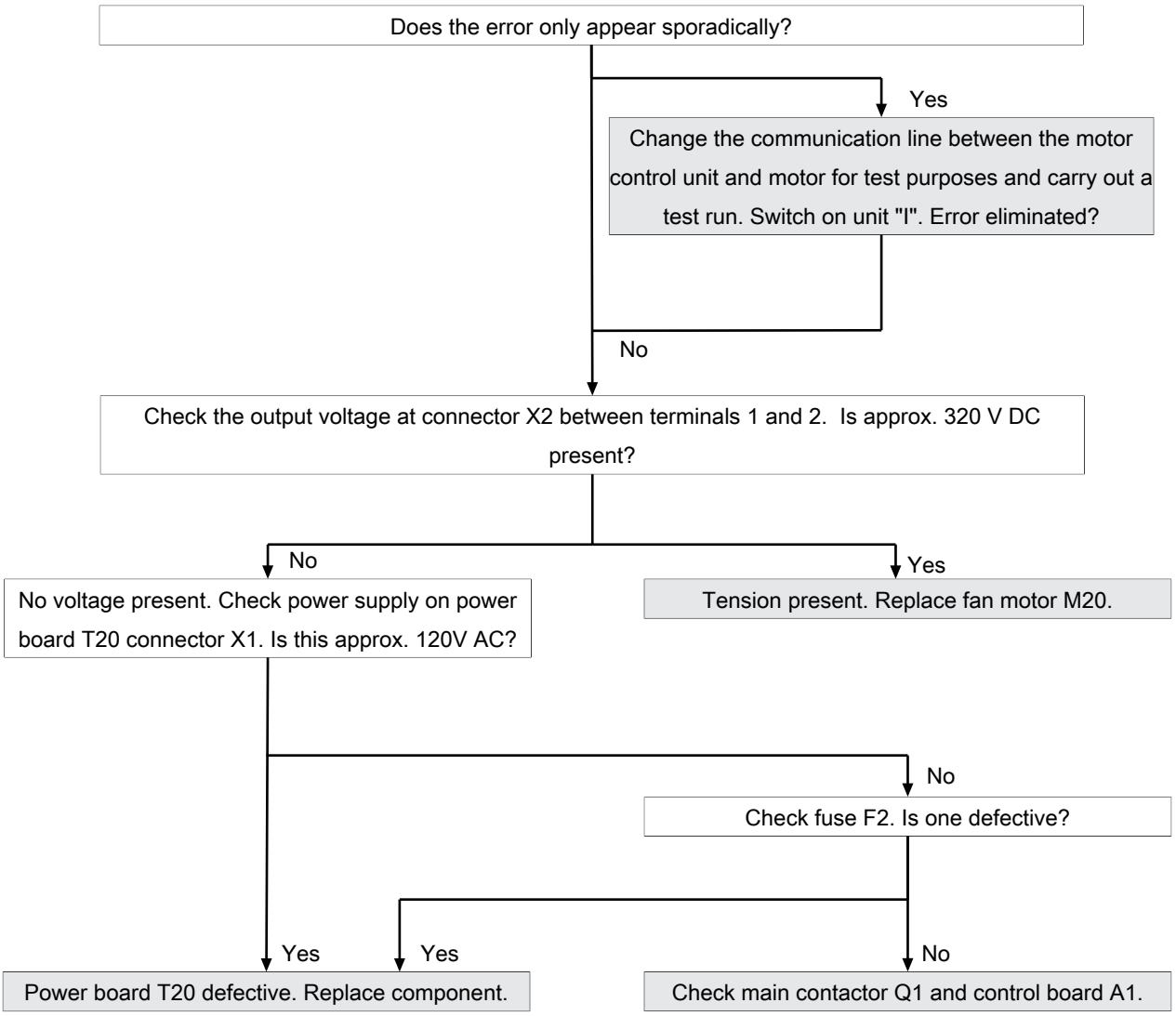


Lower fan faulty (1616, 1618)

Description

The control board A1 does not receive any response via the CAN bus cable from the lower fan motor M20. There is an error in the safety circuit or fan area.

Troubleshooting



Lower fan faulty (704, 706)

Description

The control board A1 does not receive any response via the CAN bus cable from the lower fan motor M20. There is an error in the safety circuit or fan area.

Troubleshooting

Update the software to version 1.91 or higher.

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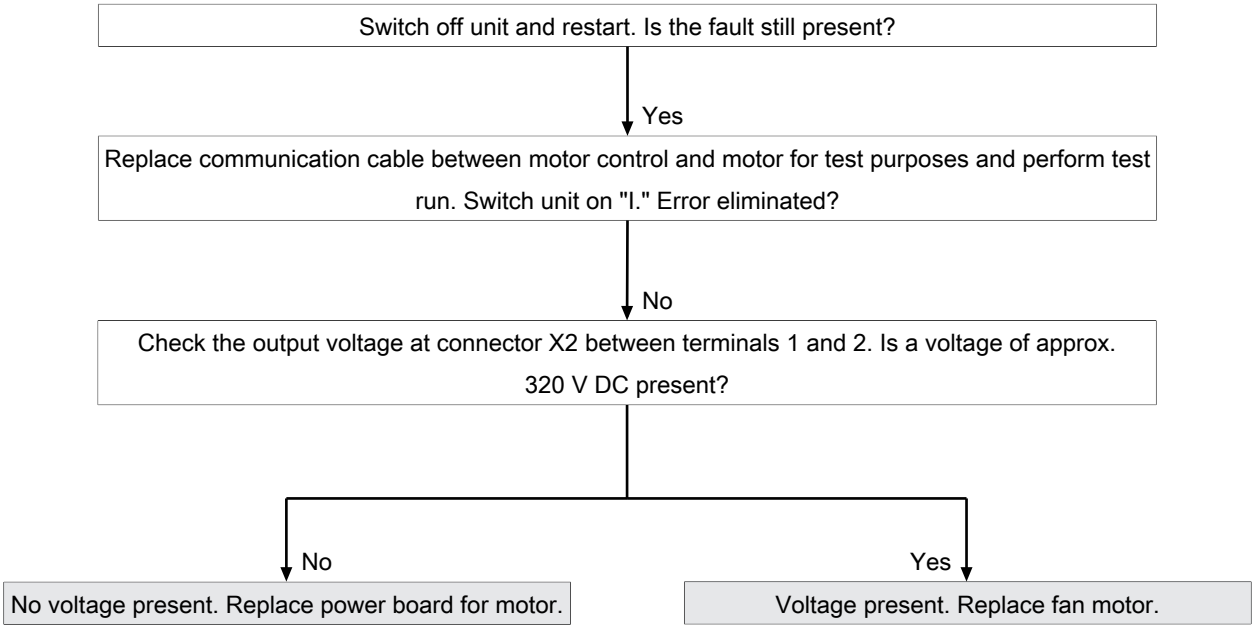
Fan fault (FAN_ID23)

Description

The control board A1 does not receive any response regarding speed from fan motor M10. There is either a problem with the 320 V voltage supply from the power board or a fault in the fan.

Troubleshooting

Before starting troubleshooting, check the software version on the unit. This should be version 1.91 or higher. For older versions, carry out an update in advance.



Fault in upper fan (FAN_ID24)

Description

The control board A1 does not receive any response regarding speed from upper fan motor M10. There is either a problem with the 320 V voltage supply from the power board or a fault in the fan.

Troubleshooting

See "FAN_ID23: Fan error: Try restarting".

Fault in lower fan (FAN_ID25)

Description

The control board A1 does not receive any response regarding speed from lower fan motor M20. There is either a problem with the 320 V voltage supply from the power board or a fault in the fan.

Troubleshooting

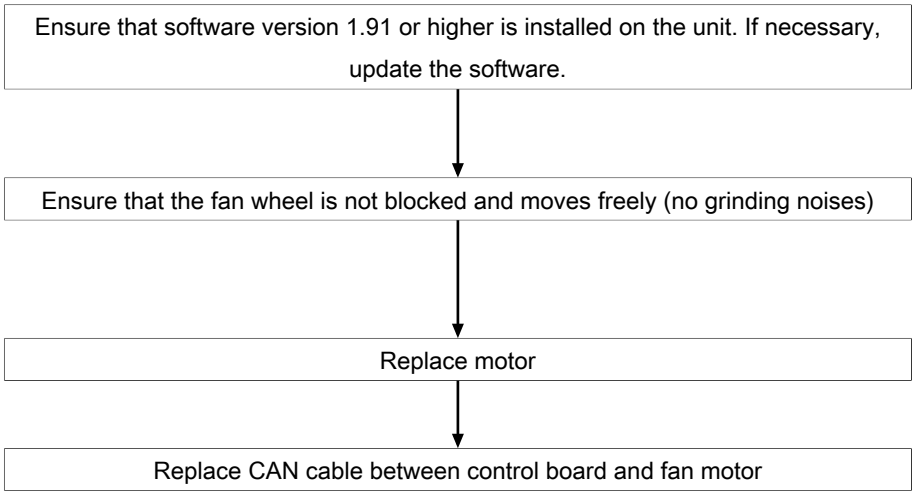
See "FAN_ID23: Fan error: Try restarting".

Motor system faulty (FAN_ID27)

Description

The error message is generated when the control board receives a too low or no speed from the motor control. After unit restart via "ON/OFF" the error is reset. A new query is made at the start of the cooking program.

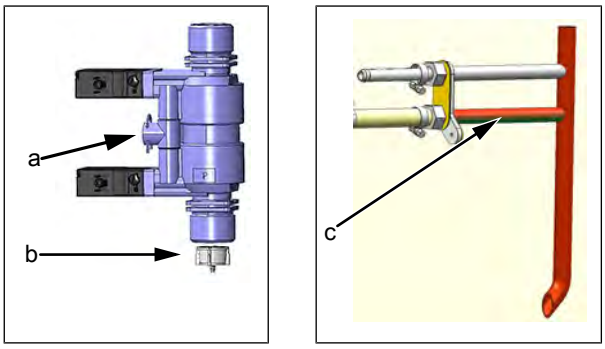
Troubleshooting



15.5 Water area

Water pressure too low (709)

Overview



a Pressure switch

b Sieve

c Water supply pipe in the cooking chamber

Troubleshooting

The water pressure at the water connection must be at least 2 bar.

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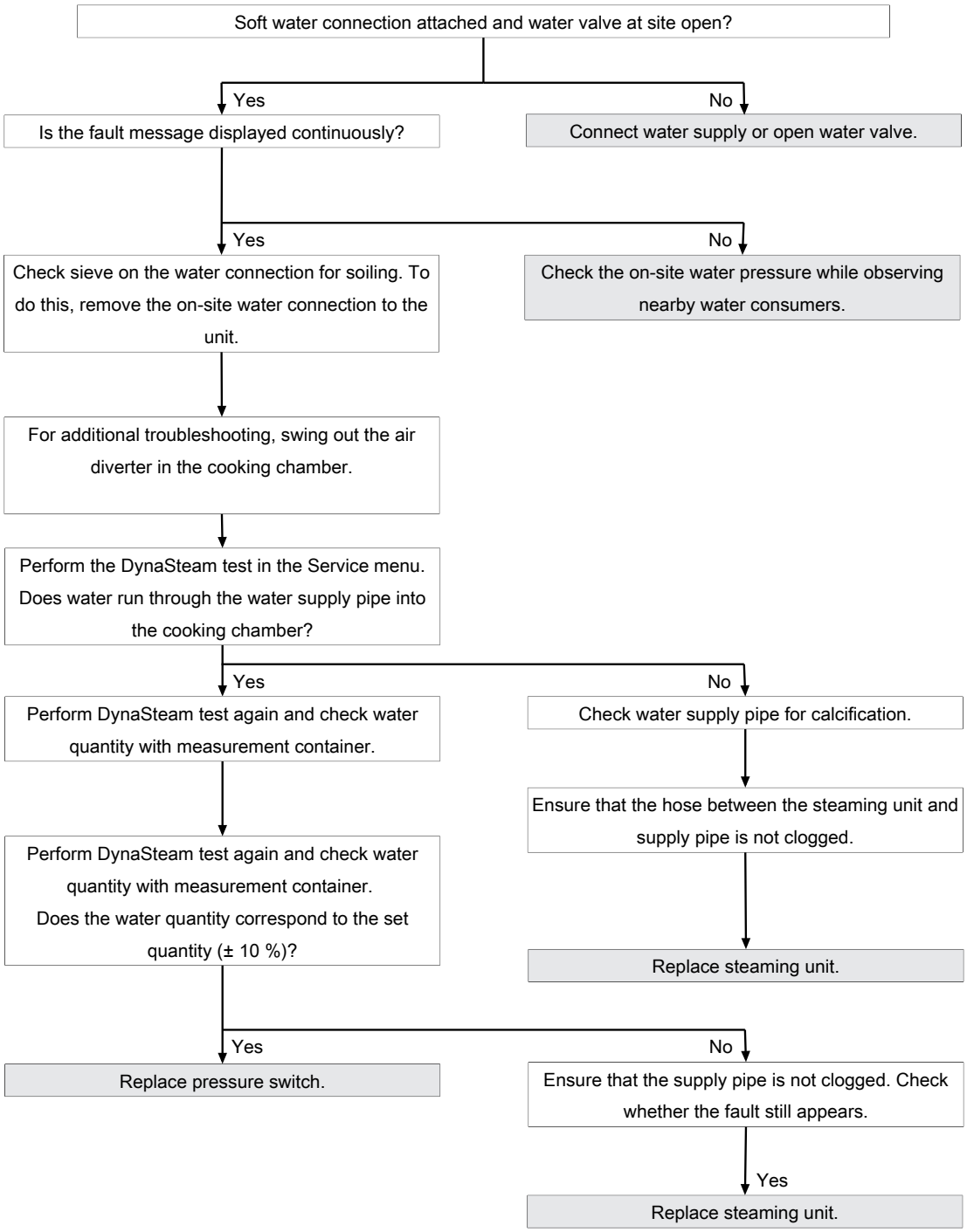
Soft water connection attached and water valve at site open?
Yes
No
Is the fault message displayed continuously?
Connect water supply or open water valve.
Yes
No
Check sieve on the water connection for soiling. To do this, remove the on-site water connection to the unit.
Check the on-site water pressure while observing nearby water consumers.
For additional troubleshooting, swing out the air diverter in the cooking chamber.
Perform the DynaSteam test in the Service menu. Does water run through the water supply pipe into the cooking chamber?
Yes
No
Perform DynaSteam test again and check water quantity with measurement container.
Check water supply pipe for calcification.
Ensure that the hose between the steaming unit and supply pipe is not clogged.
Perform DynaSteam test again and check water quantity with measurement container. Does the water quantity correspond to the set quantity (± 10 %)?
Replace steaming unit.
Yes
No
Replace pressure switch.
Ensure that the supply pipe is not clogged. Check whether the fault still appears.
Yes
Replace steaming unit.

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The water pressure is too low, cleaning is paused

Description

This fault message is displayed if the pressure switch registered a water pressure that is too low during WaveClean. The program is stopped until the water pressure is sufficiently high again.

Troubleshooting

Ensure customer-supplied water supply on the soft water connection of unit. The supply pressure on the water connection must be at least 2 bar. If the fault occurs sporadically, check the on-site water pressure while observing nearby water consumers.

15.6 Electronics / control area

Increased temperature of the electronics (MMI_ID53, MMI_ID54)

Description

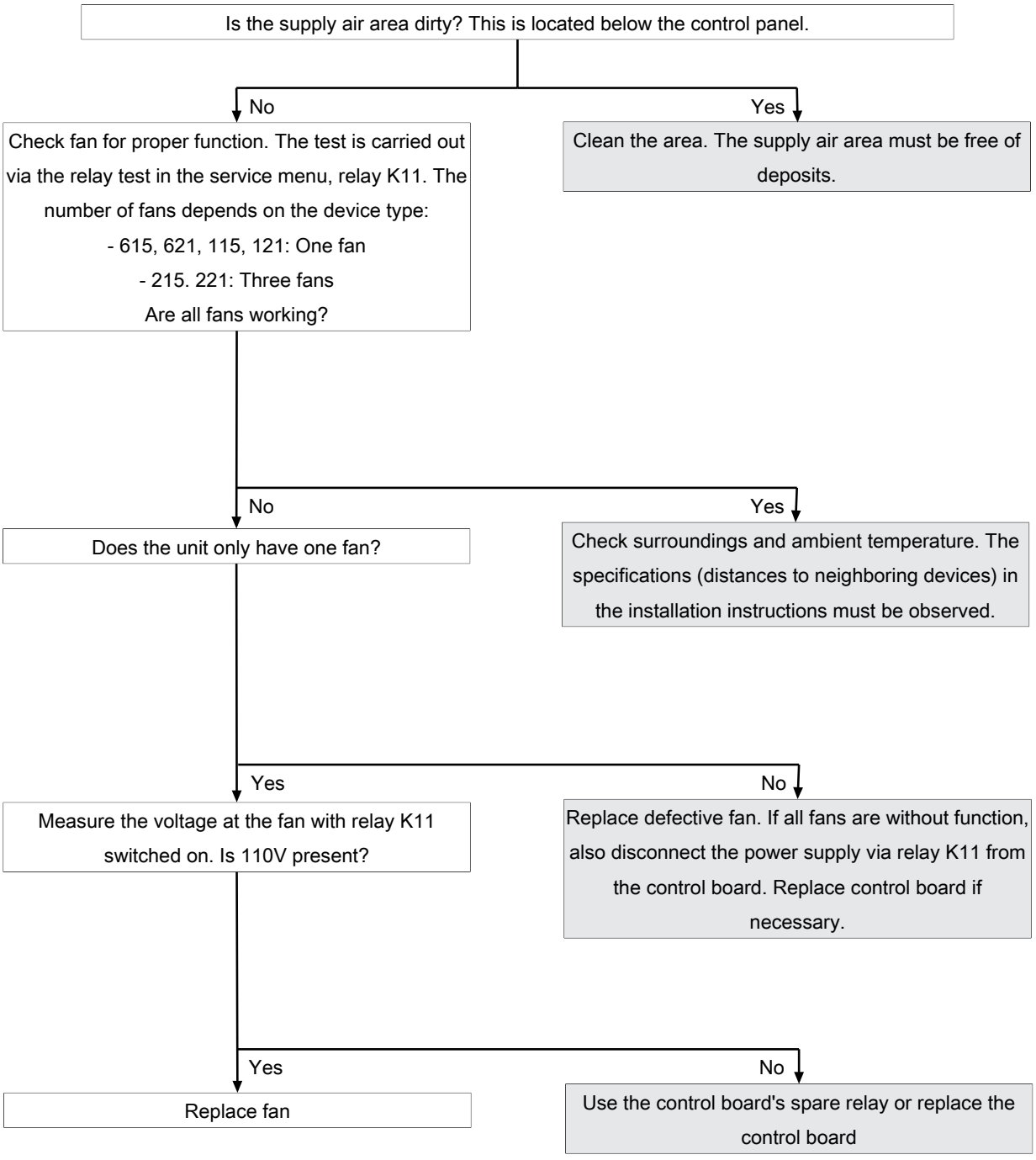
MMI_ID53:

The temperature sensor on the control board is measuring a temperature of >65°C (149°F). The current cooking program is continued.

MMI_ID54:

The temperature sensor on the control board is measuring a temperature of >78°C (172°F). The current cooking program is continued.

Troubleshooting



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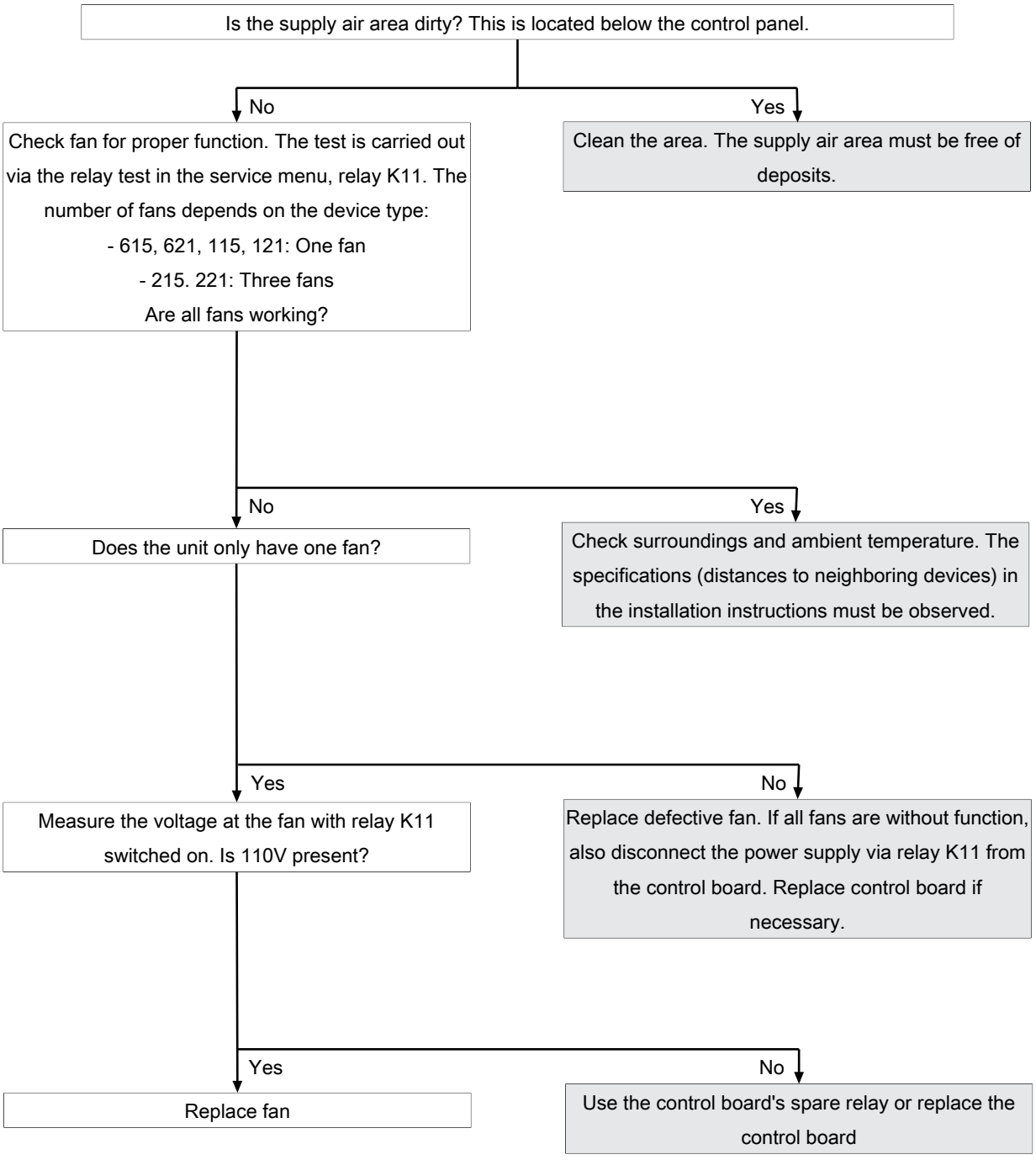
Excessive temperature of the electronics (MMI_ID50)

Description

The temperature sensor on the control board is measuring a temperature of >80°C (176°F). The unit is no longer operational until it cools down.

Troubleshooting



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Accessing external EEPROM failed (SOF_ID12)

Description

It is not possible to access the digital key (EEPROM).

Troubleshooting

→ Make sure that the digital key is oriented correctly and inserted fully. The side with the hole must point to the sensor connections.
→ Control board defective.
→ Digital key defective.

Faulty CAN connection

Description

There is a communication fault between the operating panel and control panel. In addition, temperature sensor and fan fault messages appear on the touchscreen.

Troubleshooting

→ Replace communication cable between operating panel and control panel circuit board.
→ Replace control board.
→ Replace operating panel.

5001: Software update failed

Description

It is not possible to update the software because it was not found.

Troubleshooting

→ Check the contents of the USB stick.
  ↳ Correct update available (suitable for the device)
  ↳ Update unpacked and copied. See also installation instructions or service instructions.
→ Check the function and contacting of the USB stick.
→ Use a different USB stick

5007: Not enough storage place for software update

Description

The internal memory is full. The current version will be restarted. The cause can be faulty data import (additional content).

Troubleshooting

→ Replace operating panel. Alternatively, continue to operate with the current software.

→ Send the operating pane to the manufacturer for repair.

5008: No new version found

Description

The following causes generate the message:

USB stick not recognized or not present

Required content not present on the USB stick or saved incorrectly.

The software version on the unit is newer than that on the USB stick.

Troubleshooting

→ Check content and structure of the USB stick.

→ Ensure that the USB interface is functioning properly.

↳ On USB sticks with an LED, the LED must be on.

↳ Check communication, e.g. by exporting HACCP data

→ Use a different USB stick

If the message appears after a software update, confirm by pressing "OK". In individual cases, this may be required several times.

5009: The application could not be started. Application will be restarted.

Description

The software does not boot. There is a fault in the communication or the software is damaged.

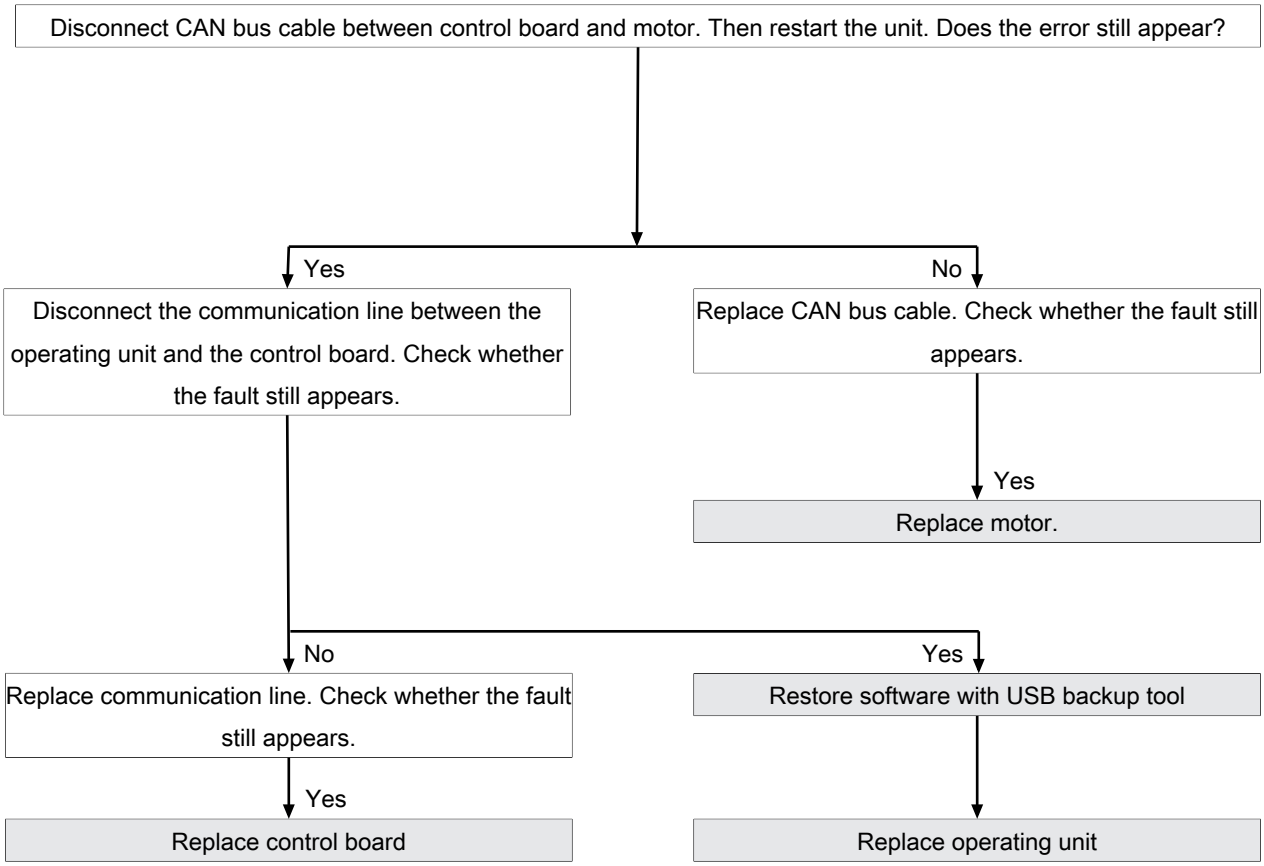
Troubleshooting

→ Confirm the message with "*OK*".

↳ The software is restarted.

→ The error may appear twice. Repeat the procedure. If the error continues to appear, proceed as described in the troubleshooting guide.

Troubleshooting takes place by disconnecting individual CAN bus connections. Other error messages are generated in the process. The decisive factor is that the original message "5009 or 5010" is no longer displayed.



5010: Application could not be started. Restore configuration backup?

Description

Starting the software is not possible because of an error. The system will attempt to restore the configuration.

Troubleshooting

→ Confirm message. An automatic restore starts.
→ Next, update the software.
→ If the error continues to appear, the operating panel needs to be replaced.

5013: Application could not be restored

Description

Starting the software is not possible because of an error. The system will attempt to restore the configuration.

Troubleshooting

→ Confirm message. An automatic restore starts.
→ Next, update the software.
→ If the error continues to appear, the operating panel needs to be replaced.

The battery of the MMI must be replaced (1478)

Description

The date and time are lost after the unit is switched on or they reset. HACCP and log data are no longer saved in a form that can be evaluated.
Replacement requires disassembly of the operating unit.

Troubleshooting

INFORMATION

Battery type

Required battery: Button cell CR1220 3 V.

Changing the battery

→ De-energizing the unit
→ Removing the control unit
→ Detaching lines to the operating unit
→ Remove rear cover from touchscreen. This requires removing the four fastening screws.
→ Change the battery.
→ Reassembly is carried out in reverse order.

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Setting the date/time

→ Restoring the power supply

→ Set the date and time in the basic settings or service menu.

INFORMATION	After replacing the battery, it is mandatory to set the date/time. Otherwise, the error message will continue to appear when the device is switched on.

Unit was restarted after power failure

Description

The message appears after an interruption of the supply voltage during an active cooking program.

Troubleshooting

→ Ensure that the appliance has not been switched off using the "On/Off" switch when the cooking program is active. In this case, the control is disconnected from power, which is interpreted by the software as a power failure. Stop the cooking program before switching the unit off.

→ Make sure that the customer's supply voltage is reliable.

→ Check that the "On/Off" switch functions properly and is in the correct position.

↳ The switch must be fastened securely.

↳ The switch is available separately.

→ Check the electrical connections and screw connections in the area of the mains connection terminal, transformer and power line to the control board.

→ Replace control board. It supplies voltage to the operating panel.

→ Replace transformer.

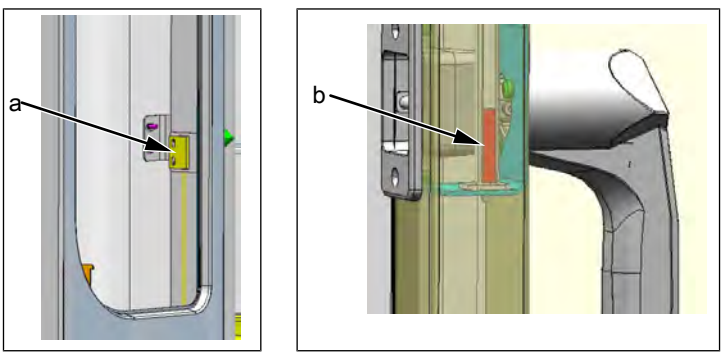
→ Replace operating panel.

Door is open. Cooking program was stopped

Description

During fault-free operation, this message appears if the cooking chamber door is opened during an active cooking program. If the message is displayed with a closed cooking chamber door, there is an error on the reed contact switch or door magnet.

Overview



a Reed contact switch

b Door magnet

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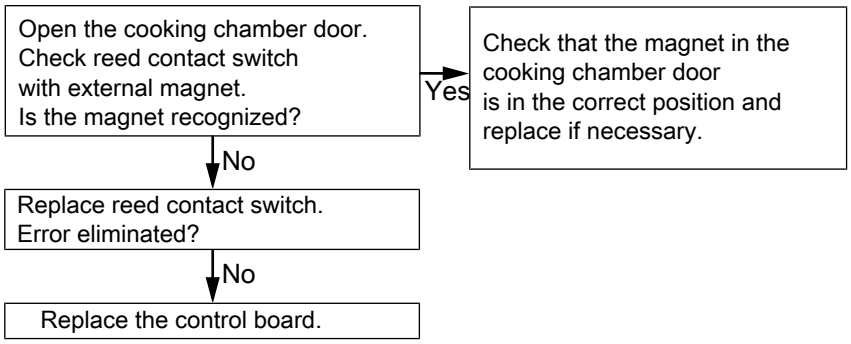
Troubleshooting



15.7 Gas area

No gas (OTH_ID1)

Description

The error message appears if there was no response to the first gas request when the program was started. If the error message appears sporadically, there is often an on-site supply problem.

INFORMATION

Before starting troubleshooting, check the software version and update if necessary. This must be at least version 1.88. From this version onwards, the ignition process is optimized.

Prerequisite

- Ensure customer-supplied gas supply according to installation instructions.
- The connection pressure and the flow pressure are always within the specifications. For this, the gas pressure must be measured on the gas magnetic valve. Here the maximum gas requirement of all appliances connected to the gas supply must be considered. Also make pressure measurements with maximum loading of the gas supply.
- The installed gas plate is correct.

INFORMATION

Perform troubleshooting using the Service menu, CO_2calibration area or the status overview. This is where all requirements and responses are displayed.

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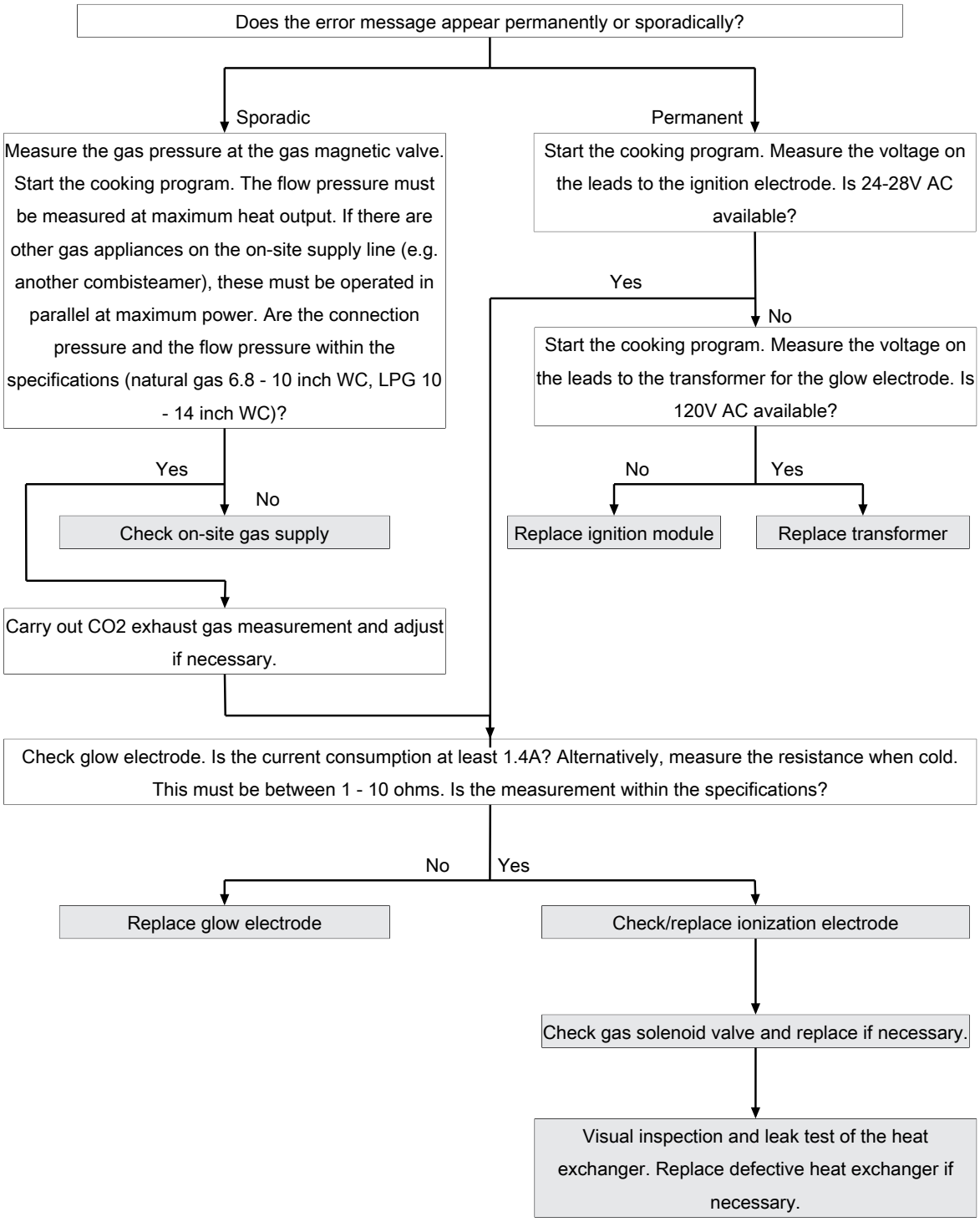
Troubleshooting



INFORMATION

Perform troubleshooting using the Service menu, CO_2calibration area or the status overview. This is where all requirements and responses are displayed.

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No gas (top) (OTH_ID2)

Description

The error message appears if there was no response to the first gas request when the program was started.

For floor standing units, the error refers to the upper burner.

Troubleshooting

Troubleshooting as for error message *No gas*

No gas (bottom) (OTH_ID3)

Description

The error message appears if there was no response to the first gas request when the program was started.

For floor standing units, the error refers to the lower burner.

Troubleshooting

Troubleshooting as for error message *No gas*

No flame (OTH_ID4)

Description

The error message appears if the flame was detected during the first gas request at program start (feedback from ionization electrode present) and then lost again (no feedback from ionization electrode).

Troubleshooting

Troubleshooting as for error message *No gas*

No flame (top) (OTH_ID5)

Description

The error message appears if the flame was detected during the first gas request at program start (feedback from ionization electrode present) and then lost again (no feedback from ionization electrode).

For floor standing units, the error refers to the upper burner.

Troubleshooting

Troubleshooting as for error message *No gas*

No flame (bottom) (OTH_ID6)

Description

Description The error message appears if the flame was detected during the first gas request at program start (feedback from ionization electrode present) and then lost again (no feedback from ionization electrode).

For floor standing units, the error refers to the lower burner.

Troubleshooting

Troubleshooting as for error message *No gas*

Gas blower fault (OTH_ID7)

Description

There is a communication error between the gas blower and the ignition module. The device is no longer ready for operation.

Troubleshooting

Replace ignition module and communication cable to gas blower. If the error persists, replace the gas blower.

Gas blower fault (top) (OTH_ID8)

Description

There is a communication error between the gas blower and the ignition module. The device is no longer ready for operation.

Troubleshooting

Replace ignition module and communication cable to gas blower. If the error persists, replace the gas blower.

Gas blower fault (bottom) (OTH_ID9)

Description

There is a communication error between the gas blower and the ignition module. The device is no longer ready for operation.

Troubleshooting

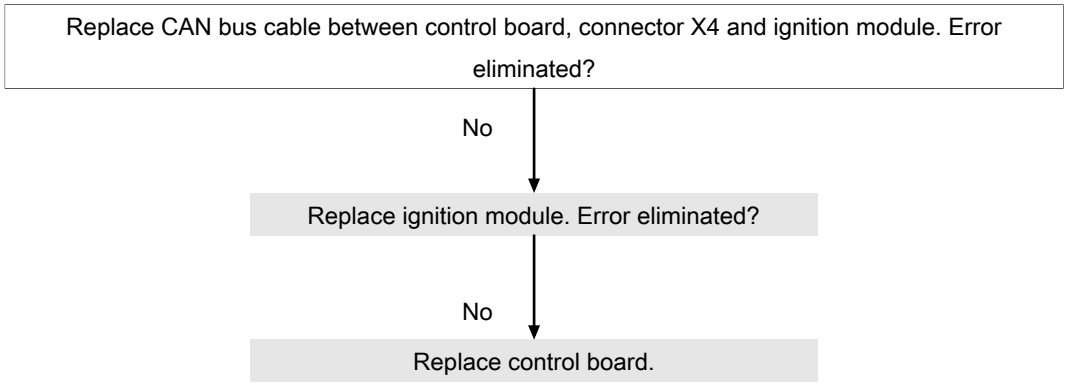
Replace ignition module and communication cable to gas blower. If the error persists, replace the gas blower.

Communication fault between I/O and ignition electronics (OTH_ID25)

Description

There is a communication fault between the control board and ignition module.

Troubleshooting

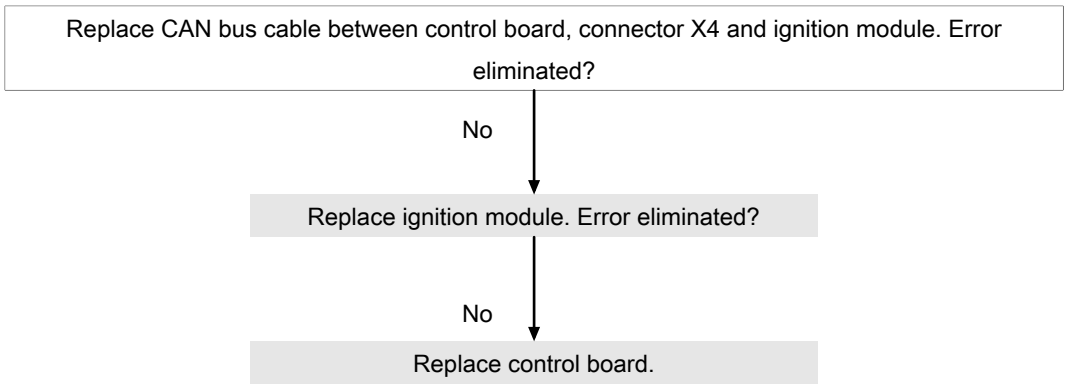


Communication fault between I/O and ignition electronics (top) (OTH_ID26)

Description

There is a communication fault between the control board and ignition module for the upper burner.

Troubleshooting

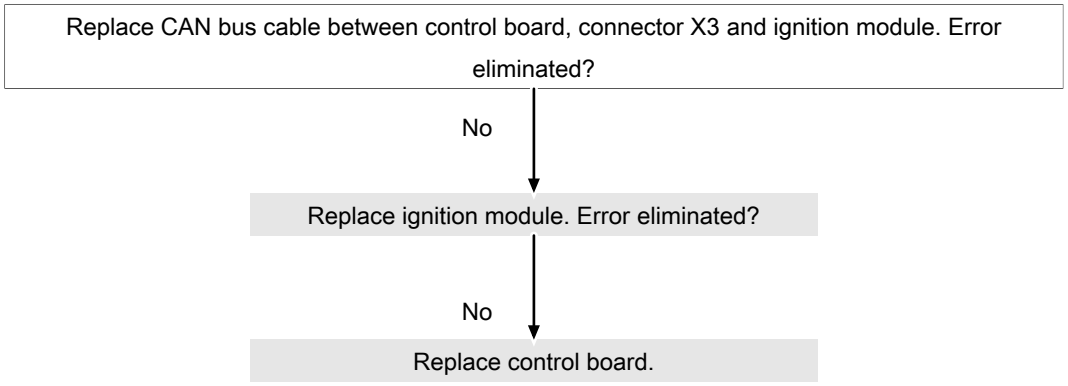


Communication fault between I/O and ignition electronics (bottom) (OTH_ID27)

Description

There is a communication fault between the control board and ignition module for the lower burner.

Troubleshooting



Gas error (GAS_ID12)

Description

The error message appears sporadically or continuously. The device is no longer ready for operation.

Troubleshooting

Replace ignition module. Ensure that the plug on the ignition module is undamaged.

Flame fault while running (GAS_ID13)

Description

The error message appears sporadically or continuously.

Troubleshooting

If the error occurs again, replace the ignition module. If the error persists, contact the manufacturer.

Gas solenoid valve circuit fault (OTH_ID13)

Description

There is a fault in the gas solenoid valve

Troubleshooting

Replace the gas solenoid valve. Make sure you have the right spare part. An incorrect solenoid valve can lead to this error being displayed.

Gas solenoid valve circuit fault (top) (OTH_ID14)

Description

There is a fault in the upper gas solenoid valve. Only applies to free-standing appliances.

Troubleshooting

Replace the gas solenoid valve. Make sure you have the right spare part. An incorrect solenoid valve can lead to this error being displayed.

Gas solenoid valve circuit fault (bottom) (OTH_ID15)

Description

There is a fault in the lower gas solenoid valve. Only applies to free-standing appliances.

Troubleshooting

Replace the gas solenoid valve. Make sure you have the right spare part. An incorrect solenoid valve can lead to this error being displayed.

General gas fault (OTH_ID16)

Description

The error is generated by the ignition box. There is an internal error

Troubleshooting

Restart the unit. If the fault persists, replace the ignition box.

General gas fault (top) (OTH_ID17)

Description

The error is generated by the ignition box. There is an internal error

Troubleshooting

Restart the unit. If the fault persists, replace the upper ignition box.

General gas fault (bottom) (OTH_ID18)

Description

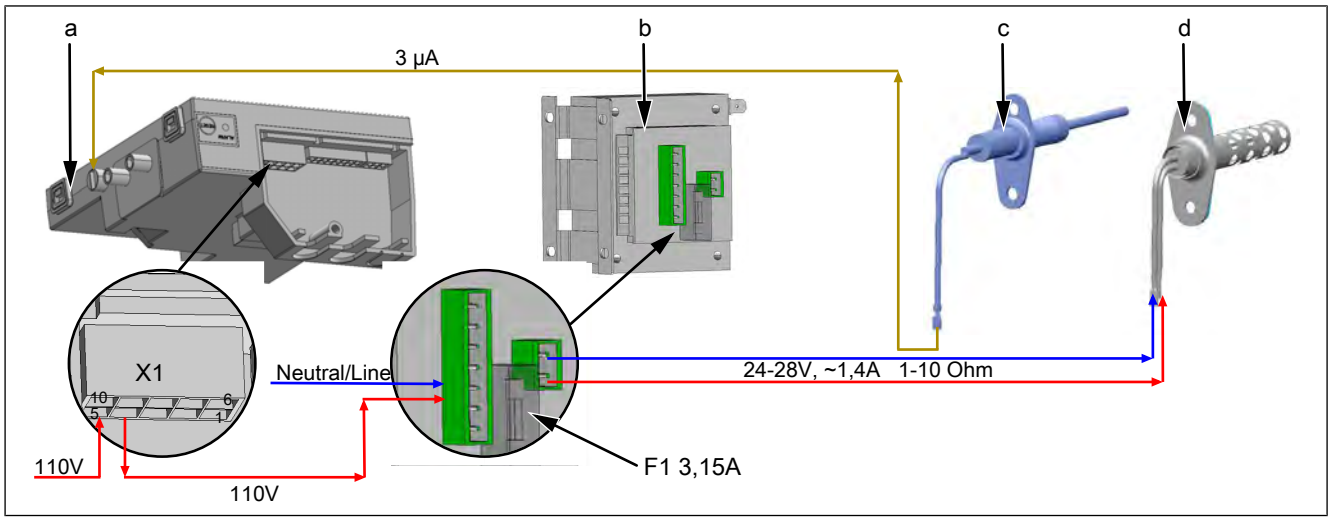
The error is generated by the ignition box. There is an internal error

Troubleshooting

Restart the unit. If the error persists, replace the lower ignition box.

15.8 Testing the gas components

Checking the electrodes



a Ignition module A10 / A20

b Transformer T10 / T20

c Ionization electrode (flame monitoring) B100 / B200

d Glow electrode F10 / F20

Glow electrode

Preparations

- Select and start the gas CO_2 calibration in the service menu.
- Only start troubleshooting when *Gas request* lights up green.

INFORMATION

The transformer (b) is only supplied with voltage when the gas demand is active.

Troubleshooting

→ Check the resistance of the glow electrode when it has cooled down. To do this, disconnect the plug at the corresponding transformer (24V AC output side at T10 / T20). Perform measurement on the connector.

↳ The resistance must be between 1 and 10 ohms.

↳ Replace electrode if resistance is out of range.

→ Check the output voltage on the transformer.

↳ The voltage is 24 volts.

↳ Check current consumption of glow electrode. This must be at least 1.4 A.

→ Check fuse F1 on transformer.

↳ The fuse has tripped.

↳ Replace the fuse. Repeat the test and replace the glow electrode if necessary.

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→ Check the supply voltage at the transformer.

↳ No voltage present = ensure neutral conductor. Replace transformer.

↳ Voltage present = replace ignition module.

Ionization electrode

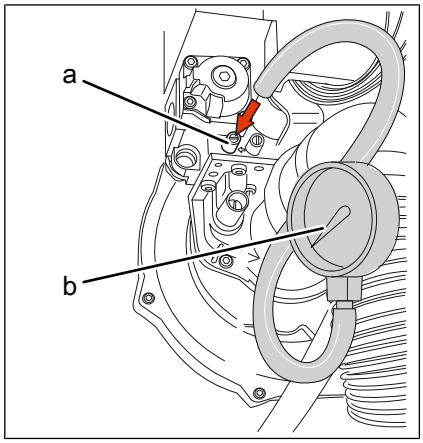
Preparations

- On the Service menu, select the Gas CO_2 calibration and start.
- Only begin troubleshooting when *Gas request* lights up green.

Troubleshooting With active gas burner (gas flame), the ionization stream of the flame monitoring (d) must be at least 3 µA. In addition to the ionization electrode, the ignition module (a) can also be the cause of the error.

Inspection of the gas solenoid valve

Preparing for testing



a Offset measuring connection (OUT)

b Pressure measuring device

Prerequisite

1. Unit dead.
2. On-site gas supply shut off.
3. Left side wall removed.

Preparing to measure the pressure

4. Unscrew the sealing screw of the pressure measurement nozzle (OUT) on the gas solenoid valve.
5. Connect the gas pressure measurement device. Switch on digital measurement device before connecting! The precision of the magnetic valve should be at least 0.1 mbar.

Conducting the test

→ Switch the on-site gas supply back on.

→ Switch on the voltage.

→ Switch on unit and operate at maximum capacity.

→ Measure the gas pressure. When the gas fan starts up and the gas solenoid valve is not yet energized, a vacuum of approx. -3 mbar must be measured.

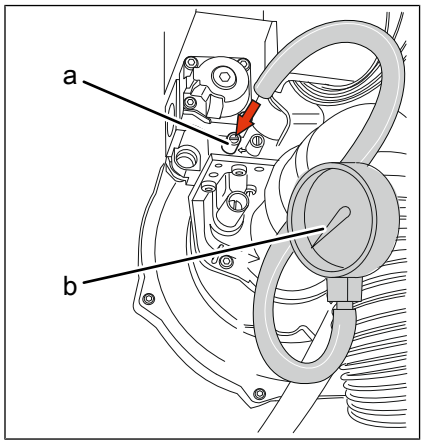
↳ If the vacuum is less, there is a leak on the heat exchanger in the region between the solenoid valve and heat exchanger.

→ After opening of the gas solenoid valve by the ignition module, the underpressure is reduced to < 0.5 mbar.

↳ If the underpressure should remain unchanged at approx. 3 mbar, the gas solenoid valve or the ignition module are defective.

Testing the heat exchanger

Preparing for testing



a Offset measuring connection (OUT)

b Pressure measuring device

Prerequisite

1. Unit dead.
2. On-site gas supply shut off.
3. Left side wall removed.

Preparing to measure the pressure

4. Unscrew the sealing screw of the pressure measurement nozzle (OUT) on the gas solenoid valve.
5. Connect the gas pressure measurement device. Switch on digital measurement device before connecting! The precision of the magnetic valve should be at least 0.1 mbar.

Conducting the test

When the gas fan starts up and the gas solenoid valve is not yet energized, a vacuum of approx. -3 mbar must be measured. If no underpressure should be generated, there is a leak in the gas heat exchanger or in the connection length.

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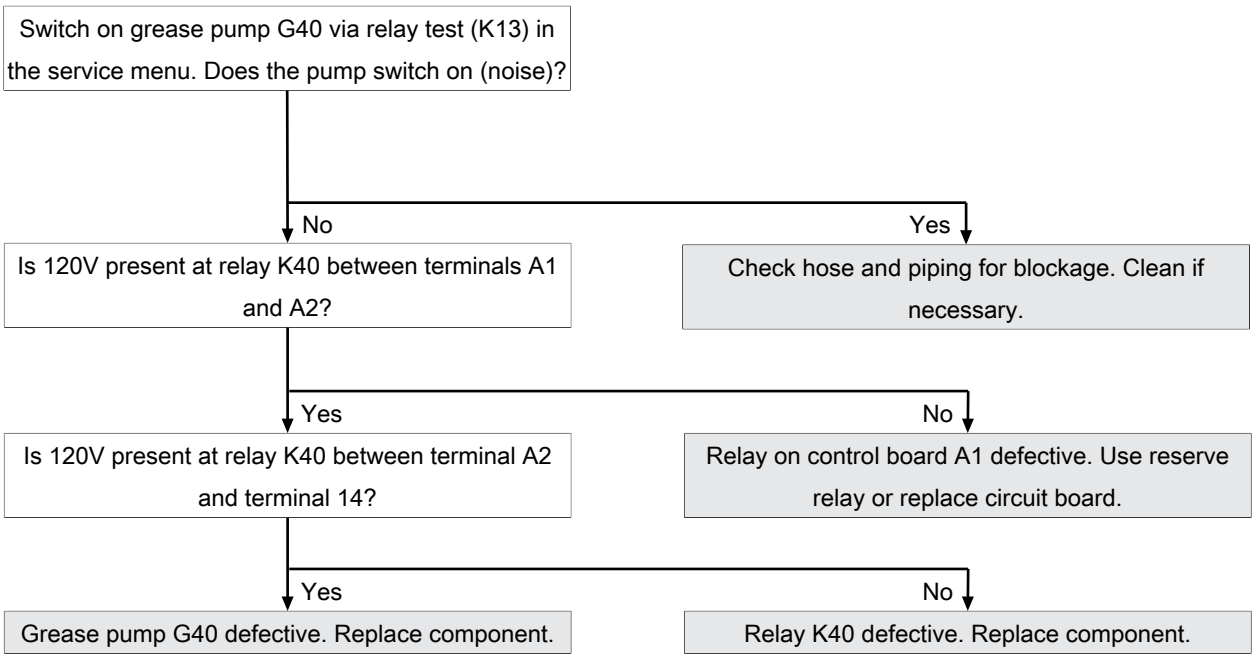
15.9 Grease collection system

Grease pump

INFORMATION

Nature and source of danger

Install backflush fitting on grease drain hose before testing.



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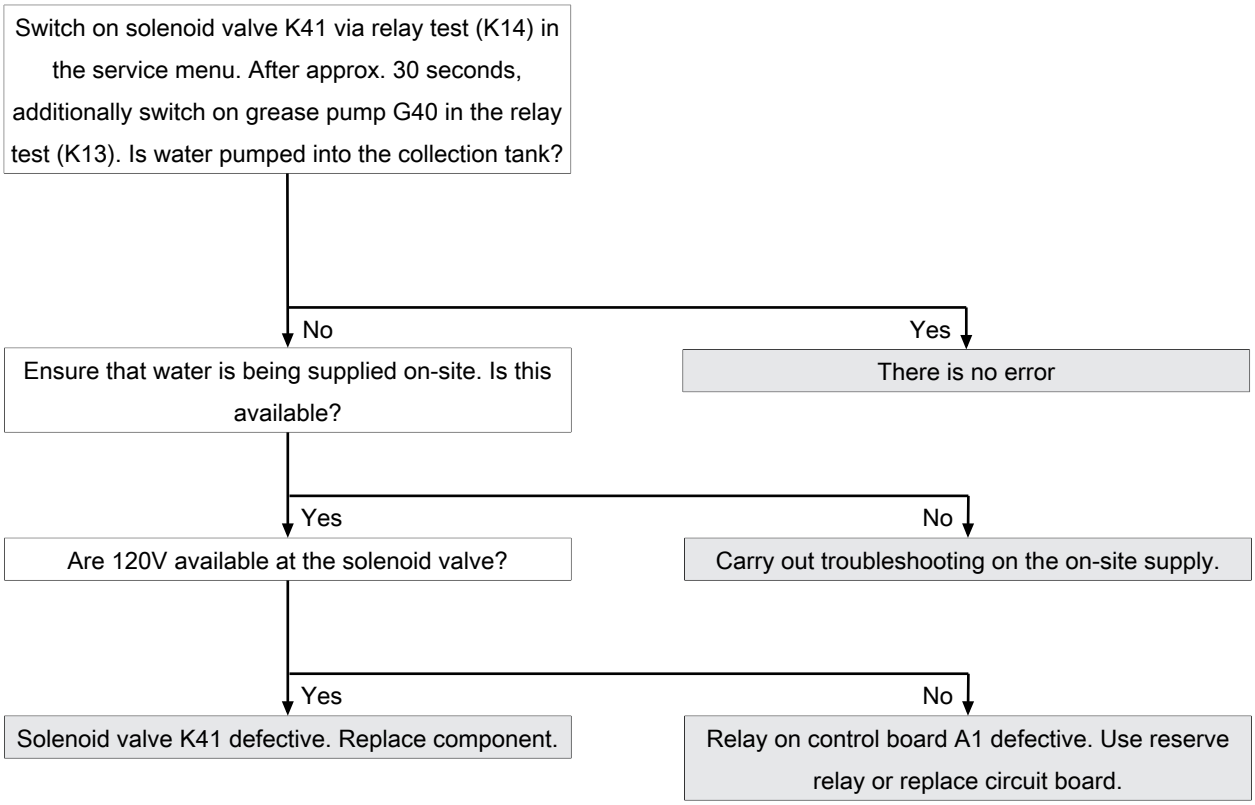
Solenoid valve flushing

INFORMATION

Nature and source of danger

Install backflush fitting on grease drain hose before testing.

Before checking the solenoid valve, make sure that the grease pump is working properly.



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16 Wiring diagram

FlexFusion Platinum / Gold

3PE AC 50/60Hz 440V

FPE-615G2 10,2kW	FGE-615G2 10,2kW
FPE-621G2 17,4kW	FGE-621G2 17,4kW
FPE-115G2 15,7kW	FGE-115G2 15,7kW
FPE-121G2 27,3kW	FGE-121G2 27,3kW
FPE-215G2 31,3kW	FGE-215G2 31,3kW
FPE-221G2 54,5kW	FGE-221G2 54,5kW

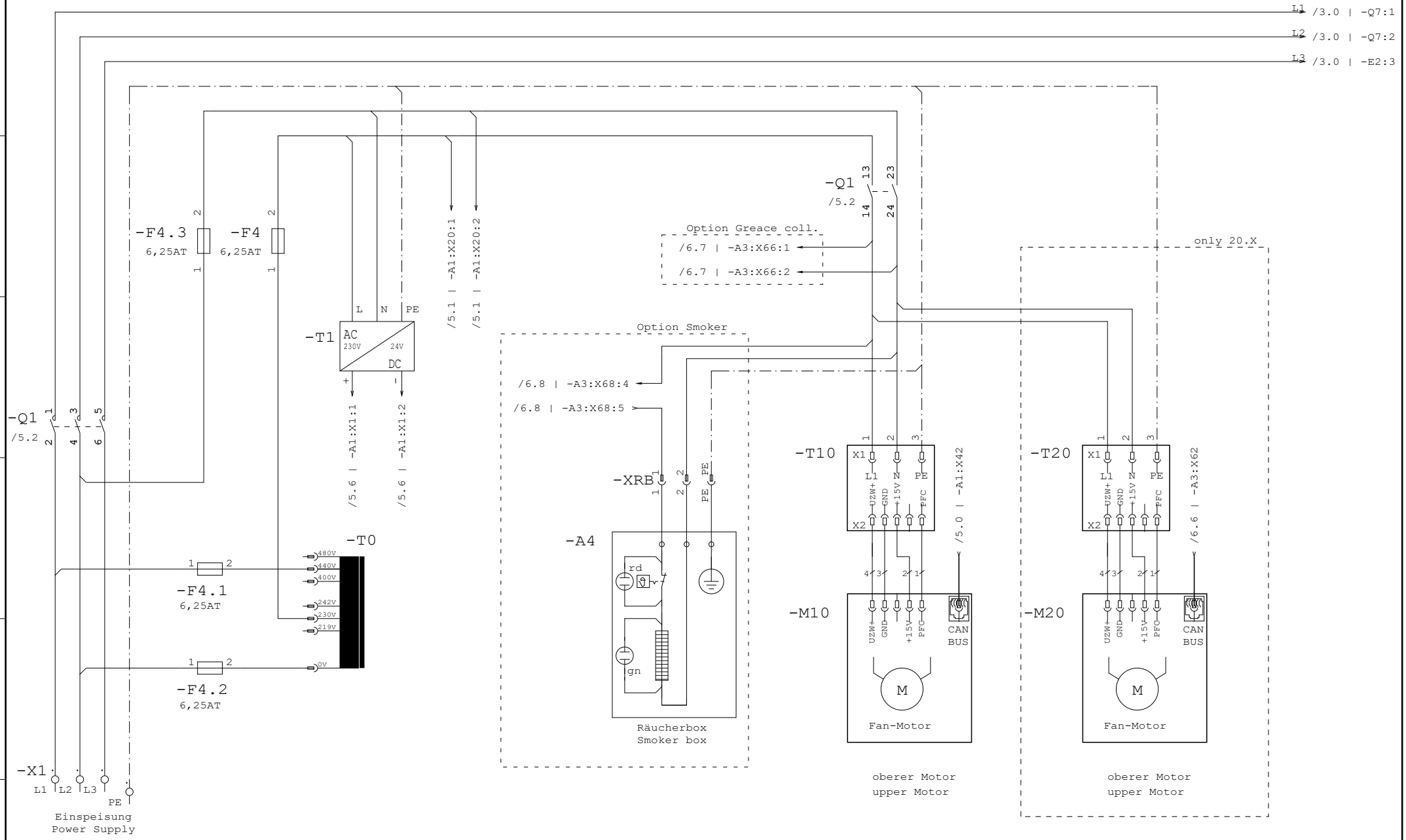
FPDE-615/615G2 10,2kW/10,2kW
FPDE-115/615G2 15,7kW/10,2kW

3PE AC 50/60Hz 480V

FPE-615G2 12,1kW	FGE-615G2 12,1kW
FPE-621G2 20,7kW	FGE-621G2 20,7kW
FPE-115G2 18,7kW	FGE-115G2 18,7kW
FPE-121G2 32,4kW	FGE-121G2 32,4kW
FPE-215G2 37,2kW	FGE-215G2 37,2kW
FPE-221G2 64,7kW	FGE-221G2 64,7kW

FPDE-615/615G2 12,1kW/12,1kW
FPDE-115/615G2 18,7kW/12,1kW

					Datum	Name	FKE G2 -COMBIDAEMPFER 6.15		
				Gez.	17.04.24	WOY	Benennung		
				Gepr.			WIRING DIAGRAM FKECOD615G2 3PE 440-480V		
				Frei.			Zeichnungsnummer	Maßst.	Seite/n
In.	Änderung	Datum	Name	Norm: DIN 81346			10028354--PS01W-		1 / 7
							Ers. f.:	Ers. d.:	



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				Frei.			Zeichnungsnummer	Maßst. / Seite/n
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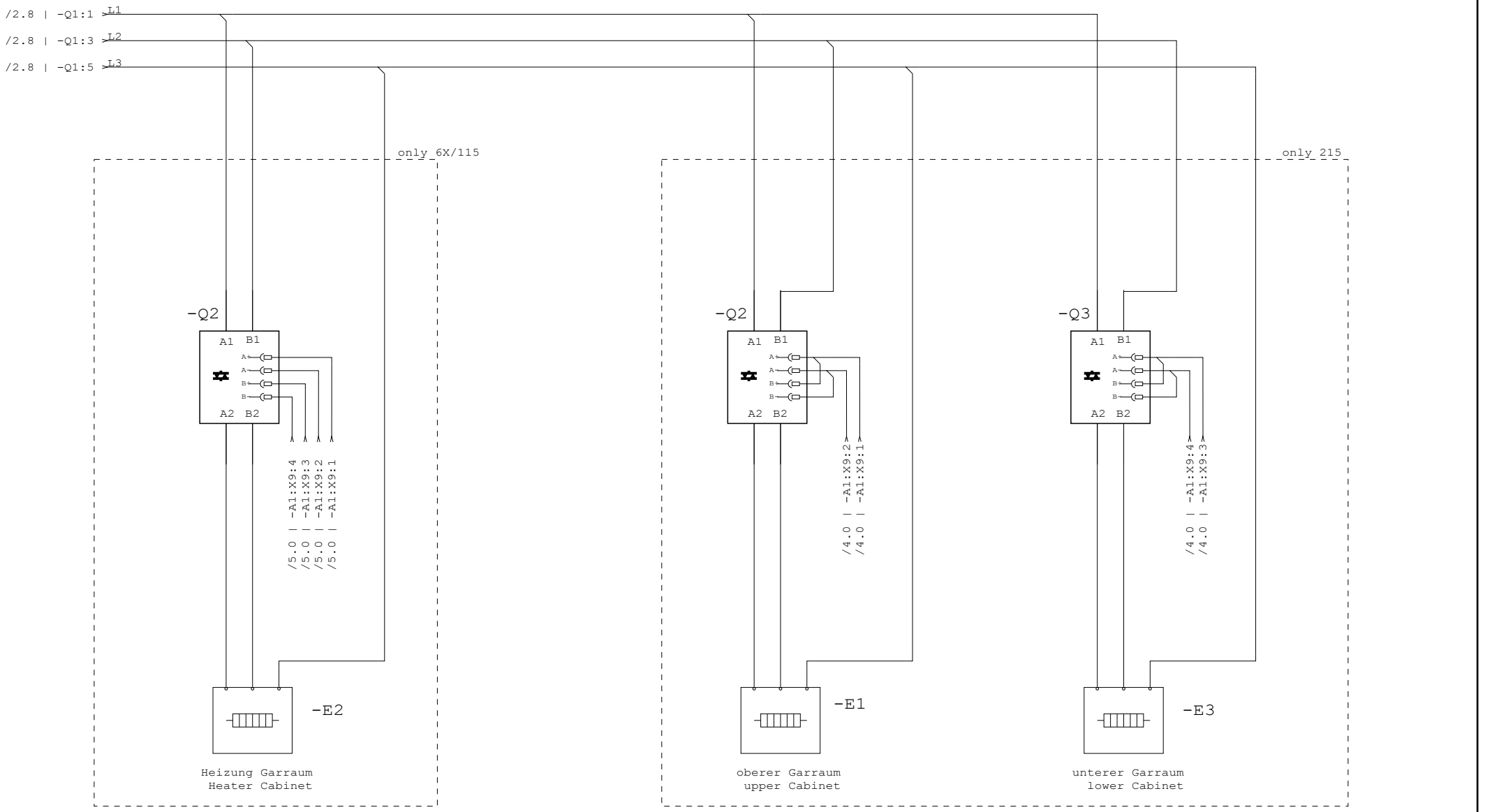

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				Frei.		
In.	Änderung	Datum	Name	Norm: DIN 81346		

FKE G2 -COMBIDAEMPFER 6.15

Benennung
10028354 WIRING DIAGRAM FKECOD615G2 3PE 440-480

Zeichnungsnummer
10028354--PS0 W-

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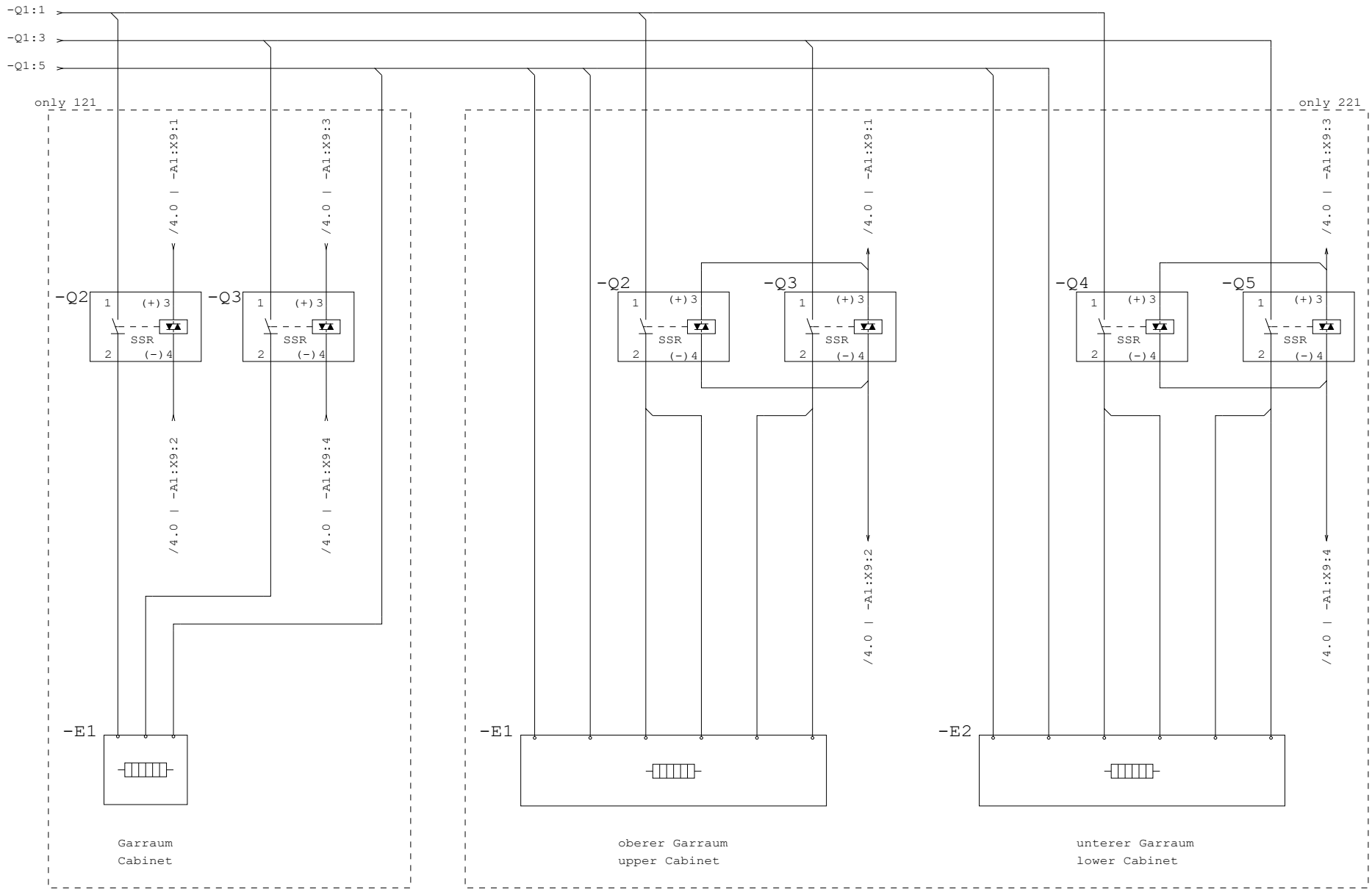

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FKE G2 -COMBIDAEMPFER 6.15

Benennung
WIRING DIAGRAM FKECOD615G2 3PE 440-480V

Zeichnungsnummer
10028354--PS04W-

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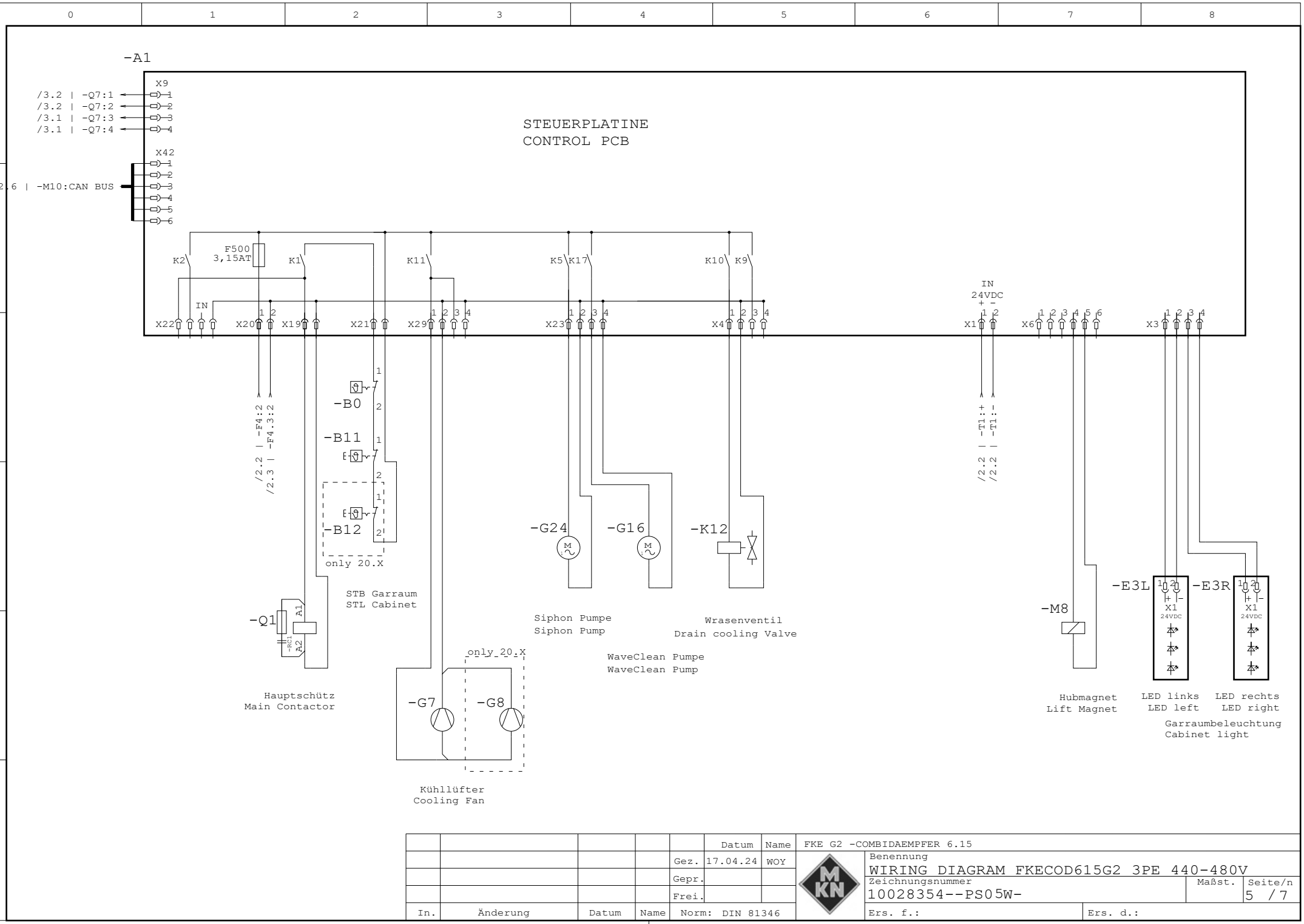

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Benennung
WIRING DIAGRAM FKECOD615G2 3PE 440-480V

Zeichnungsnummer
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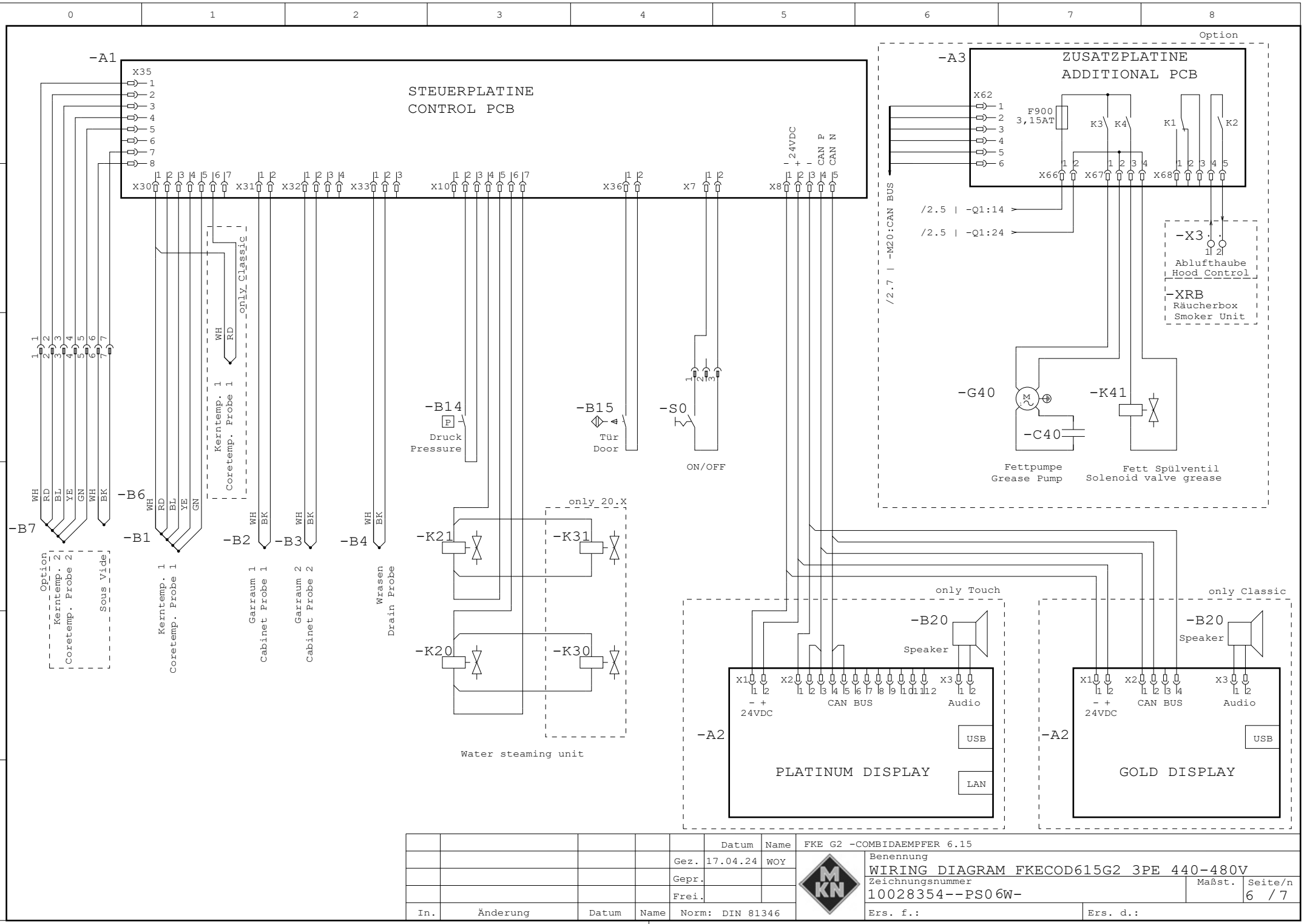

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FKE G2 -COMBIDAEMPFER 6.15

Benennung
WIRING DIAGRAM FKECOD615G2 3PE 440-480V

Zeichnungsnummer
10028354--PS06W-

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Benennung denomination	MKN Nr. MKN no.	Bezeichnung	description	Sicherung auf Platine fuse on board	Bemerkung comment to
A1	10019108	PLATINE STEUER	BOARD CONTROL		
A2	10035504	TOUCH DISPLAY	TOUCH DISPLAY		
A2	10036762	CLASSIC DISPLAY	CLASSIC DISPLAY		only Classic
A3	10019107	ZUSATZPLATINE	ADDITIONAL CONROL PCB		Option
A4	10023032	MODUL SPEICHERTAG NFC	MODUL SPEICHERTAG NFC		
B0	10014580	Thermoschalter 70°C aus	Thermo Switch 70°C off		
B1	10038443	Kerntemperaturfühler 1 Punkt	PROBE CORE TEMP.		nur/only Classic 6.X/10.X
	10038444	Kerntemperaturfühler 1 Punkt	PROBE CORE TEMP.		nur/only Classic 20.X
	10013578	Kerntemperaturfühler 4 Punkt	Core temperature probe		nur/only 6.X/10.X
	10013579	Kerntemperaturfühler 4 Punkt	Core temperature probe		nur/only 20.X
B2	10031251	FUEHLER TEMPERATUR GARRAUM	PROBE TEMP. CHAMBER		
B3	10036799	FUEHLER TEMPERATUR GARRAUM 2	PROBE TEMP. CHAMBER 2		nur/only 20.X
B4	10038174	FUEHLER TEMPERATUR WRASENAB.	PROBE TEMP. WASTE		
	10038175	FUEHLER TEMPERATUR WRASENAB.	PROBE TEMP. WASTE		nur/only 20.X
B6	10013517	FUEHLER KERNTEMPERATUR SOUS VIDE	PROBE CORE TEMP. SOUS VIDE		Option
B7	10013518	FUEHLER KERNTEMPERATUR 2	PROBE CORE TEMP. 2		Option
B11/B12	202806	BEGRENZER	HIGH LIMITER		
	202805	BEGRENZER	HIGH LIMITER		nur/only 6.X
B14	202601	DRUCKSCHALTER 1 BAR	PRESSURE SWITCH 1 BAR		
B15	10013771	SCHALTER REEDKONTAKT	SWITCH REED_CONTACT		
E1/E2	574204	RHK 11,78KW 480V MIT LITZE	HEATING ELEMENT 11.78KW 480V WIRE		6.1
	574201	RHK 20,4KW 480V MIT LITZE	HEATING ELEMENT 20.4KW 480V WIRE		6.2
	574202	RHK 18,36KW 480V MIT LITZE	HEATING ELEMENT 18.36KW 480V WIRE		10.1/20.1
	574205	RHK 32,1KW 480V MIT LITZE	HEATING ELEMENT 32.1KW 480V WIRE		10.2/20.2
E3L / E3R	10028547	MODUL LED 4000K 24V 125.1X12.2	MODUL LED 4000K 24V 125.1X12.2		
F4/F4.1/F4.2/F4.3	10016452	SICHERUNG FEIN 6.25A TRAEGE	FUSE FINE 6.25A SLOW		F2 only 20.X
A1-F2/F3/F5	203742	SICHERUNG FEIN 3,15A TRAEGE	FUSE FINE 3,15A SLOW		
F21-24	202642	SICHERUNG 60A	FUSE 60A		nur/only 10.2/20.2
F31-34					nur/only 20.2
G7/G8	203926	VENTILATOR RADIAL	VENTILATOR RADIAL	A1-F500	only 20.X
G9	203819	VENTILATOR AXIAL	VENTILATOR AXIAL	A1-F500	
G7	203819	VENTILATOR AXIAL	VENTILATOR AXIAL	A1-F500	6.X/10.X
G16/G24	203825	PUMPE 50 HZ FLANSCH	PUMP 50 HZ FLANGE	A1-F500	
	203826	PUMPE 60 HZ FLANSCH	PUMP 60 HZ FLANGE	A1-F500	
G40	10029938	Pumpe 200-240V 50/60Hz	Pump 200-240V 50/60Hz		Option FAS
K12	201192	Magnetventil	Solenoid valve	A1-F500	
K12/K41	10030668	2-fach Magnetventil	double Solenoid valve	A1-F500	Option FAS
K20/K21	10018740	BESCHWADUNGSEINHEIT (OHNE DRUCKSCH.)	STEAMING UNIT (WITHOUT PRESSURE SWITCH)		without WaveClean
	10018741	BESCHWADUNGSEINHEIT (MIT DRUCKSCH.)	STEAMING UNIT (WITH PRESSURE SWITCH)		
Q1	10013970	Schütz 30 A, 230V	Contactor 30 A, 230 V		6.X/10.1
	10013670	Schütz 56 A, 230V	Contactor 56 A, 230 V	F3	10.2
	10014026	Schütz 130 A, 230 V	Contactor 130 A, 230 V	F3	20.X
Q2-Q3	10033027	RELAIS HALBLEITER DUAL 50A	SOLID STATE RELAY DUAL 50A		
Q2-Q5	10033028	RELAIS HALBLEITER 95A	SOLID STATE RELAY 95A		only 121, 221
M8	10022051	HUBMAGNET 24VDC	LIFT MAGNET 24VDC		
M10/M20	10014663	MOTOR EC	MOTOR EC		M20 only 20.X
S0	10014588	SCHALTER EIN/AUS	SWITCH ON/OFF		
T0	10015147	Spartrafo 750 VA	Transformer 750 VA		
	10015148	Spartrafo 1300 VA	Transformer 1300 VA		nur/only 20.X
-T1	10018991	Netzteil 24V 100W	Power Supply 24V 100W		
T10/T20	10014664	NETZTEIL EC MOTOR	POWER SUPPLY EC MOTOR		

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				Gepr.		
				Frei.		
In.	Änderung	Datum	Name	Norm: DIN 81346		

FKE G2 -COMBIDAEMPFER 6.15

Benennung
WIRING DIAGRAM FKECOD615G2 3PE 440-480V

Zeichnungsnummer
10028354--PS07W-

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Ers. f.:

Ers. d.:

HENNY PENNY
Engineered to Last

Henny Penny Corporation
P.O.Box 60
Eaton,OH 45320
USA

Phone +1 937 456-8400
Fax +1 937 456-8402

Toll free in USA
Phone +1 937 417-8417
Fax +1 937 417-8434

www.hennypenny.com

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