HENNY PENNY
Engineered to Last

Service instructions

FlexFusion® ELECTRIC & GAS GOLD COMBI

Modell

FGE-**615**	FGG-**615**
FGE-**621**	FGG-**621**
FGE-**115**	FGG-**115**
FGE-**121**	FGG-**121**
FGE-**215**	FGG-**215**
FGE-**221**	FGG-**221**

Translation from the original document • FM06-102A DE • 1/31/2018

FM06-102A

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10013864-0ASAE-D

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1 Introduction

1.1 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.

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.

1.2 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.

2 Safety information

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.

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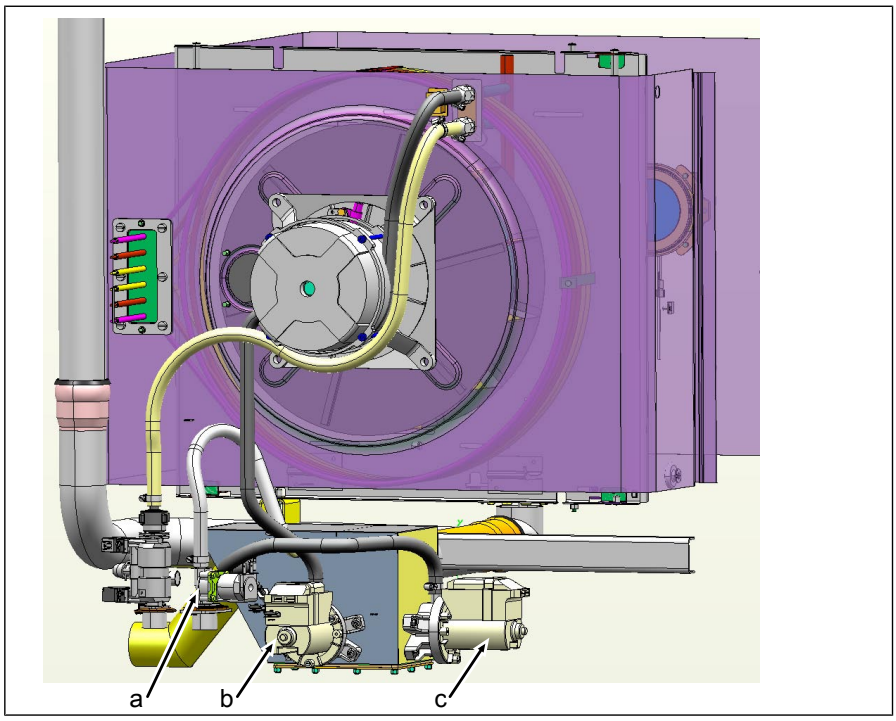
3 Function descriptions

3.1 WaveClean

Overview of functions



a Solenoid 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

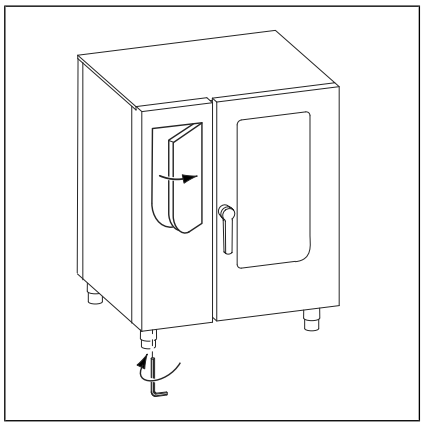
WaveClean forced rinsing

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.

4 Opening the unit

4.1 Control panel

Opening the control panel Unlock the control panel with an Allen wrench, size 5. The control panel pops up automatically.



Closing the control panel Close the control panel by repeatedly pressing the left side (particularly in the upper left). The control panel locks noticeably at multiple points.

NOTICE

Damage due to vapor / moisture

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

5 Service menu - unit test

5.1 Service menu

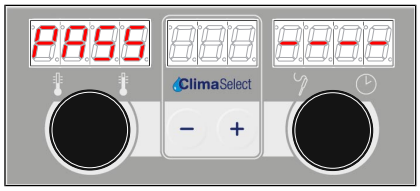
Description

- Functional testing of individual components
- Error analysis
- Maintenance
- Change basic settings
- Software update

The graphics shown may deviate due to changes and different software versions.

5.1.1 Calling service menu

Overview



Calling service menu

→ Switch on unit "I"
→ Turn the *Select* knob to the Settings symbol.
→ Press the "START STOP" button.
↳ The left display shows "PASS".
↳ The right display flashes "----".
→ Turn the right knob and select pass word.
→ Press the "START STOP" button.
↳ Jump to the service menu.

Quit the service menu

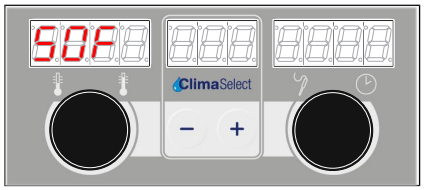
→ Turn the *Select* knob to a different position.

INFORMATION

The password for the service menu is 1967

5.1.2 Service menu - overview

Overview



Selecting a menu element

→ Select the menu item using the left rotary knob.
↳ Left display shows the selected menu item.
→ Press the "START STOP" button.
↳ Menu item is selected.

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Exit menu item → Press the "STEP" button.

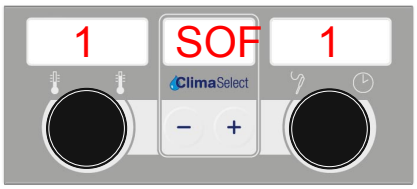
Service menu overview

Designation	Description	Function
Sof	Software display	Displays the installed software
bdS	Buttons and display test	Individual testing of buttons, dials and displays
rEL	Relay test	Individual control of the relays on the I/O board. Check of the connected actuators as well as relays.
CLt	WaveClean test	Option. Test program for automatic cleaning.
CO2	CO_2 – calibration	Only for gas version. See CO_2 – calibration
H2O	DynaSteam test	Functional test of the DynaSteam steaming unit
CAL	100°C calibration	Calibration function for cooking chamber and core temperature sensor
-H2	Drain the water	Water draining by means of the connected compressed air on both water connections.
EEP	Export error memory	Export error memory to USB stick
ECL	Delete the error memory	Delete the entire error memory
HCL	Delete the HACCP memory	Delete the entire HACCP memory
SFL	Software update	Software update via USB
dIA	Display the error memory	Display the fault messages from error memory
Con	Configuration area	Internal configuration level
PEP	Export I/O parameters	Export I/O parameters from USB stick
PIP	Import I/O parameters	Import I/O parameters from USB stick

5.2 Software display (Sof)

Description Query about installed software versions.

Overview



Display Software version → Press the "START STOP" button.

↳ Display on the left shows the software version of the unit.

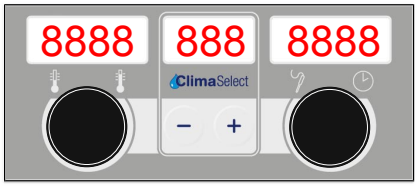
↳ Display on the right shows the software version of the control board.

Exit selection → Press the "STEP" button.

5.3 Buttons and display test (bdS)

Description Individual check of all buttons, knobs, and indicator lights.

Overview



Start checking

→ Turn the left and right knob one after another.
↳ The values on corresponding display changes.
↳ The decimal points of corresponding display go out.
→ Press the *PLUS* and *MINUS* buttons in succession.
↳ The value in the center display changes.
↳ The decimal points in the middle display go out.
→ Turn control knob *Selection* fully to the right.
↳ The indicator lights of the 6 positions go off one by one.
→ Turn the *Select* knob to the *Settings* symbol.
↳ The indicator light of the symbol *Settings* goes off.
→ Press the "Programs" button.
↳ A signal is output.
→ Press the button *Ready2Cook*, "START STOP" and "STEP" in succession.
↳ The corresponding indicator light goes off.
→ Press the *Fan speed* button several times.
↳ The indicator lights of the 5 positions go off one by one.

Exit selection

→ Press the "STEP" button.

5.4 Relay test (rEL)

Description

→ Separate control of the relay.

↳ Testing the relay.

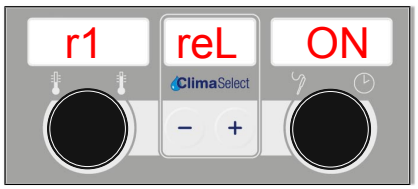
↳ Testing the connected components.

INFORMATION

Relays K1 and K16 are switched on permanently.

A plurality of relays are switched on simultaneously.

Overview



Select relay

→ Use the left knob to select relay.

↳ Display on the left shows selected relay.

↳ Display on the right shows the switching state of the selected relay (ON / OFF).

Switch on relay

Relay with push-button switch

→ Press the "START STOP" button.

↳ Relay is switched on.

↳ Display on the right shows the relay count divided by 100.

Switch on the relay long-lasting

→ Press the "START STOP" button for 3 seconds.

↳ Relay is switched-on permanently until "START STOP" button is pressed again.

↳ Display on the right shows the switching state of the selected relay (ON / OFF).

- More relays can be additionally selected and switched on.

Switch on the time-controlled relay

→ Setting the switch with rotary knob right. Display on the right shows the set time in seconds.

↳ Press the "START STOP" button.

↳ That is, the relay is switched on for the set time.

↳ Press the "START STOP" button to turn off relay prematurely.

Exit selection

→ Press the "STEP" button.

Relay overview

Relay	Connector	No.	Description	Information
K1	X10	2	Main contactor Q1	230V AC
K1	X11	1	POS A	230V AC
K2	X11	2	POS B	230V AC
K3			Solenoid valve for manual rinse	230V AC
K4	X12	3	Solenoid valve for vapor quenching K12	230V AC
K5	X12	4	Siphon pump G24	230V AC
K6	X12	5	Backup relay K6	230V AC
K7			*Not in use*	
K8	X17	1	Lift magnet fresh air M8	230V AC
K9			Junior fan left / right direction	
K10	X13	1/2	Control for condensation hood	Potential free
K10			Junior fan on/off	
K11	X14	2	Cooling fan G7	230V AC
K13			*Not in use*	
K14			*Not in use*	
K15	X1	2	Cooking chamber light	230V AC
K16	X9	1/2	Supply for control panel (MMI)	24V DC
K17	X12	1	Circulating pump G16	230V AC
K18	X31	1 -4	Steaming unit (switched directly, not via relay)	24V DC

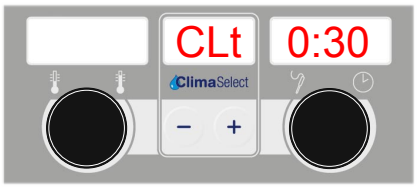
5.5 WaveClean test (CLe)

Description

INFORMATION The WaveClean test is included only in the selection, if the unit has Wave-Clean option features.

→ WaveClean test program for function check.
  ↳ Circulating pump
  ↳ Siphon pump
  ↳ Solenoid valve for filling water
  ↳ Door gasket / door area sealing

Overview



Starting test

→ Press the "START STOP" button.
  ↳ Testing the cooking chamber temperature.
  ↳ Automatic cooling of cooking chamber, if > 70°C.
  ↳ The right display indicates the remaining time.
→ Siphon flush and fill.
  ↳ Discharged by pump G24.
  ↳ Filling by means of solenoid valve K12.
→ Recirculating and heating.
  ↳ The circulating pump G16 is switched on.
  ↳ Heating the cooking chamber to 55°C.
→ DynaSteam and siphon flush
  ↳ DynaSteam steaming unit is switched on.
  ↳ Anew siphon water exchange.

The test is completed after 30 minutes.

Abort test

→ Press the "START STOP" button.
  ↳ Automatic flushing of the siphon and test abortion.

Exit selection

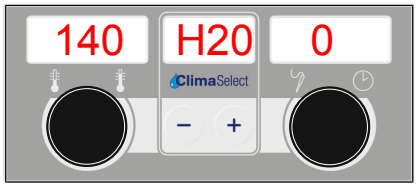
→ Press the "STEP" button.

5.6 DynaSteamTest (H2O)

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

Requirement
→ 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.

Overview



Starting water test
→ Press the "START STOP" button.
↳ Display on the left shows "INI".
↳ An automatic pre-purge begins.
→ Setting the amount of water with left rotary knob
↳ Display on the left shows the amount of water in ml.
→ Press the "START STOP" button.
↳ Control of the DynaSteam steaming unit.
↳ The water 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, the steaming unit stops automatically.
↳ Compare amount of water with the set value. A deviation of +- 10% is within tolerance.

Exit water test.
→ Press the "STEP" button.

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.

5.7 100°C + KT calibration (CAL)

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.

5.7.1 Check calibration - single chamber 6.x / 10.x

Requirement

Calibrated temperature digital meter.

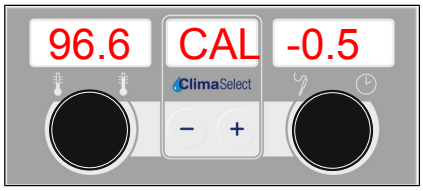
The temperature in the cooking chamber is < 100°C.

→ Fixing the internal core temperature sensor and temperature sensor from the external instrument in the cooking space.

↳ For this purpose, use a grill.

↳ Align the sensor tips upward in order to avoid measuring errors.

Overview



Testing the calibration

→ Press the "START STOP" button.

↳ The cooking chamber is heated to 100°C.

↳ Display on the left shows the current temperature in the cooking chamber.

→ Wait until the display to the left indicates 100 °C (± 1°C).

↳ Compare the left display with temperature on the external meter.

↳ The external meter must indicate a temperature between 99°C - 99.5°C.

→ If the value is within the range, terminate checking.

↳ Press the "START STOP" button.

→ If the value is outside the range, calibration is carried out.

↳ Continue with calibration (see „5.7.3 Calibrate cooking chamber sensor - single chamber unit 6.x / 10.x", Page 22).

5.7.2 Check calibration - double chamber unit 20.x

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.

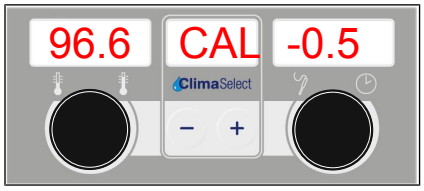
The temperature in the cooking chamber is < 100°C.

→ 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.

Overview



Checking the calibration

→ Press the "START STOP" button.

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

↳ Display on the left shows the current temperature in the top cooking chamber 1.

↳ Display on the right shows the current temperature in the bottom cooking chamber 2.

→ Wait until the display to the left and right indicate 100°C (± 1°C).

↳ Compare the left display with temperature on the top external meter.

↳ Compare the right display with temperature on the bottom external meter.

↳ Both external meters must indicate a temperature between 99°C - 99.5°C.

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

↳ Press the "START/STOP" button.

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

↳ Continue with calibration (see „5.7.4 Calibrate cooking chamber sensor - double chamber unit 20.x“, Page 23).

5.7.3 Calibrate cooking chamber sensor - single chamber unit 6.x / 10.x

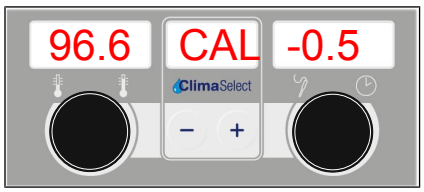
Requirement *Perform calibration check* and do not turn off the unit.

→ (see „5.7.1 Check calibration - single chamber 6.x / 10.x“, Page 19)

↳ Left display on the left shows 100°C.

↳ Display on the right shows the stored offset value.

Overview



Calibration

→ Adjusting offset value with a rotary knob on the right.

↳ Allow 10 minutes adaptation time to pass.

↳ The external meter must indicate a temperature between 99°C - 99.5°C.

→ If necessary, adjust offset value with a rotary knob on the right.

↳ Allow 10 minutes adaptation time to pass.

→ If the value is within the range, store calibration.

Storing calibration

→ Press the "START STOP" button.

↳ Termination of calibration and storage of offset value.

↳ Automatic calibration of core temperature sensor.

Aborting calibration

→ Press the "STEP" button.

↳ The calibration is terminated.

Exit calibration

→ Press the "STEP" button.

5.7.4 Calibrate cooking chamber sensor - double chamber unit 20.x

INFORMATION

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

Separation of the two chambers required

INFORMATION

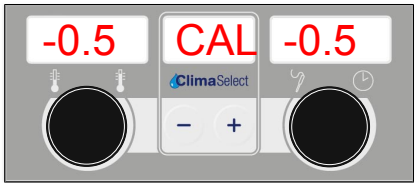
A separation into two regions (chambers) is required for temperature measurements. This can be achieved, for instance, by placing a baking sheet on the middle shelf of the tray trolley.

Prerequisite Execute *Check calibration* and do not switch appliance off.

→ (see „5.7.2 Check calibration - double chamber unit 20.x“, Page 20)

↳ Display to the left and right indicate 100°C.

Overview



Calibration Press the *Ready2Cook* button to switch between the display of cooking chamber temperature, offset value, and PWM value.

→ Press the Ready2Cook button until the display of the offset values appears.

→ Adjust the offset value for top cooking chamber 1 with rotary knob on the left.

→ Adjust the offset value for bottom cooking chamber 2 with rotary knob on the right.

↳ Press the Ready2Cook button until the display of the cooking chamber temperatures appears.

↳ Let 10 minutes adjustment time elapse.

↳ Both external meters must indicate a temperature between 99°C - 99.5°C.

→ If necessary, adjust offset anew with a rotary knob on the left and/or right.

↳ Let 10 minutes adjustment time elapse.

→ If the values are within the range, store calibration.

Saving the calibration

→ Press the "START/STOP" button.

↳ Termination of calibration and storage of offset values.

↳ Automatic calibration of core temperature sensor.

Canceling the calibration

→ Press the "STEP" button.

↳ The calibration ends.

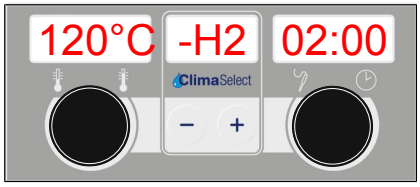
Exiting the calibration → Press the "STEP" button.

5.8 Draining water (-H2)

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

Requirement
→ Both water connections are connected to compressed air.
↳ The pressure may not exceed 6 bar.
→ The cooking chamber temperature is < 130°C.

Overview



Start water drainage
→ Press the "START STOP" button for 3 seconds.
↳ Start automatic water drainage.
↳ Display on the left shows cooking chamber temperature.
↳ Display on the right shows the remaining time.

Aborting water drainage
→ Press the "START STOP" button.

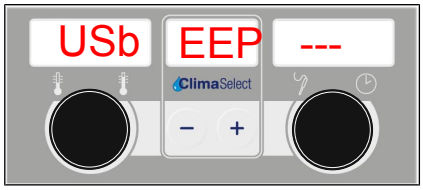
Exit water drainage
→ Press the "STEP" button.

5.9 Exporting error memory (EEP)

Description Export function of the error memory on a USB stick.

Requirement
→ USB flash drive is in the USB interface.

Overview



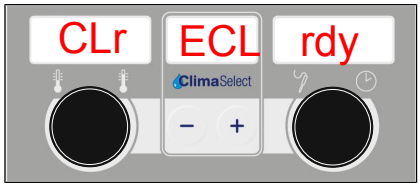
Exporting data
→ Press the "START STOP" button.
↳ Left display shows "USb".
↳ The right display shows "---" continuously.
→ The right display shows "*End*" after complete transmission.
→ The right display shows "*no*" when USB stick was not detected.

Exit selection
→ Press the "STEP" button.

5.10 Deleting the error memory (ECL)

Description Deleting the entire error memory.

Overview



Deleting the memory
→ Press the "START STOP" button for 3 seconds.
↳ The right display shows "rdy".

Exit selection
→ Press the "STEP" button.

5.11 Software update (SFL)

Description → Upgrade of the software using the USB interface.

Overview

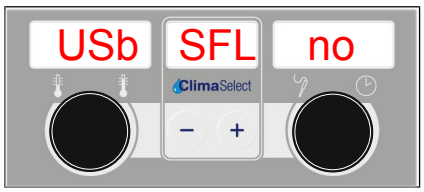


Image: USB stick or software update not detected

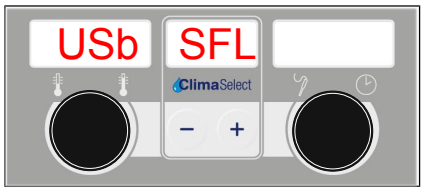


Image: USB stick with software update detected

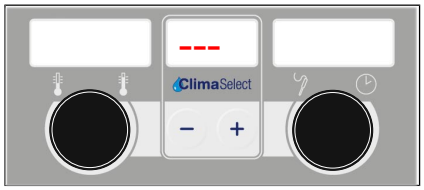


Image: Software update active - do not turn off unit

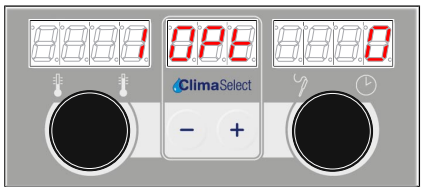
Perform update
→ Implementation as described (see „6 Software update", Page 32).
→ Press the "START STOP" button for 3 seconds.
↳ Update begins.
↳ The middle display shows "---".
↳ The update can take up to 20 minutes to complete.
↳ Automatic restart of the software.

5.12 Diagnostic memory (dia)

5.13 Equipment settings (Opt)

Description Adaptation of basic settings.

Overview



Selecting parameters

→ Turn the left rotary knob.

↳ The left display flashes the first number of the basic setting, refer to the list of basic settings.

↳ The right display indicates the corresponding value.

Changing the setting

→ Press the "START STOP" button.

→ Turn the right knob.

↳ Select a new value.

→ Press the "START STOP" button.

↳ The left display flashes the selected parameter.

Saving the setting

→ Press and hold the "STEP" button for 3 seconds.

↳ Changes are saved.

↳ The centre display shows "Stor".

Exit selection

→ Press the "STEP" button.

Overview of basic settings

No.	Basic setting	Standard value	Range of adjustment	Explanation
1	Temperature display	°C	0 / 1	Selection of temperature display. • 0 = °C 1 = °F
2	Altitude	0	0 - 3	Setting of installation height above normal zero. • 0 = 0 – 999 m 1 = 1000 – 1999 m 2 = 2000 – 2499 m 3 = > 2500 m
5	After-running time of the condensation hood (if present) after opening of the cooking chamber door	°C	0 / 1	Selection of temperature display. • 0 = °C 1 = °F
6	Time signal	20	0 – 180 s	Duration of audible signal in seconds. 0 = Signal off
7	Password settings menu	111	0 - 500	Change of password within the setting range.

No.	Basic setting	Standard value	Range of adjustment	Explanation
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	
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	
30-32	Gas blower speed offset	30-32		Do NOT change these values!
33	Volume signal	33	0	Switching the signal between normal and loud.
34	Volume display	34	0	• Selection of volume display. 0 = mL. 1 = fl. oz.
35	Display of units of measure	35	0	• Selection of units of measure display. 0 = US customary 1 = Imperial
37	Maximum wait time after reaching the Ready2Cook temperature < 250 °C	37	120 min.	• Ready2Cook stops automatically after the wait time elapses.
38	Maximum wait time after reaching the Ready2Cook temperature > 250 °C	38	30 min.	
41	Gas type setting	0	0 / 1	• Switching the software to city gas. 0 = Natural gas / liquefied gas 1 = City gas
42	Power optimization system setting	0	0 / 1	• Register interface with software. 0 = Unregistered 1 = Registered
45	Generator mode	0	0 = Off 1 = On	• Only when using generators on ships.

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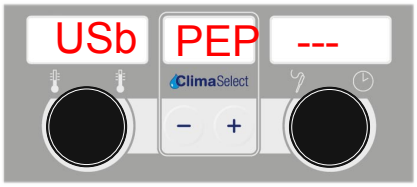
No.	Basic setting	Standard value	Range of adjustment	Explanation
47	Solenoid control when closing the cooking chamber door	5	0 – 5	• Intern. Do not change this value!
48	Steam elimination mode	1	0 = Low 1 = Normal 2 = High	• "Low" setting: Minimum water consumption, but higher condensate temperature and greater steam volume. "High" setting: Maximum water consumption, but lower condensate temperature and smaller steam volume.
49	Switch of the cooking chamber light when opening the cooking chamber door	4	0-60 seconds	• Intern. Do not change this value!
50	Switch on the cooking chamber light when closing the cooking chamber door	1	0-60 seconds	• Intern. Do not change this value!

5.14 Backup of (PEP)

Description Export function of the parameters (for example calibration values).

Requirement → USB flash drive is in the USB interface.

Overview



Backup of data

→ Press the "START STOP" button.

↳ Left display shows "USb".

↳ The right display shows "---" continuously.

- The right display shows "*End*" after complete transmission.
- The right display shows "*no*" when USB stick was not detected.

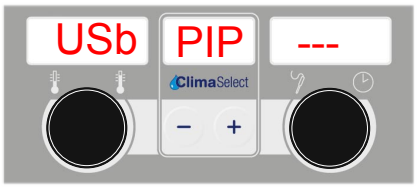
Exit selection → Press the "STEP" button.

5.15 Recovering data (PIP)

Description Import function of exported parameters.

Requirement
→ USB flash drive is in the USB interface.
→ The unit's parameter data are on the USB stick.

Overview



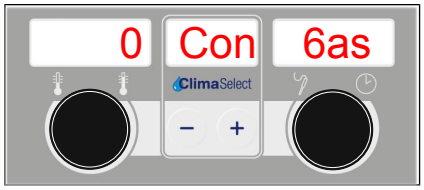
Recovering data
→ Press the "START STOP" button.
↳ Left display shows "USb".
↳ The right display shows "---" continuously.
- The right display shows "*End*" after complete transmission.
- The right display shows "*no*" when neither USB stick nor parameter data were detected.

Exit selection Press the "STEP" button.

5.16 Configuration settings (Con)

Description Adaptation of configuration.

Overview



Selecting parameters
→ Turn the left rotary knob.
↳ The left display flashes the first number of the configuration, refer to the list of configurations.
↳ The right display indicates the corresponding value.

Changing the setting
→ Press the "START STOP" button.
→ Turn the right knob.
↳ Select a new value.
→ Press the "START STOP" button.
↳ The left display flashes the selected parameter.

Saving the setting
→ Press and hold the "STEP" button for 3 seconds.
↳ Changes are saved.
↳ The centre display shows "Stor".
↳ Automatic restart of the software.

Exit selection
→ Press the "STEP" button.

Overview of changeable configurations

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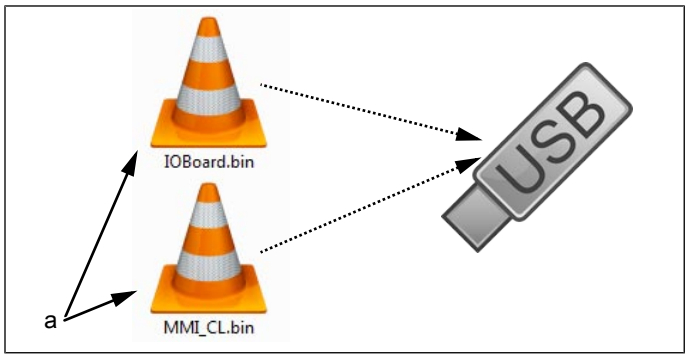
Configuration	No.	Standard value	Range of adjustment	Explanation
Type of energy	0			Type of energy. Cannot be changed.
Conversion to city gas	1	GAS	GAS / CGAS	Conversion for city gas operation. • GAS = natural gas / liquefied gas CGAS = City gas • Note! Additional alterations in the unit required!
Core temperature sensor	3	varies	no / -1- / -4- / -44-	Setting core temperature probe type. • no = Sensor deactivated -1- = Single-point sensor - 4- = Four-point sensor -44- = Four-point sensor + external sensor
Generator mode	4	0	0 / 1	Setting for operation on voltage generators. • 0 = Off 1 = On
Power optimization	6	OFF	OFF / ON	Software activation for the optional connection to a customer-supplied power optimization system. • OFF = Deactivated ON = Activated An additional modification of the unit is required.

6 Software update

Prerequisite

→ USB stick.
↳ Maximum size 32 GB.
↳ Formatting FAT32 (standard) or FAT.
↳ The disk should be empty if possible.
→ Current software update.
↳ The update is provided as packed ZIP file.

Preparing the USB stick



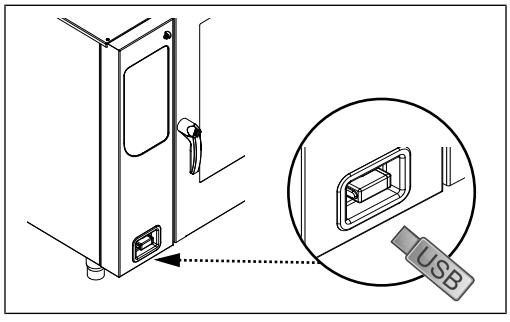
a Update files

→ Open and download Zip file and unzip. In general, the unzipped files are in the same directory as the previously compressed folder.
→ Copy **both** update files directly on the USB stick.
↳ The update always consists of two files.
↳ The files have the extension "bin".
↳ File 1: "IOBoard.bin".
↳ File 2: "MMI_CL.bin".

INFORMATION

There must always be both files on the USB stick, otherwise no update is possible.

Inserting the USB stick



The USB interface is behind the cover on the bottom left of the housing.

Performing the update

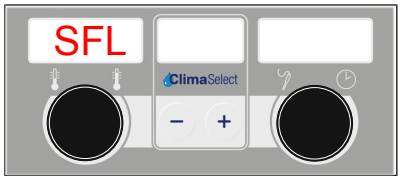


Image 4: SFL - software update

→ Call up the Settings menu or Service menu (see „5.1.1 Calling service menu“, Page 12).

↳ The password for the Settings menu is **111**.

→ Select Software Update using the left rotary knob "SFL".

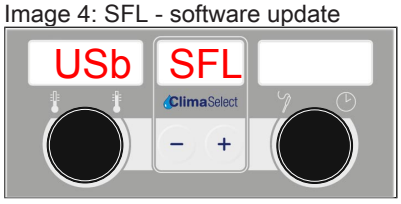


Image 5: USB stick with software update detected

→ Press the "START STOP" button.

↳ The left display shows "USb".

↳ The middle display shows "SFL".

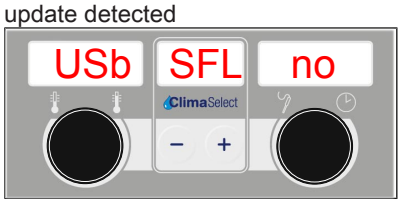


Image 6: USB stick or software update not detected

→ The right display shows "no" when update is not detected on the USB stick.

↳ Check contents of USB stick. Both files must be present.

↳ Check USB stick.

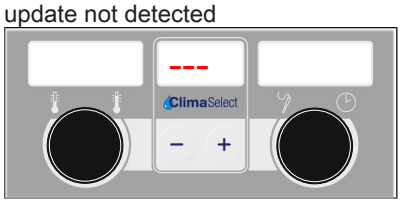


Image 7: Software update active - do not turn off unit

→ Press the "START STOP" button for 3 seconds.

↳ Update begins.

↳ The middle display shows "---".

INFORMATION

The update can take up to 20 minutes. The software is restarted several times.

Do not switch unit off.

↳ Finally an automatic restart of the software occurs.

7 Exhibition mode

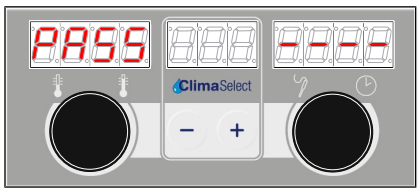
Description The exhibition mode allows the unit operation for demonstration purposes.

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

→ Unit is connected to L1 and N.

↳ See also Installation instructions.

Overview



Calling selection

→ Switch on unit "I"

→ Turn the *Select* knob to the Settings symbol.

→ Press the "START STOP" button.

↳ The left display shows "PASS".

↳ The right display flashes "----".

Switch on exhibition mode

→ Turn the right rotation knob and select pass word.**888**.

→ Press the "START STOP" button.

↳ Automatic restart of the software.

↳ Device is in exhibition mode.

↳ Middle display shows "SHO".

Turn off exhibition mode

→ Calling selection.

→ Turn the right rotation knob and select pass word.**888**.

→ Press the "START STOP" button.

↳ Automatic restart of the software.

↳ Unit is in normal mode.

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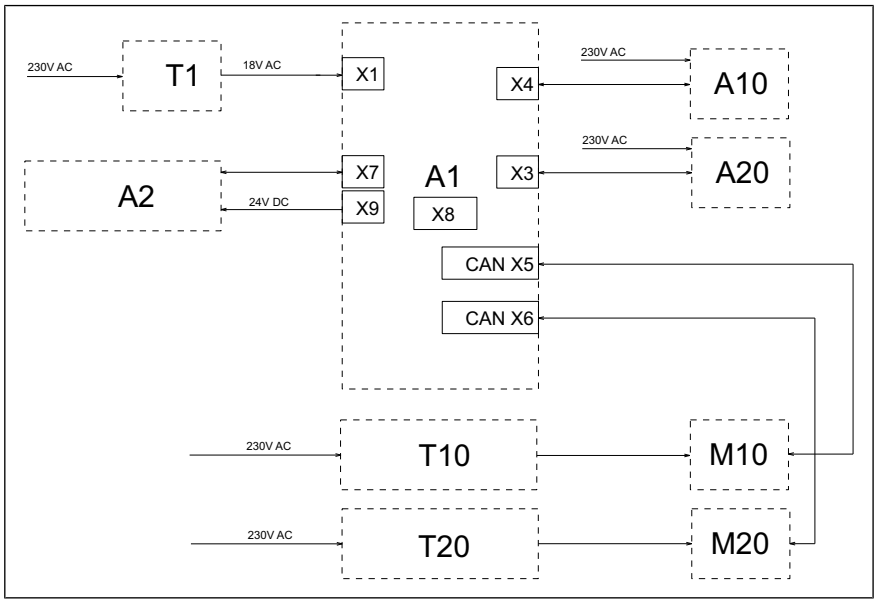
8 Electronics

8.1 Overview of the control

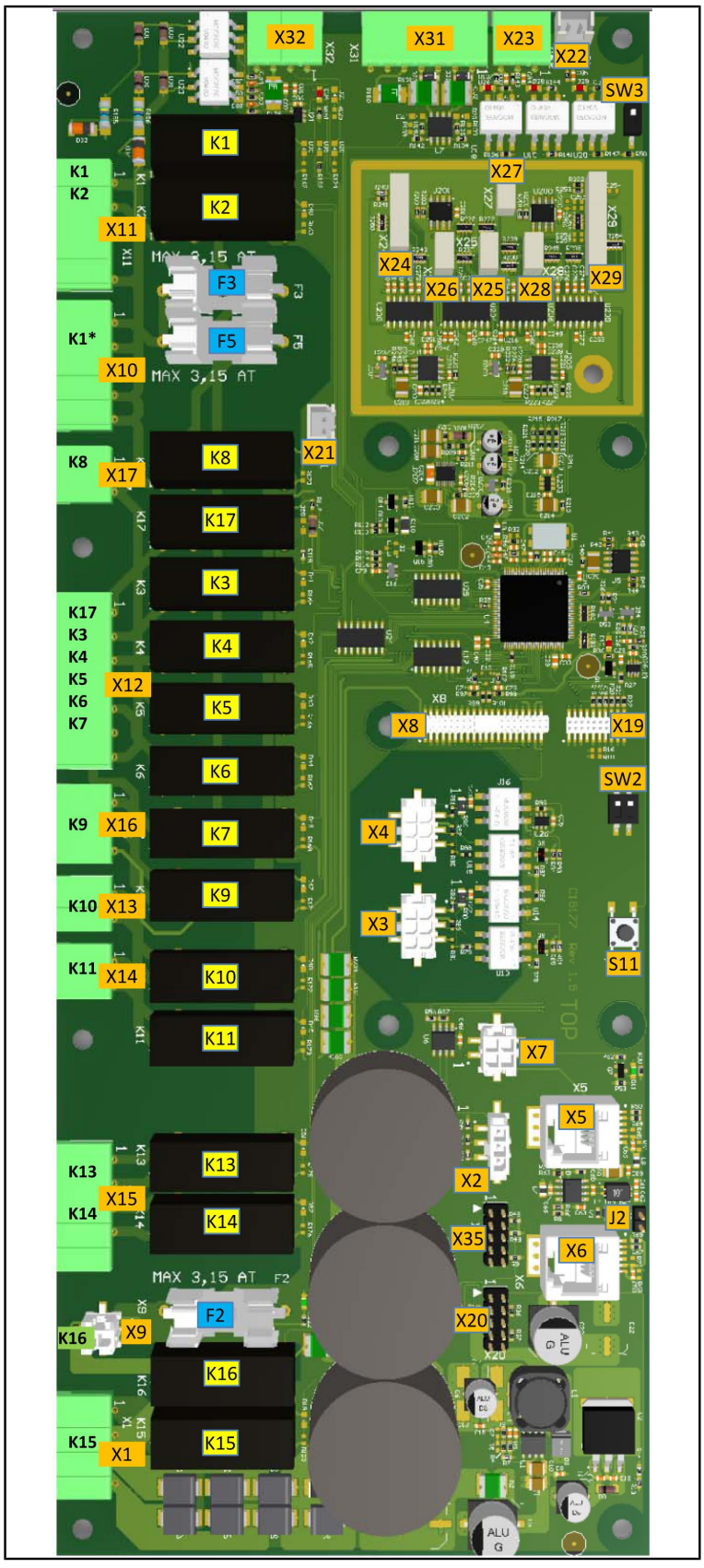
Block diagram



Legend

A1	Control board	M20	Lower fan motor (only 20.x)
A2	Control panel	T1	Transformer
A10	(Upper) electronic ignition (only for gas version)	T10	(Upper) electronic ignition
A20	Lower electronic ignition (only 20.x gas)	T20	Lower electronic ignition (only 20.x)
M10	(Upper) fan motor	X8	Digital key

8.2 Layout of control board



8.3 Assignment of 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 control for lower chamber (only for 20.x gas appliances)

Connector X4 Digital ignition control (only for gas appliances), for 20.x upper chamber

Connector X5 CAN bus line to the motor M1 (for 20.x upper chamber)

Connector X6 CAN bus line to the motor M2 (only for 20.x, lower chamber)

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 (230V AC)

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

Connector X11 (230V AC) optional

No.	Description
1	Output K1, POS A
2	Output K2, POS B
3	Input 230V, POS C
4	-
5	N

Connector X12 (230V 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 (potential-free) optional Control for condensation hood via K10

Connector X14 (potential-free)

No.	Description
1	Input K11, cooling fan G7 (230V AC)
2	Output K11, cooling fan G7 (230V AC)

Connector X15 / X16 Not in use

Connector X17 (230V AC)

No.	Description
1	Output K8, solenoid M8
2	N for solenoid 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 cooking chamber sensor 1 (for 20.x upper chamber)

Connector X26 B3 cooking chamber sensor 2 (for 20.x lower chamber)

Connector X27 B4 Vapor sensor

Connector X28 B5 moisture sensor

Connector X29 (optional) B6 Sous Vide sensor, B7 core temperature sensor 2

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 (24V DC)

No.	Description
1/2	Output SSR 1
3/4	Output SSR 2

Connector X35 Not in use

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

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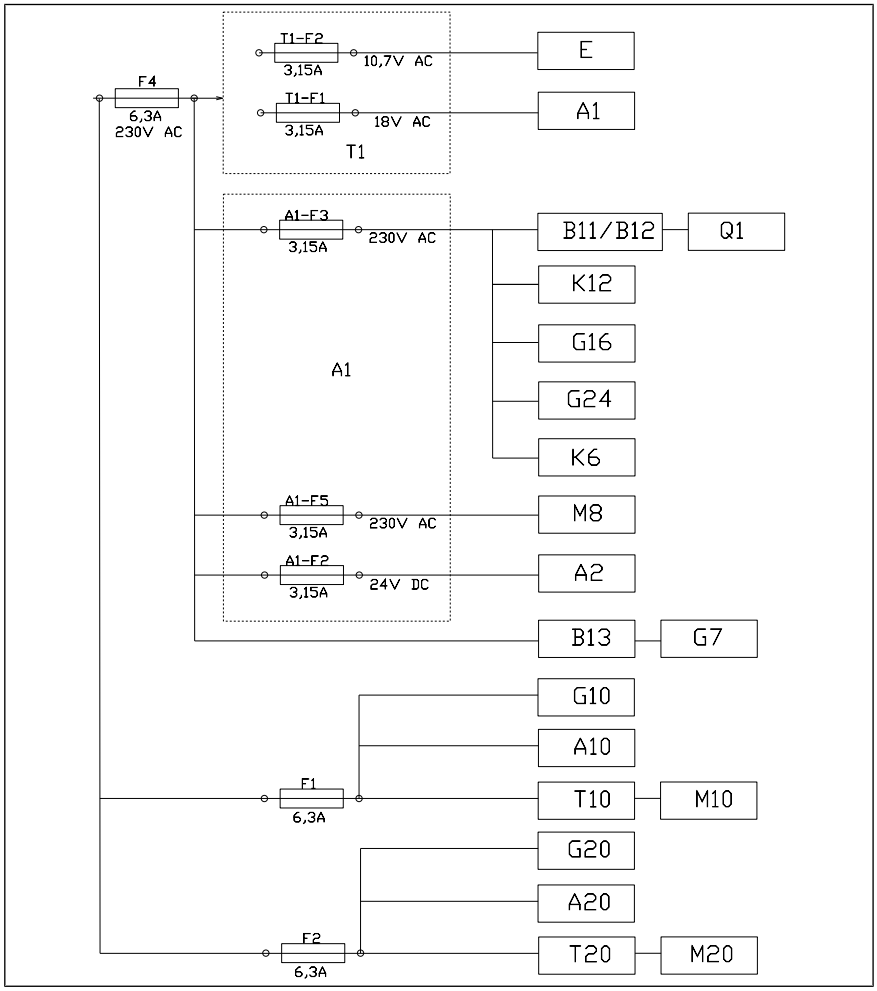
8.4 Overview of fuses

Layout



Legend

A1	Control board	G16	WaveClean pump
A2	Control panel	G24	Siphon pump
A10	Upper electronic ignition	K6	Backup relay
A20	Lower electronic ignition (only 20.x)*	K12	Quenching solenoid valve
B11	(Upper) cooking chamber STB 1	M8	Solenoid
B12	Lower cooking chamber STB 2 (only 20.x)	M10	(Upper) fan motor
B13	Thermal switch	M20	Lower fan motor (only 20.x)
E	Cooking chamber light	Q1	Main contactor
F	Fuse	T1	Transformer
G7	Cooling fan	T10	(Upper) electronic ignition
G10	(Upper) gas fan*	T20	Lower electronic ignition (only 20.x)
G20	Lower gas fan*		

*= Only for gas version

8.5 Use of spare relay K6

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 (solenoid 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 spare relay

→ Call relay test in the service menu.

→ Select the defective relay with the left rotary knob.

→ Press the "+" button for 3 seconds.

↳ A short acknowledgment tone follows.

↳ In addition, a dot appears on the left display.

Exit selection

→ Press the "STEP" button.

Relay overview

Relay	Connector	No.	Description	Instruction
K1	X10	2	Main contactor Q1	Re-connect the line from X10. 2 to X12. 5 and to assign a reserve relay to it.
K1	X11	1	POS A	Re-connect the line from X11.1 to X12.5 and to assign a reserve relay to it.
K2	X11	2	POS B	Re-connect the line from X11. 2 to X12. 5 and to assign a reserve relay to it.
K4	X12	3	Solenoid valve for vapor quenching K12	Re-connect the line from X12.3 to X12.5 and to assign a reserve relay to it.
K5	X12	4	Siphon pump G24	Re-connect the line from X12.4 to X12.5 and to assign a reserve relay to it.
K6	X12	5	Backup relay K6	Re-connect the line from X12.5 to X12.5 and to assign a reserve relay to it.
K8	X17	1	Lift magnet fresh air M8	Re-connect the line from X17.1 to X12.5 and to assign a reserve relay to it.
K17	X12	1	Circulating pump G16	Re-connect the line from X12.1 to X12.5 and to assign a reserve relay to it.

Dismantling and re-programming After changing the control board the original state is restored. Thus, the changed relay is not used unnecessarily.

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

→ Call relay test in the service menu.

→ Select the relay K6.

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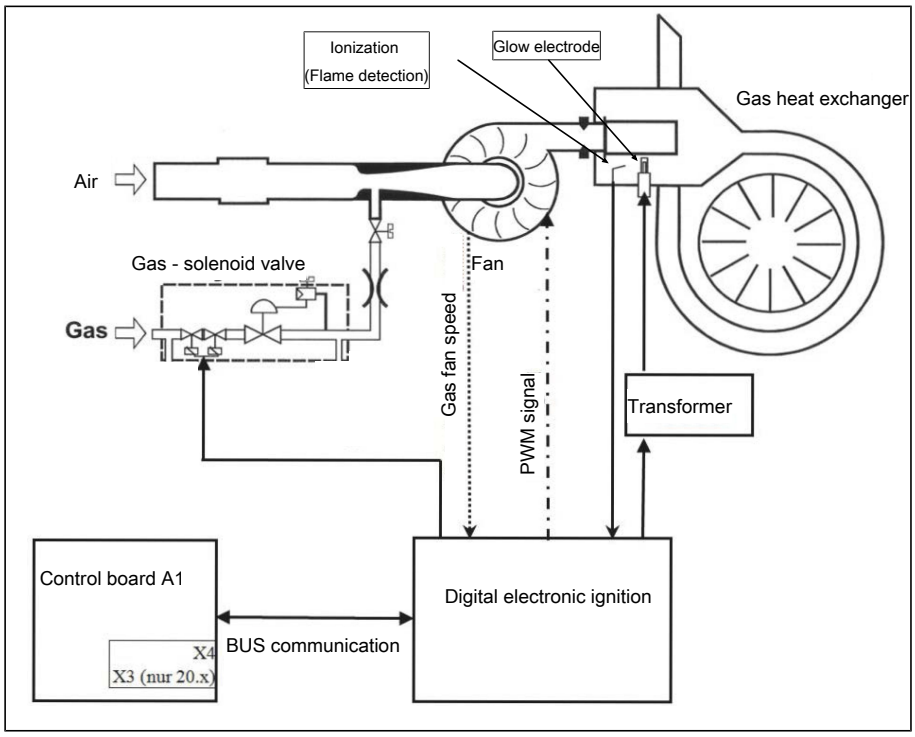
→ Press the "+" button for 3 seconds.
  ↳ A short acknowledgment tone follows
  ↳ In addition, a dot appears on the left display.
→ Press the "STEP" button.

9 Gas technology

9.1 Basics

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 electronics. All information is visible in the status overview or in the CO_2 calibration. Faults are indicated by corresponding error messages.

9.2 CO2 setting

9.2.1 Checking the settings

⚠ 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.

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. Turn the *Select* knob to the Settings symbol.
   ↳ The indicator light illuminates.
   ↳ The left display shows "PASS".
   ↳ The right display flashes "----".
3. Using the right knob, set "999".
4. Press the "START STOP" button.
   ↳ The left display flashes "CO2".

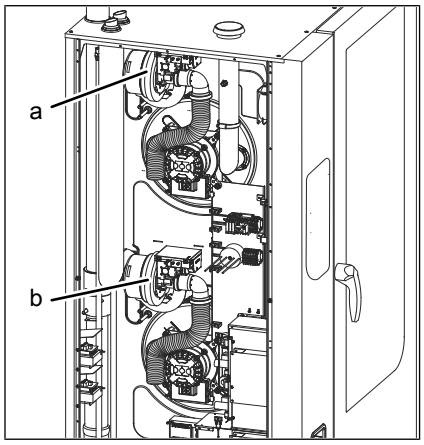


Image: Size 2xx

a Burner 1 (cooking chamber 1) b Burner 2 (cooking chamber 2)

9.2.2 Adjusting the settings

⚠ 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.

Setting with gas orifice (standard)

INFORMATION

The offset pressure can be measured as an adjustment aid at minimum capacity. This is not a substitute for making the basic gas setting.

Prerequisite

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

→ If the rated heat input is checked and not OK: adjust the rated heat input.

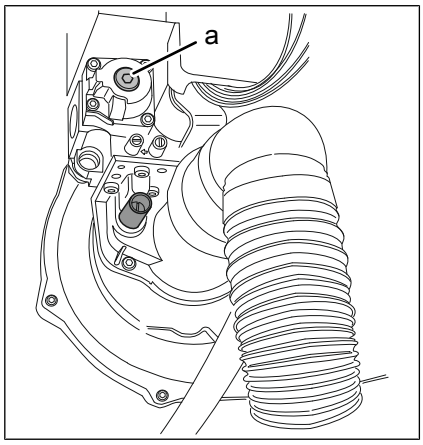


Image: Setting the rated heat input

a Adjusting screw for minimum capacity / low output (TX40)

1. Switch on the unit.
2. Open CO_2 settings .
3. Press the "START STOP" button.
4. Using the left knob, set the burner to low output ("LO").
   ↳ The left display flashes "LO".
   ↳ The centre display shows "CO2".
5. Use the right knob to select the first burner "-1-" (on models with two burners).
   ↳ The right display flashes "-1-".
6. Press the "START STOP" button.
   ↳ The indicator light in the "START STOP" button flashes; the burner starts.
   ↳ The unit operates under partial load.
7. Press the *Ready2Cook* button.
   ↳ The left display shows the current temperature in the cooking chamber.
   ↳ The center display shows the selected burner "-1-" (on models with two burners).
   ↳ The right display shows the current status of the burner ("G1F1").
8. Measure the exhaust gas values with an approved exhaust gas measuring device once the operating temperature is reached.
   ↳ To regulate the cooking chamber temperature, open the cooking chamber door slightly.
9. Check whether the measured CO_2 content is within the specified range.
10. Using the adjusting screw for minimum output, adjust the CO_2 content to the specified range for low output (setting is very sensitive).
    ↳ Turning counterclockwise: CO_2 content is decreased.
    ↳ Turning clockwise: CO_2 content is increased.

11. Press the *Ready2Cook* button.
    ↳ The left display flashes "LO".
    ↳ The centre display shows "CO2".
12. Using the left knob, set the burner to high output ("HI").
    ↳ The left display flashes "HI".
    ↳ The centre display shows "CO2".
13. Use the right knob to select the first burner "-1-" (on models with two burners).
    ↳ The right display flashes "-1-".
14. Press the "START STOP" button.
    ↳ The indicator light in the "START STOP" button flashes; the burner starts.
    ↳ The unit operates at maximum power.
15. Check whether the measured CO_2 content is within the specified range
    ↳ If necessary, repeat the adjustment procedure until the CO_2 value at high and at low output is within the specified range.
    ↳ If the CO_2 level at high output is still outside the specified range, the rated heat input must be set manually.
16. On models with two burners: Repeat the procedure for the second burner.
17. To end the CO_2 measurement, press the "START STOP" button.
18. The indicator light in the "START STOP" button goes out; the burner is off.
19. Switch off the unit.

Setting without a gas orifice

⚠ 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.

INFORMATION

The offset pressure can be measured as an adjustment aid at minimum capacity. This is not a substitute for making the basic gas setting.

Prerequisite

Gas connection line connected
Checked for leak tightness outside the unit
Connection pressure checked
Checked for leak tightness inside the unit
Basic gas setting checked
Left side wall removed

1. Remove the gas orifice (see "Converting the gas type").

2. Screw in the adjusting screw for maximum output 10 mm (basic setting).
3. Manually adjust the rated heat input for minimum power.
4. Manually adjust the rated heat input for maximum power.

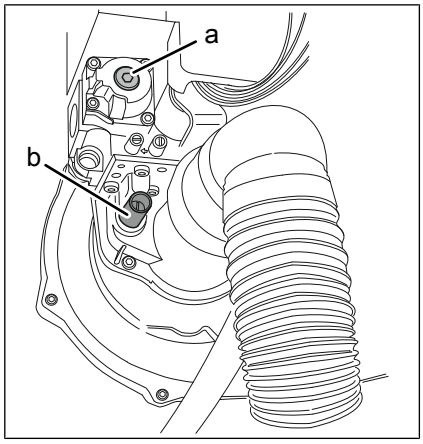


Image: Adjusting screws on the burner

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)

Manually adjusting the rated heat input for minimum power

1. Switch on the unit.
2. Open the *CO2 setting* display (see "Checking the settings").
3. Press the "START STOP" button.
4. Using the left knob, set the burner to low output ("LO").
   ↳ The left display flashes "LO".
   ↳ The centre display shows "CO2".
5. Use the right knob to select the first burner "-1-" (on models with two burners).
   ↳ The right display flashes "-1-".
6. Press the "START STOP" button.
   ↳ The indicator light in the "START STOP" button flashes; the burner starts.
   ↳ The unit operates under partial load.
7. Press the *Ready2Cook* button.
   ↳ The left display shows the current temperature in the cooking chamber.
   ↳ The center display shows the selected burner "-1-" (on models with two burners).
   ↳ The right display shows the current status of the burner ("G1F1").
8. Measure the exhaust gas values with an approved exhaust gas measuring device once the operating temperature is reached.
   ↳ To regulate the cooking chamber temperature, open the cooking chamber door slightly.

9. Using the adjusting screw for minimum output, adjust the CO_2 content to the specified range for low output (setting is very sensitive).
   ↳ Turning counterclockwise: CO_2 content is decreased.
   ↳ Turning clockwise: CO_2 content is increased.
   ↳ If necessary, repeat the adjustment procedure for maximum power until the CO_2 value at maximum capacity and at minimum capacity is within the specified range.
10. On models with two burners: Repeat the procedure for the second burner.
11. Check the exhaust gas values (see "Checking the settings").
12. To end the CO_2 measurement, press the "START STOP" button.
13. The indicator light in the "START STOP" button goes out; the burner is off.
14. Switch off the unit.

Manually adjusting the rated heat input for maximum power

1. Switch on the unit.
2. Open the *CO2 setting* display (see "Checking the settings").
3. Press the "START STOP" button.
4. Using the left knob, set the burner to high output ("HI").
   ↳ The left display flashes "HI".
   ↳ The centre display shows "CO2".
5. Use the right knob to select the first burner "-1-" (on models with two burners).
   ↳ The right display flashes "-1-".
6. Press the "START STOP" button.
   ↳ The indicator light in the "START STOP" button flashes; the burner starts.
   ↳ The unit operates at maximum power.
7. Press the *Ready2Cook* button.
   ↳ The left display shows the current temperature in the cooking chamber.
   ↳ The center display shows the selected burner "-1-" (on models with two burners).
   ↳ The right display shows the current status of the burner ("G1F1").
8. Measure the exhaust gas values with an approved exhaust gas measuring device once the operating temperature is reached.
   ↳ To regulate the cooking chamber temperature, open the cooking chamber door slightly.

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9. Using the adjusting screw for maximum power, adjust the CO content to the specified range for high output.$_2$ level to the specified range for high output.
   ↪ Turning counterclockwise: CO_2 content is increased.
   ↪ Turning clockwise: CO_2 content is decreased.
   ↪ If necessary, repeat the adjustment procedure for minimum power until the CO_2 value at maximum capacity and at minimum capacity is within the specified range.
10. On models with two burners: Repeat the procedure for the second burner.
11. Check the exhaust gas values (see "Checking the settings").
12. To end the CO_2 measurement, press the "START STOP" button.
13. The indicator light in the "START STOP" button goes out; the burner is off.

9.3 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.

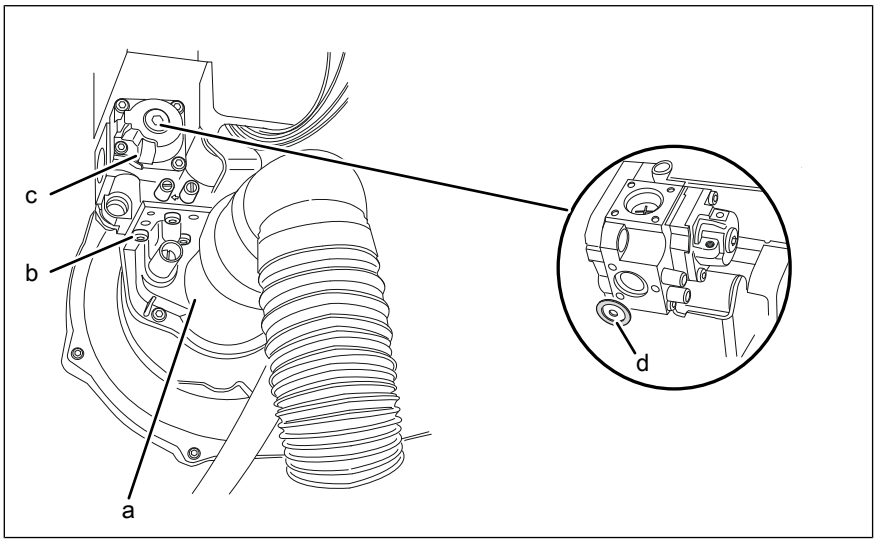

Image: Changing the gas orifice

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.

9.4 Checking the connection pressure

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.

9.5 Checking the offset pressure

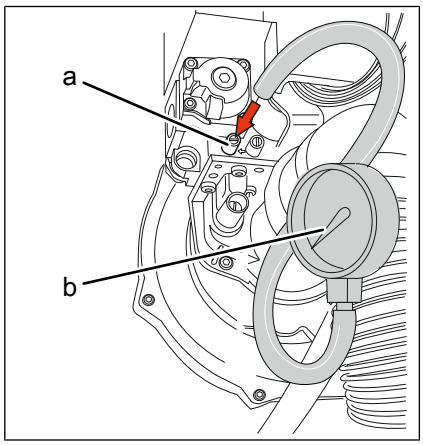


Image: Offset pressure

a Offset pressure measuring point b Pressure measuring device

Prerequisite Basic gas setting checked and not OK

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 the *CO2 setting* display in the service menu or enter the password 999 to open the setting menu directly.
5. Press the "START STOP" button.
6. Using the left knob, set the burner to low output ("LO").

   ↳ The left display flashes "LO".

   ↳ The centre display shows "CO2".
7. Use the right knob to select the first burner "-1-" (on models with two burners).

   ↳ The right display flashes "-1-".
8. Press the "START STOP" button.

   ↳ The indicator light in the "START STOP" button flashes; the burner starts.

   ↳ The unit operates under partial load.
9. Measure the offset pressure.
10. Check whether the measured offset pressure is within the specified range.
11. To end the measurement, press the "START STOP" button.

12. The indicator light in the "START STOP" button goes out; the burner is off.
13. Switch off the unit.
14. Disconnect the pressure measuring device.
15. Screw the sealing plug tightly into the offset pressure measuring nozzle.
16. On models with two burners: Repeat the procedure for the second burner.

Offset pressure overview

Output	Range (mbar)	Optimal (mbar)
High	**-0.8 — 0**	**-0.55**
Low	**-0.4 — 0**	**-0.15**

10 Gas orifices and C02 values up to S/N 16212355

Gas orifice and fan speeds

09. February 2009

Orifice de gaz et vitesse ventilateur à gaz

SN ≥ 09020158

HENNY PENNY®
Global Foodservice Solutions

CSA

Valid for Combisteamer GSC/GCC/ valable pour de fours mixtes GSC/GCC CSA Version

Gas orifice/orifice de gaz in/en mm/100 and /air baffle/déflecteur d'air in en mm/10

Unit size taille de l'appareil	Orifice Natural Gas gaz naturel	Orifice LP Gas Propane Gaz propane liquéfié		Orifice air baffle déflecteur d'air	
	Gas A	Gas E		Orifice size	Part No.
615	680	470		200	855224
115	590	420		220	855254
215	590	420		220	855254
620	600	470		300	855234
120	580	420		280	855229
220	580	420		280	855229

Speed gas fan / vitesse ventilateur à gaz in/en rpm				Orifice size	Part No.
	Max	Start	Min	680	201195
615	5050	5000	4800	600	201190
115	5050	4000	2800	590	201229
215	5050	4000	2800	580	201230
620	6700	5000	4800	470	201189
120	6700	4000	2800	420	201185
220	6700	4000	2800		

CO2 [%]	at max. gas fan speed / power à la vitesse maximum	at min. gas fan speed / power à la vitesse minimum
Natural gas gaz naturel	8,6 - 9,6%	0,5-1% lower as maximum setting 0,5-1% moins qu'au maximum
liquid gas propane Propane liquéfié	10,0 - 11,0%	0,5-1% lower as maximum setting 0,5-1% moins qu'au maximum
liguid gas butane butane liquéfié	11,7 - 12,7%	0,5-1% lower as maximum setting 0,5-1% moins qu'au maximum

11 Gas orifices and C02 values after S/N 16212356

gas orifice and fan speeds — 01.10.2016

orifice de gaz et vitesse ventilateur à gaz — SN ≥ 16212356

HENNY PENNY Engineered to Last

CSA

valid for Combisteamer FPG/FGG, valable pour de fours mixtes FPG/FGG
gas orifice/orifice de gaz in/en mm/100 and/et air baffle/déflecteur d'air in/en mm/10

unit size taille de l'appareil	orifice natural gas gaz naturel	orifice LP Gas B/P, Propane gaz propane liquéfié		orifice air baffle déflecteur d'air	
test gas, gaz d'essai	Gas A	Gas E		orifice size	part no.
615	680	470		160	10016863
115	590	420		200	855224
215	590	420		200	855224
621	590	430		170	10016864
121	580	400		210	10016866
221	580	400		210	10016866

speed gas fan / vitesse ventilateur à gaz in/en rpm				orifice size	part no.
	Max	Start	Min	680	201195
615	5050	5000	4800	590	201229
115	5050	4000	2800	580	201230
215	5050	4000	2800	470	201189
621	6700	5000	4800	430	10016868
121	6700	4000	2800	420	201185
221	6700	4000	2800	400	10016867

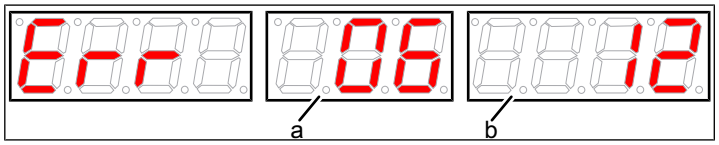
CO2 [Vol%]	bei max. Leistung, at max. gas fan speed, à la vitesse maximum	bei min. Leistung, at min. gas fan speed, à la vitesse minimum
natural gas, gaz naturel	8,6 - 9,6 Vol%	0,5 - 1,2 Vol% niedriger als bei max. /lower as maximum setting 0,5 - 1,2 Vol% moins qu'au maximum
LP Gas B/P, Propane propane liquéfié	10,0 - 11,0 Vol%	0,5 - 1,2 Vol% niedriger als bei max. /lower as maximum setting 0,5 - 1,2 Vol% moins qu'au maximum
LP Gas Butane butane liquéfié	11,5 - 12,5 Vol%	0,5 - 1,2 Vol% niedriger als bei max. /lower as maximum setting 0,5 - 1,2 Vol% moins qu'au maximum

12 Error messages

12.1 Description

Description A fault message has two components:

- Center display = Fault group
- Right display = Fault number



a Fault group b Fault number

There can be as many as 8 different fault groups. The fault messages in groups 1 to 6 appear primarily in the fault memory. These are derived from the fault messages in groups 7 and 8, and permit more exact localization of the fault when necessary.

In case of a malfunction, the fault messages in groups 7 and 8 appear directly on the display.

12.2 Overview of fault messages

Group 01 (motor & motor control)

For software version 1.60 or higher	From software version 1.41 to 1.59	Up to software version 1.40 (02.07.2014)	Brief description
01-01 to 01-16	01-01 to 01-16	01-01 to 01-16	Fan fault. See 07-60, 07-61, 07-62
01-17 to 01-20	01-17 to 01-20	01-17 to 01-20	Communication fault between control board and fan motor
01-23 to 01-25			Fan fault. Speed not reached in the required time

Group 02 (gas)

For software version 1.60 and higher	From software version 1.41 to 1.59	Up to software version 1.40 (02.07.2014)	Brief description
02-02	02-02	02-02	Gas communication fault
02-09 to 02-13	02-09 to 02-13	02-09 to 02-13	Gas communication fault

Group 03 (temperature / heating)

For software version 1.60 and higher	From software version 1.41 to 1.59	Up to software version 1.40 (02.07.2014)	Brief description
03-03 to 03-06	03-03 to 03-06	03-03 to 03-06	Internal core temperature sensor defective. See 07-40
03-07 to 03-10	03-07 to 03-10	03-07 to 03-10	External core temperature sensor defective
03-11	03-11	03-11	Sous-Vide core temperature sensor defective
03-12	03-12	03-12	Chamber sensor defective. See 07-10 to 07-12
03-13	03-13	03-13	Water vapor sensor defective. See 07-16
03-14	03-14	03-14	Moisture sensor defective. See 07-17
03-15 to 03-18	03-15 to 03-18	03-15 to 03-18	Internal core temperature sensor defective. See 07-40
03-19 to 03-22	03-19 to 03-22	03-19 to 03-22	External core temperature sensor defective
03-23	03-23	03-23	Sous-Vide core temperature sensor defective
03-24	03-24	03-24	Chamber sensor defective. See 07-10 to 07-12
03-25	03-25	03-25	Water vapor sensor defective. See 07-16
03-26	03-26	03-26	Moisture sensor defective. See 07-17
03-27 to 03-30	03-27 to 03-30	03-27 to 03-30	Internal core temperature sensor defective. See 07-40
03-31 to 03-34	03-31 to 03-34	03-31 to 03-34	External core temperature sensor defective
03-35	03-35	03-35	Sous-Vide core temperature sensor defective
03-36	03-36	03-36	Chamber sensor defective. See 07-10 to 07-12
03-37	03-37	03-37	Water vapor sensor defective. See 07-16
03-38	03-38	03-38	Moisture sensor defective. See 07-17
03-39 to 03-42	03-39 to 03-42	03-39 to 03-42	Internal core temperature sensor defective. See 07-40
03-43 to 03-46	03-43 to 03-46	03-43 to 03-46	External core temperature sensor defective
03-47	03-47	03-47	Sous-Vide core temperature sensor defective
03-48	03-48	03-48	Chamber sensor defective. See 07-10 to 07-12
03-49	03-49	03-49	Water vapor sensor defective. See 07-16
03-50	03-50	03-50	Moisture sensor defective. See 07-17
03-51 to 03-54	03-51 to 03-54	03-51 to 03-54	Internal core temperature sensor defective. See 07-40
03-55 to 03-58	03-55 to 03-58	03-55 to 03-58	External core temperature sensor faulty.
03-59	03-59	03-59	Sous-Vide core temperature sensor defective.
03-60	03-60	03-60	Chamber sensor defective. See 07-10 to 07-12
03-61	03-61	03-61	Water vapor sensor defective. See 07-16
03-62	03-62	03-62	Moisture sensor defective. See 07-17
03-63	03-63	03-63	Internal core temperature sensor defective. See 07-40
03-64 to 03-71	03-64 to 03-71	03-64 to 03-71	Temperature sensor on control board defective
03-74	03-74	03-74	Emergency program. See 07-13 and 07-14
03-75	03-75	03-75	Emergency program. See 07-15
03-76	03-76	03-76	Emergency program. See 07-41

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For software version 1.60 and higher	From software version 1.41 to 1.59	Up to software version 1.40 (02.07.2014)	Brief description
03-77	03-77	03-77	Emergency program. See 07-42
03-78	03-78	03-78	Emergency program. See 07-43

Group 04 (water)

For software version 1.60 and higher	From software version 1.41 to 1.59	Up to software version 1.40 (02.07.2014)	Brief description
04-01 and 04-02	04-01 and 04-02	04-01 and 04-02	Water vapor sensor emergency program
04-03	04-03	04-03	Insufficient water during cooking step change. See 07-70
04-04	04-04	04-04	Insufficient water fault. See 07-70

Group 06 (control board)

For software version 1.60 and higher	From software version 1.41 to 1.59	Up to software version 1.40 (02.07.2014)	Brief description
06-01	06-01	06-01	Configuration fault. Contact manufacturer
06-02	06-02	06-02	Ready2Cook Time exceeded. Contact manufacturer
06-03 and 06-04	06-03 and 06-04	06-03 and 06-04	Contact manufacturer
06-05	06-05	06-05	Configuration fault. Contact manufacturer
06-06	06-06	06-06	Eeprom fault. Control board A1 defective
06-07	06-07	06-07	WaveClean fault. See 07-71
06-08	06-08	06-08	Manual cleaning interrupted. See "SHO in right-hand display"
06-09	06-09	06-09	Cooking chamber too hot for cleaning. Contact manufacturer
06-10 to 06-11	06-10 to 06-11	06-10 to 06-11	Contact manufacturer
06-12	06-12	06-12	Digital key not available or defective
06-13	06-13	06-13	Emergency rinse not possible after WaveClean canceled

Group 07 (general faults)

For software version 1.60 and higher	From software version 1.41 to 1.59	Up to software version 1.40 (02.07.2014)	Brief description
07-10	07-10	07-04	Cooking sensor defective. Tabletop units only
07-11	07-11	07-04	Top cooking chamber sensor defective. Pedestal units only
07-12	07-12	07-03	Bottom cooking chamber sensor defective. Pedestal units only
07-13	07-13	07-03	Cooking chamber sensor emergency program. Tabletop units only
07-14	07-14	07-03	Cooking chamber sensor emergency program. Pedestal units only
07-15	07-15	07-03	Cooking chamber sensor emergency program. Pedestal units only
07-16	07-16	04-01 and 04-02	Water vapor sensor defective
07-17	07-17		Moisture sensor defective
07-18	07-18	03-73	Excess temperature in the cooking chamber
07-40	07-40	07-05	Internal core temperature sensor defective
07-41	07-41		Emergency program. External core temperature sensor faulty. The internal core temperature sensor assumes the function
07-42	07-42		Emergency program. Internal core temperature sensor faulty. The external core temperature sensor assumes the function
07-43	07-43		Sous-Vide core temperature sensor defective. The internal core temperature sensor assumes the function
07-50	07-50	03-02	Excess temperature of the control board
07-51	07-51	03-42	Risk of frost
07-60	07-60	07-02	Fan fault or temperature limiter triggered. Tabletop units only
07-61	07-61	07-02	Upper fan fault or temperature limiter triggered. Pedestal units only
07-62	07-62	07-02	Lower fan fault or temperature limiter triggered. Pedestal units only
07-70	07-70	07-09	Insufficient water
07-71	07-71	06-07	WaveClean fault
07-72			WaveClean Pause. Water pressure too low.

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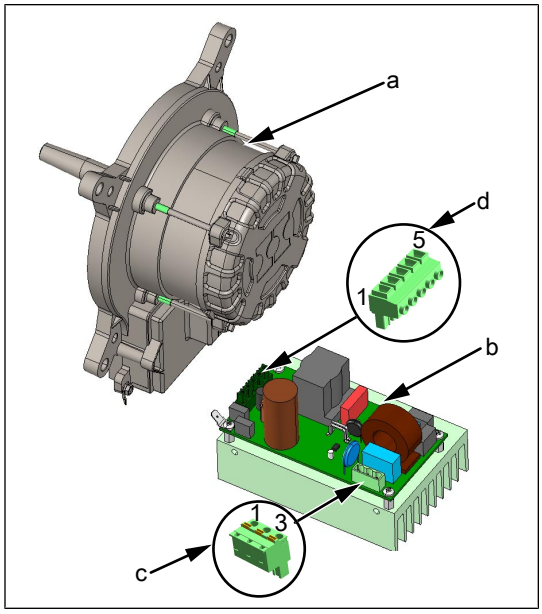
Group 08 (general gas faults)

For software version 1.60 and higher	From software version 1.41 to 1.59	Up to software version 1.40 (02.07.2014)	Brief description
08-01	02-01	02-01	No gas. Tabletop units only
08-02	02-01	02-01	No gas. Upper burner. Pedestal units only
08-03	02-01	02-01	No gas. Lower burner. Pedestal units only
08-04	02-01	02-01	Flame fault. Tabletop units only
08-05	02-01	02-01	Flame fault. Upper burner. Pedestal units only
08-06	02-01	02-01	Flame fault. Lower burner. Pedestal units only
08-07	02-01	02-01	Gas fan fault. Tabletop units only
08-08	02-01	02-01	Gas fan fault. Upper burner. Pedestal units only
08-09	02-01	02-01	Kassan fault. Lower burner. Pedestal units only
08-10	02-01	02-01	Internal ignition electronics fault. Tabletop units only
08-11			Internal ignition electronics fault. Upper burner. Pedestal units only
08-12			Internal ignition electronics fault. Lower burner. Pedestal units only
08-13			Gas valve fault. Tabletop units only
08-14			Gas valve fault. Upper burner. Pedestal units only
08-15			Gas valve fault. Lower burner. Pedestal units only
08-16			Internal ignition electronics fault. Tabletop units only
08-17			Internal ignition electronics fault. Upper burner. Pedestal units only
08-18			Internal ignition electronics fault. Lower burner. Pedestal units only
08-19			Internal ignition electronics fault. Tabletop units only
08-20			Internal ignition electronics fault. Upper burner. Pedestal units only
08-21			Internal ignition electronics fault. Lower burner. Pedestal units only
08-22			Internal ignition electronics fault. Tabletop units only
08-23			Internal ignition electronics fault. Upper burner. Pedestal units only
08-24			Internal ignition electronics fault. Lower burner. Pedestal units only
08-25			Communication fault between the control board and ignition electronics. Tabletop units only
08-26			Communication fault between the control board and ignition electronics. Upper burner. Pedestal units only
08-27			Communication fault between the control board and ignition electronics. Lower burner. Pedestal units only

12.3 Err 01-23 (not possible to start fan)

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.

Overview



a Fan motor M10
b Power board T10 for fan motor
c Power supply X1
d Connection for fan motor X2

Plug assignment power board

Connector X1 (c)			Connector X2 (d)	
1	L1 230V		1	320V DC+
2	N		2	Ground
3	PE		3	15V DC+
			4	-
			5	PFC

⚠ 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!

Troubleshooting Replace communication cable between motor control and motor for test purposes and perform test run.

Switch unit on "I."

→ Check the output voltage at connector X2 between terminals 1 and 2.

↳ No voltage present. Replace power board for motor.

↳ Voltage present. Replace fan motor.

12.4 Err 01-24 (not possible to start upper fan)

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 „12.3 Err 01-23 (not possible to start fan)", Page 62)

12.5 Err 01-25 (not possible to start lower fan)

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 „12.3 Err 01-23 (not possible to start fan)", Page 62)

12.6 Err 06-13 (emergency rinse not possible)

Description This fault message appears if the automatic rinse is not possible after cancellation of WaveClean. The error appears once each time the unit starts.
The unit is not ready to operate until the automatic rinse has been completed successfully.

Troubleshooting After the fault message has been acknowledged, additional messages are displayed. Troubleshoot the situation. Generally, the following reasons prevent the automatic rinse from completing:

No on-site water supply or water pressure too low.

- Pressure switch fault
- Fan system fault
- Gas system fault (only for gas energy type)

12.7 Err 07-10 (cooking sensor defective)

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.

Location The cooking chamber sensor is in the top right of the cooking chamber.

Naming on the circuit diagram B2

Troubleshooting Unlock and open control panel.

→ Check contacting on control board A1, X25.

→ Remove existing cooking chamber sensor from the control board A1, X25 and plug in new cooking chamber sensor.

↳ The fault message disappears. Replace cooking chamber sensor.

↳ The fault message is still displayed. Replace control board.

12.8 Err 07-11 (top cooking chamber sensor defective)

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

Location The cooking chamber sensor is in the top right of the cooking chamber.

Naming on the circuit diagram B2

Troubleshooting Unlock and open control panel.

→ Check contacting on control board A1, X25.

→ Remove existing cooking chamber sensor from the control board A1, X25 and plug in new cooking chamber sensor.

↳ The fault message disappears. Replace cooking chamber sensor.

↳ The fault message is still displayed. Replace control board.

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12.9 Err 07-12 (bottom cooking chamber sensor defective)

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

Location The cooking chamber sensor is in the middle right of the cooking chamber.

Naming on the circuit diagram B3

Troubleshooting Unlock and open control panel.

→ Check contacting on control board A1, X26.

→ Remove existing cooking chamber sensor from the control board A1, X26 and plug in new cooking chamber sensor.

↳ The fault message disappears. Replace cooking chamber sensor.

↳ The fault message is still displayed. Replace control board.

12.10 Err 07-13 ((cooking chamber sensor emergency program)

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.

Location The cooking chamber sensor is in the top right of the cooking chamber.

Naming on the circuit diagram B2

Troubleshooting Unlock and open control panel.

→ Check contacting on control board A1, X25.

→ Remove existing cooking chamber sensor from the control board A1, X25 and plug in new cooking chamber sensor.

↳ The fault message disappears. Replace cooking chamber sensor.

↳ The fault message is still displayed. Replace control board.

12.11 Err 07-14 ((cooking chamber top sensor emergency program)

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

Location The cooking chamber sensor is in the top right of the cooking chamber.

Naming on the circuit diagram B2

Troubleshooting Unlock and open control panel.

→ Check contacting on control board A1, X25.

→ Remove existing cooking chamber sensor from the control board A1, X25 and plug in new cooking chamber sensor.

↳ The fault message disappears. Replace cooking chamber sensor.

↳ The fault message is still displayed. Replace control board.

12.12 Err 07-15 ((cooking chamber bottom sensor emergency program)

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

Location The cooking chamber sensor is in the middle right of the cooking chamber.

Naming on the circuit diagram B3

Troubleshooting Unlock and open control panel.

→ Check contacting on control board A1, X26.

→ Remove existing cooking chamber sensor from the control board A1, X26 and plug in new cooking chamber sensor.

↳ The fault message disappears. Replace cooking chamber sensor.

↳ The fault message is still displayed. Replace control board.

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12.13 Err 07-16 (water vapor sensor defective)

Description Emergency operation is activated automatically and displayed. The software controls the water vapor elimination.

Location The water vapor sensor is on the left side of the siphon.

Naming on the circuit diagram B4

Troubleshooting Unlatch and open the operating panel.

→ Check contacting on control board A1, X27.

→ Remove existing water vapor sensor from the control board A1, X27 and plug in new water vapor sensor.

↳ The fault message disappears. Replace water vapor sensor. To do this, remove the left side wall.

↳ The fault message is still displayed. Replace control board.

12.14 Err 07-18 (cooking chamber temperature too high)

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, core temperature sensor and the moisture sensor.

Prerequisite

- No display of fault messages from the temperature sensor.

Troubleshooting Electric energy type Remove the left side wall.

"I" switches on the unit

→ Measure the voltage / current consumption on the load side of the semi-conductor relay.

↳ Voltage / current is present and the LED on at least one of the semi-conductor relays if off.

↳ Semi-conductor relay is defective. Replace component and check that fan impeller is balanced.

→ Measure the control voltage on the input side of the semi-conductor relay.

↳ Voltage is present and the LED on at least one of the semi-conductor relays if on.

↳ Control board A1 defective. Replace component.

Troubleshooting Gas energy type → CO_2 perform calibration.

12.15 Err 07-40 (core temperature sensor defective)

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

Location The core temperature sensor is in the front area of the cooking chamber.

Naming on the circuit diagram B1

Troubleshooting Unlock and open control panel.

→ Check contacting on control board A1, X24.

→ Remove existing core temperature sensor from the control board A1 X24 and plug in new core temperature sensor.

↳ The fault message disappears. Replace core temperature sensor.

↳ The fault message is still displayed. Replace control board.

12.16 Err 07-50 (control board temperature too high)

Description The temperature sensor on the control board is measuring a temperature of >75°C. The unit is no longer operational until it cools down.

Troubleshooting → Check air intake area of fan.

↳ Clean dirty air intake area.

→ Check that cooling fan is functioning properly. To do so, use the relay test in the Service menu to switch on the cooling fan.

↳ The cooling fan does not start. Measure the voltage at the fan. Voltage present = Cooling fan defective. Voltage not present = Relay on the control board defective. Replace control board.

↳ The cooling fan starts. Check surroundings and ambient temperature. See also installation instructions.

12.17 Err 07-51 (risk of frost)

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.

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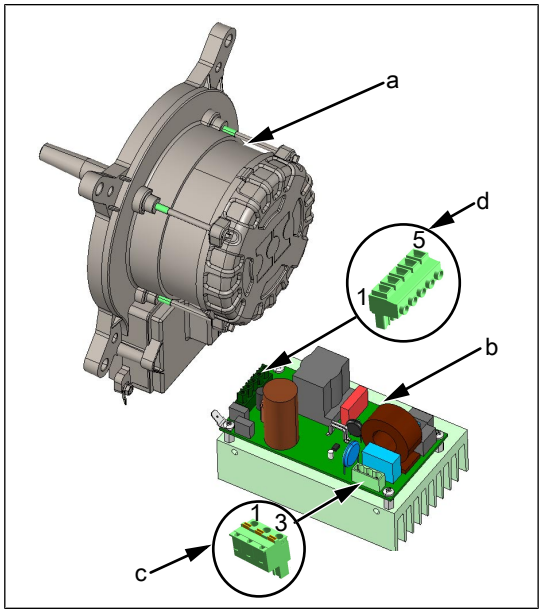
12.18 Err 07-60 (fan defective or temperature limiter triggered)

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.

Overview



a Fan motor M10
b Power board T10 for fan motor
c Power supply X1
d Connection for fan motor X2

Plug assignment power board

Connector X1 (c)			Connector X2 (d)	
1	L1 230V		1	320V DC+
2	N		2	Ground
3	PE		3	15V DC+
			4	-
			5	PFC

⚠ 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!

Locating errors → Location of whether there is an error in the STL circuit (STL = safety temperature limiter) or in the fan area.

→ Switch unit on and measure voltage at main contactor Q1, terminals A1 and A2. The main contactor must be energized.

↳ No voltage present. There is an error in the STL circuit. Troubleshooting according to "Troubleshooting safety circuit".

↳ Voltage present. There is an fault in the fan area. Troubleshoot according to "Troubleshooting the fan".

Troubleshooting the safety circuit

→ The safety temperature limiter has tripped.

↳ Reset the safety temperature limiter. Check semiconductor relay and replace if necessary.

→ The safety temperature limiter has not tripped.

↳ Check fuse F3 on control board A1. Replace if necessary. Check main contactor Q1 and control board A1.

↳ Check relay K1 on the control board. If necessary, use backup relay or replace control board.

Troubleshooting the fan motor

Replace communication cable between motor control and motor for test purposes and perform test run.

Switch unit on "I."

→ Check voltage supply at connector X1.

↳ No voltage present. Fuse F1 blown. Replace power board for motor.

↳ No voltage present. Fuse F1 is not blown. Check main contactor Q1 and control board A1.

→ Check output voltage at connector X2.

↳ No voltage present. Replace power board for motor.

↳ Voltage present. Replace fan motor.

Function check

The measurement values can be called up in the status overview.

12.19 Err 07-61 (upper fan fault or temperature limiter triggered.)

Description

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

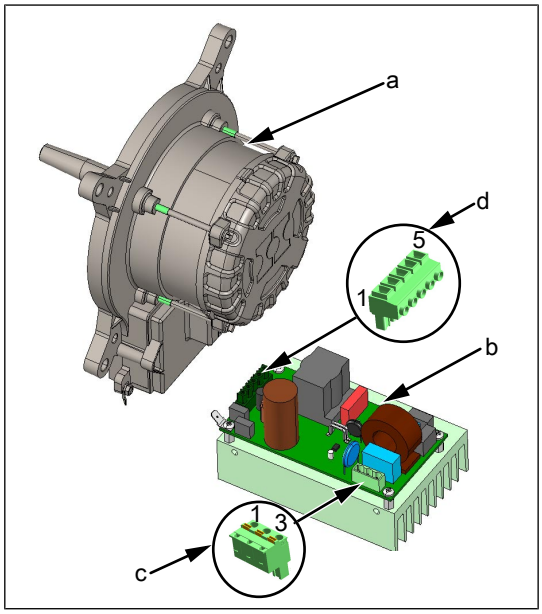
Troubleshooting

(see „12.18 Err 07-60 (fan defective or temperature limiter triggered)“, Page 69)

12.20 Err 07-62 (lower fan fault or temperature limiter triggered)

Description The control board A1 does not receive any response via the CAN bus cable from the lower fan motor M20.

Overview



a Fan motor M20
b Power board T20 for fan motor
c Power supply X1
d Connection for fan motor X2

Connector X1 (c)			Connector X2 (d)	
1	L1 230V		1	320V DC+
2	N		2	Ground
3	PE		3	15V DC +
			4	-
			5	PFC

⚠ 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!

Troubleshooting the safety circuit

1. At least one of the safety temperature limiters has tripped.
   ↳ Reset the safety temperature limiter. Check semiconductor relay for bottom heating circuit and replace if necessary.
2. The safety temperature limiter has not tripped.
   ↳ Check fuse F3 on control board A1. Replace if necessary. Check main contactor Q1 and control board A1.
   ↳ Check relay K1 on the control board. If necessary, use backup relay or replace control board.

Troubleshooting the fan motor

Replace communication cable between motor control and motor for test purposes and perform test run.

Switch unit on "I."

3. Check voltage supply at connector X1.
   ↳ No voltage present. Fuse F1 blown. Replace power board for motor.
   ↳ No voltage present. Fuse F1 is not blown. Check main contactor Q1 and control board A1.
4. Check output voltage at connector X2.
   ↳ No voltage present. Replace power board for motor.
   ↳ Voltage present. Replace fan motor.

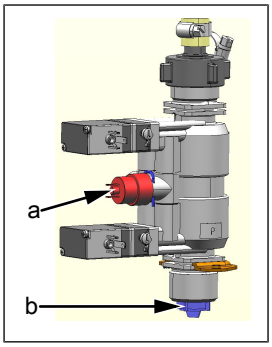
Function check

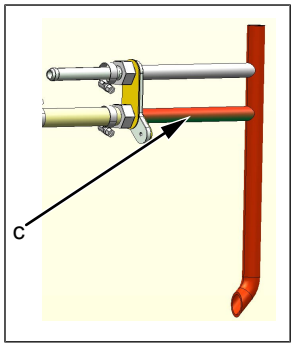
The measurement values can be called up in the status overview.

12.21 Err 07-70 (water pressure too low)

Description This fault message is displayed if the pressure switch registered a water pressure that is too low.

Location The pressure switch is on the DynaSteam steaming unit.





a Pressure switch

b Sieve

c Water supply pipe in the cooking chamber

→

INFORMATION

20.x pedestal units have two steaming units.

Naming on the circuit diagram B14

Troubleshooting Ensure on-site water supply to 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.

→ Check sieve on the water connection for soiling. To do this, remove the on-site water connection to the unit.

For additional troubleshooting, swing out the air diverter in the cooking chamber.

→ Perform the DynaSteam test in the Service menu.

↳ Water runs through the water supply pipe into the cooking chamber.

→ Perform DynaSteam test again and check water quantity with measurement container.

↳ The water quantity corresponds to the set quantity (±10%). Replace pressure switch.

↳ The water quantity does not correspond to the set quantity (±10%). Ensure that the supply pipe is not clogged. Replace steaming unit.

→ Perform the DynaSteam test in the Service menu.

↳ No water runs through the water supply pipe into the cooking chamber.

→ Check water supply pipe for calcification.

→ Ensure that the hose between the steaming unit and supply pipe is not clogged.

→ Replace steaming unit.

12.22 Err 07-72 (water pressure during WaveClean too low)

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

Troubleshooting Ensure on-site water supply to 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.

12.23 Con (configuration required)

Description Configuring is required when the control board is replaced. This message appears if this has not been carried out and saved.

Remedy Configure the unit (see „5.16 Configuration settings (Con)", Page 30).

12.24 SFL (CAN connection faulty / update required)

Description / troubleshooting

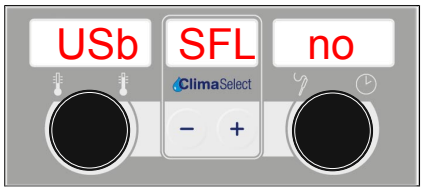
The message has two different meanings / causes:

- Software update required.
  After the operating panel circuit board or control panel circuit board has been replaced, a software update is absolutely essential.
- Faulty communication between the operating panel and control panel circuit board.

Troubleshooting

→ Check communication cable for good contact.
→ Replace communication cable between operating panel and control panel circuit board.
→ Replace control panel circuit board.
→ Replace operating panel.

Message displayed



12.25 SHO in right-hand display

Description The message "SHO" appears in the right-hand display if manual cleaning is canceled.

Remedy Press the "STEP" button.

12.26 SHO in center display

Description The message "SHO" appears in the center display when the trade show mode is active.

Remedy Exit the trade show mode (see „7 Exhibition mode“, Page 34).

13 Gas faults and error messages

13.1 Err 08-01 (no gas)

Description This error message only appears if on the first gas request on program start there is no response.

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.

Troubleshooting Remove the left side wall.

1. Start cooking program.
   ↳ Ignition is occurring.

↳ The ionization electrode or the ignition electronics does not detect the flame.

2. Start cooking program.
   ↳ Ignition is not occurring. The glow electrode does not light up (visual inspection).

↳ Check the voltage and fuses on the transformer, ignition electrode, and glow electrode.

3. Start cooking program.
   ↳ Ignition is not occurring. The glow electrode is functioning properly.

↳ Check gas fan for proper operation.

↳ Check the gas solenoid valve. Visually inspect and check the gas heat exchanger in the cooking chamber for leaks.

4. Start cooking program.
   ↳ Ignition is not occurring. The glow electrode is functioning properly.

↳ The ignition electronics are defective and do not activate the gas magnetic valve.

INFORMATION

Perform troubleshooting using the Service menu, CO_2 calibration. This is where all requirements and responses are displayed.

13.2 Err 08-02 (no gas 1 - upper burner)

Description This error message only appears if on the first gas request on program start there is no response.

The fault message refers to the upper burner on 20.x pedestal units.

Troubleshooting Further fault message as for error message *No gas* (see „13.1 Err 08-01 (no gas)“, Page 76).

13.3 Err 08-03 (no gas 2 - lower burner)

Description This error message only appears if on the first gas request on program start there is no response.

The error message refers to the lower burner on 20.x pedestal units.

Troubleshooting Further fault message as for error message *No gas* (see „13.1 Err 08-01 (no gas)“, Page 76).

13.4 Err 08-04 (no flame)

Description This error message only appears if on the first gas request on program start the flame was detected (response from ionization electrode present) and then was lost (no response from the ionization electrode).

Troubleshooting Prerequisite and troubleshooting as for error message *No gas* (see „13.1 Err 08-01 (no gas)“, Page 76).

13.5 Err 08-05 (no flame 1 - upper burner)

Description This error message only appears if on the first gas request on program start the flame was detected (response from ionization electrode present) and then was lost (no response from the ionization electrode).

The fault message refers to the upper burner on 20.x pedestal units.

Troubleshooting Prerequisite and troubleshooting as for error message *No gas* (see „13.1 Err 08-01 (no gas)“, Page 76).

13.6 Err 08-06 (no flame 2 - lower burner)

Description This error message only appears if on the first gas request on program start the flame was detected (response from ionization electrode present) and then was lost (no response from the ionization electrode).

The error message refers to the lower burner on 20.x pedestal units.

Troubleshooting Prerequisite and troubleshooting as for error message *No gas* (see „13.1 Err 08-01 (no gas)“, Page 76).

13.7 Err 08-07 (gas fan fault)

Description The upper ignition electronics is not receiving a speed signal from the gas fan.

Troubleshooting

1. Remove the left side wall.

↳ Replace gas fan.

↳ Replace ignition electronics.

13.8 Err 08-08 (fault in gas fan 1 - upper burner)

Description The upper ignition electronics is not receiving a speed signal from the upper gas fan.

Troubleshooting Troubleshoot as for fault message 08-07 (see „13.7 Err 08-07 (gas fan fault)“, Page 78).

13.9 Err 08-09 (fault in gas fan 2 - lower burner)

Description The lower ignition electronics is not receiving a speed signal from the lower gas fan.

Troubleshooting Troubleshoot as for fault message 08-07 (see „13.7 Err 08-07 (gas fan fault)“, Page 78).

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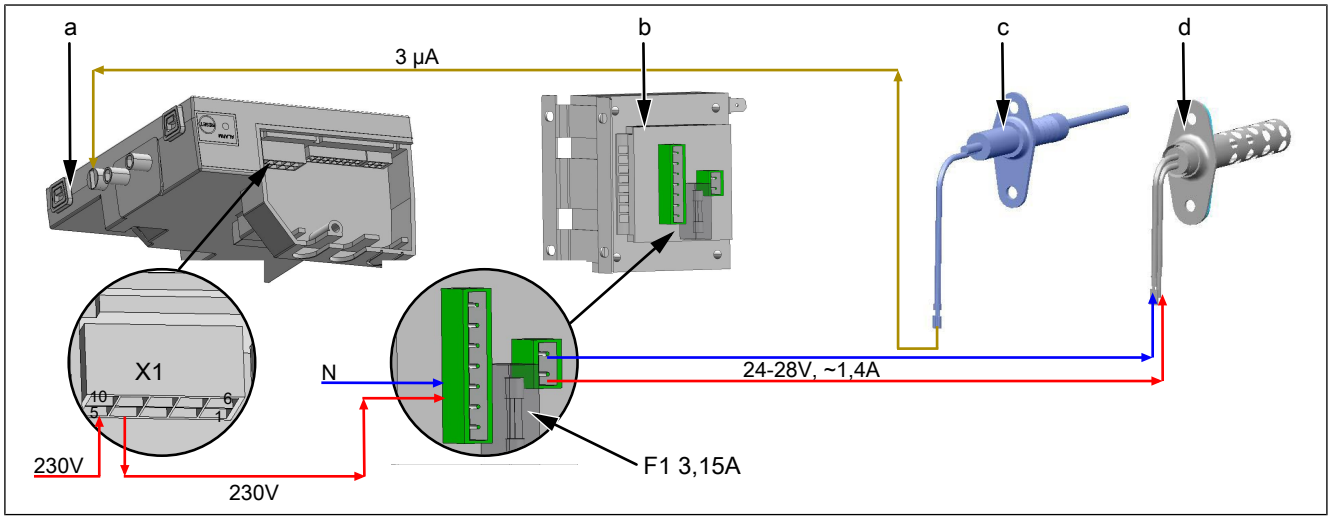
13.10 Checking the electrodes

Preparations
- Remove the left side wall.

Overview



a Ignition electronics A10 / A20
b Transformer T10 / T20
c Ionization electrode (flame monitoring) B100 / B200
d Glow electrode F10 / F20

13.10.1 Glow electrode

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

INFORMATION

The transformer (b) is only supplied with voltage with active gas request. The glow electrode can be checked visually through the sight glass on the gas burner.

Troubleshooting

→ Check output voltage on the transformer.
↳ The voltage is 24 V.
↳ Check the current consumption of the glow electrode. This must be at least 1.4 A.
→ Check fuse F1 on the transformer.
↳ The fuse has blown.
↳ Replace fuse. Repeat test and replace glow electrode if necessary.
→ Check supply voltage at the transformer.
↳ No voltage present = Check neutral conductor. Replace transformer.
↳ Voltage present = Replace ignition electronics.

13.10.2 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 electronics (a) can also be the cause of the error.

13.11 Checking the gas magnetic valve and gas heat exchanger

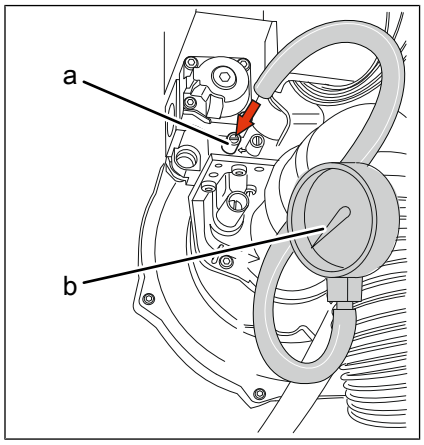


Image: Offset pressure

a Offset pressure measuring point b Pressure measuring device

Preparations

- De-energize appliance.
- Block customer-supplied gas supply.
- Remove the left side wall.
- Unscrew the sealing screw (a) of the pressure measurement nozzle (OUT) on the gas magnetic valve.
- 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.

Checking the magnetic valve

- Switch on customer-supplied gas supply again.
- Switch on appliance and operate under full load.
- Measure gas pressure. When the gas blower start up and the gas magnetic valve is not yet activated, an underpressure of approx. 3 mbar must be set.
- After opening of the gas magnetic valve by the ignition electronics, the underpressure is reduced to < 0.5 mbar.
- If the underpressure should remain unchanged at approx. 3 mbar, the gas magnetic valve or the ignition electronics are defective.

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Leak tightness check gas heat exchanger

- When the gas blower start up and the gas magnetic valve is not yet activated, an underpressure of approx. 3 mbar must be set. If no underpressure should be generated, there is a leak in the gas heat exchanger or in the connection length.

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*1001386 4-0ASAE Henny Penny Corp., Eaton, Ohio 45320, Revised 1/31/2018