BCT Touch Control
Combi Tech Manual

802-658-6600

www.blodgett.com

TABLE OF CONTENTS

Oven Models with the Touch Screen Control

BLCT-6E

BLCT-23E

BLCT-10E

BCT-61E or Gas
BLCT-61E or Gas

BCT-62E or Gas
BLCT-62E or Gas

BCT-101E or Gas
BLCT-101E or Gas

Note:

BCT - has a <u>boiler</u>

BLCT – is a <u>boilerless</u>

All gas ovens are boilerless.

BCT-102E or Gas
BLCT-102E or Gas

BCT-202E or Gas
BLCT-202E or Gas

LOCATING THE SERIAL NUMBER ON THE OVEN

When you order parts or request service for your Blodgett Combi oven, you need both of the oven's Serial Numbers,

You can find the Serial Number and Type information as shown in the illustration below.

USING TOUCH DISPLAY

The Touch display provides a friendly and easy way for you to operate and interact with the BCT and BLCT Combi ovens. You simply use the pads of your fingertips to perform the operations.

Basic Operations

- To select an item, touch the icon.
- To scroll through a list, drag your finger up or down.
- To return to the previous display push the arrow icon  in the upper left corner.
- To change **User Level** press the key icon  a code may be required to access a higher user level.
- To change **Settings** press the cog icon  the availability of settings to view or change will differ from user level to user level.

SETTINGS MENU

Before you can start the maintenance process or change settings, you have to open the Settings Menu.

On the Main Menu, touch the cog icon to enter the Settings menu.

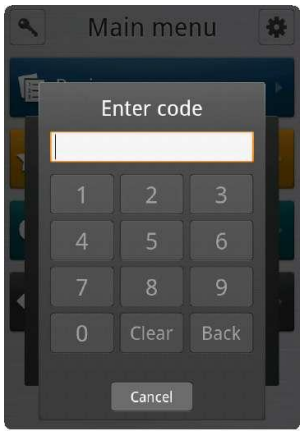
Role	Access rights
User	Access to the User menu
SuperUser	Access to the User and SuperUser menus
Technician	Access to User, SuperUser, and Technician menus

The settings you have access to depend on the role you have been assigned.

SuperUser Code

If start-up permission is set to User, you have to enter the SuperUser code to gain access to the SuperUser menu.

1. On the **Main Menu**, touch the key icon
2. On the **Choose menu**, touch the key icon above **OK** and then enter the code. **876412**



Technician Code

If start-up permission is set to User or SuperUser, you have to enter the Technician code to gain access to the Technician menu.

1. On the **Main Menu**, touch the key icon
2. On the **Choose menu**, touch the key icon above **OK** and then enter the code. **576021**

Note The computer has been thoroughly tested by the manufacturer prior to delivery, and the settings have been carefully reviewed. You should therefore only allow qualified personnel to make changes to the settings. Contact your BLODGETT for more information.

CHANGING SETTINGS ON THE USER MENU

You can change the basic settings from the User Menu.

- On the Settings Menu, touch the User button.

Setting the Oven Light

1. To set oven light, touch **Oven light**.
2. Drag your finger up or down to select **Continuous** or **5 min.**, and then touch **OK**.

Setting the Screen Saver

1. To set the screen saver, touch **Screen saver**.
2. Drag your finger up or down to select the desired setting. Select how much time elapses before the screen saver becomes active. Select **Off** if you do not want the screen saver on.
3. Touch **OK**.

Setting the Language

1. To set the language, touch **Language**.
2. Drag your finger up or down to select the desired language, and then touch **OK**.

Setting the Setup Clock

1. To set the clock, touch **Setup clock**.
2. In the **hour** and **min.** lists drag your finger up or down to select the desired time.
3. In the **day**, **month** and **year** lists drag your finger up or down to select the desired date.
4. Touch **OK**.

Viewing the Software Version

The current software version is displayed on the Software version button.

- To view which software version is installed touch **Software version**.

CHANGING SETTINGS ON THE SUPERUSER DISPLAY

You can access the following areas on the super user display.

- Sounds (See Setting Alarm Sounds on page 11)
- Settings (See Changing Settings on page 13)
- Adjustments (See Adjustments on page 15)
- Calibrate auto humidity
  (See Calibrating CombiOptima Auto Humidity on page 17)
- Calibrate (See Calibrating the Oven Door Sensor on page 18)
- Logs and statistics (See Logs and Statistics on page 19)
- USB system report
- Install new software
- Restart oven

Setting Alarm Sounds

You can have the Visual Cooking oven play a sound (alarm) when certain events occur. You have a number of options when you assign a sound to an event. It is possible to adjust, among other things, the volume and the time elapsed between each reminder.

1. On the **SuperUser** display, touch **Sounds**.

2. To change a sound, touch the event that you want to assign a sound for. The following events are available:

   - Finished
   - Recipe notification
   - Racktimer finish
   - Door open
   - Probe missing
   - Insert product
   - Error
   - Timer start

3. Set the desired sound properties. For each event, you can specify the following properties.

Property	What it does
Sound Set	Used to select the desired sound set for the alarm. The default sound set is Android.
Sound File	Used to select the specific sound from the set. You can then test the sound by touching the Test Sound button.
Repeat	Used to specify for how many times the alarm should be repeated.
Start repeat delay	Used to specify the interval between the first and the second sounding of the alarm.
End repeat delay	Used to specify the interval between the second to last and the final sounding of the alarm.
End repeat delay after	Used to specify the interval between the sounding of the alarm after the first sounding of the alarm.
Start volume	Used to specify the volume at the first sounding of the alarm.
End volume	Used to specify the volume after the final sounding of the alarm.
End volume after	Used to specify how many times the sound should be repeated until it reaches the volume specified in End volume.
Start playback rate	Used to specify the playback frequency of the first sounding of the alarm. The interval ranges from 0.5 to 2.0 with intervals of 0.1.
End playback rate	Used to specify the playback frequency at the final sounding of the alarm.
End playback rate after	Used to specify the playback frequency of the alarm while it is being repeated.
Test sound	Used to test the sound specified in Sound File.

4. Follow the steps above for all events to which you want to assign a sound.

Changing Settings

The following describes the settings you can change via the **SuperUser** Menu.

HACCP Logging

You can specify whether you want the oven to automatically store and save HACCP (Hazard Analysis and Critical Control Points) data about the preparation process. If you enable this option, you can access information about production time and duration as well as production temperature and core temperature. The default setting is **No**.

1. On the SuperUser display, touch **Settings**, and then touch **HACCP logging**.
2. Drag your finger up or down to select **Yes** or **No**, and then touch **OK**.

Menu Start

You use Menu Start to specify which display is the first display the user sees. The default setting is No, which means that the first display is the Menu display. If the setting is Yes, the first display is Recipes.

However, some users only have access to a limited number of functions and it can therefore be useful to specify that a different display is shown.

1. On the SuperUser display, touch **Settings**, and then touch **Menu Start**.
2. Select **No** for Menu as the first display, and **Yes** for Recipes as the first display.

Start Up Permission

You use Start up permission to specify whether the oven starts up in User or SuperUser mode. The default setting is **SuperUser**.

1. On the SuperUser display, touch **Settings**, and then touch **Start up permission**.
2. Drag your finger up or down to select **User** or **SuperUser**, and then touch **OK**.

Changing Settings on the SuperUser Display

Core Temperature

You use the Core temp. setting to specify whether the oven comes with a core temper-ature probe. The default setting is **Yes**.

1. On the SuperUser display, touch **Settings**, and then touch **Core temp**.
2. Drag your finger up or down to select **Yes** or **No**, and then touch **OK**.

Core Temperature Sous Vide

You use the Core temp sous vide setting to specify whether the oven comes with a thin probe that is used specifically for sous vide products. The default setting is **No**.

1. On the SuperUser display, touch **Settings**, and then touch **Core temp sous vide**.
2. Drag your finger up or down to select **Yes** or **No**, and then touch **OK**.

Time Format

You use the Time format setting to specify whether you want the oven to use a 24-hour time format or a 12-hour time format. The default setting is **24**.

1. On the SuperUser display, touch **Settings**, and then touch **Time format**.
2. Drag your finger up or down to select **24** or **12**, and then touch **OK**.

Date Format

You use the Date format setting to specify how you want the date displayed. The default setting is **DD-MM-YYYY**.

1. On the **SuperUser** display, touch **Settings**, and then touch **Date format**.
2. Drag your finger up or down to select **DD-MM-YYYY (Canada)** or **MM-DD-YYYY (USA)** , and then touch **OK**.

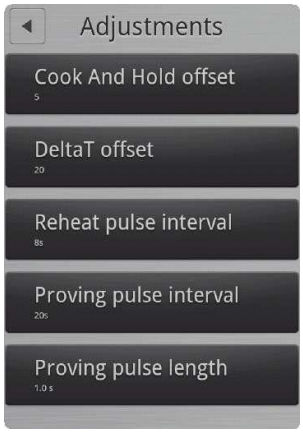
Temperature Unit

You use the Temp. unit setting to specify which temperature unit you want to use. The default setting is **Celsius**.

1. On the SuperUser display, touch **Settings**, and then touch **Temp. unit**.
2. Drag your finger up or down to select **Celsius** or **Fahrenheit**, and then touch **OK**.

Adjustments

Cook and Hold Offset



You use the Cook and hold offset setting to specify the difference between the core temperature and the oven chamber temperature when Cook & Hold cooking mode is used. The default setting is **5**.

1. On the SuperUser display, touch **Adjustments**, and then touch **Cook and hold offset**.
2. Drag your finger up or down to select **3, 5** or **10** and then touch **OK**.

DeltaT Offset

You use the DeltaT offset setting to specify the difference between the core temperature and the oven chamber temperature when DeltaT cooking mode is used. The default setting is **20**.

1. On the SuperUser display, touch **Adjustments**, and then touch **DeltaT offset**.
2. Drag your finger up or down to select a setting between **10** and **70** and then touch **OK**.

Reheat Pulse Interval

You use the Reheat pulse interval setting to specify the interval in seconds between injec-tions of water during the regeneration process. The injection itself lasts 1/10 of a second. The default setting **is 8 seconds.**

1. On the SuperUser display, touch **Adjustments**, and then touch **Reheat pulse interval**.

2. Drag your finger up or down to select **from 4s to 24s in intervals of 2** and then touch **OK**.

Proving Pulse Interval

You use the Proving pulse interval setting to specify the interval in seconds between injec-tions of water during the proving process. The injection itself lasts 1/10 of a second. The default setting is **20 seconds**.

1. On the SuperUser display, touch **Adjustments**, and then touch **Proving pulse interval**.

2. Drag your finger up or down to select from **12s to 44s in intervals of 4,** and then touch **OK**.

Proving Pulse Length

You use the Proving pulse interval setting to specify for how long each injection of water lasts during the proving process. The default setting is **1 second**.

1. On the SuperUser display, touch **Adjustments**, and then touch **Proving pulse length**.

2. Drag your finger up or down to select **the preferred length: 0.6, 1.0 or 2.0 seconds, and then t**ouch **OK**.

Calibrating ClimaOptima Auto Humidity

You use the Calibrate auto humidity setting to calibrate the ClimaOptima humidity sensor. The oven has been calibrated prior to delivery, but we recommend that you calibrate the oven after the oven has been installed in its proper location.

Calibration is Required After the Following Events:

- The CPU board has been replaced.
- The differential sensor has been replaced.
- The fan wheel has been removed and mounted.
- The fan wheel has been replaced.
- The filter housing has been replaced.

WARNING

Warning. Before you begin the calibration process, take the following precautions:

- The oven must be dry
- The oven temperature must not exceed 40°C/104°F.

Do not interrupt the calibration process, and do not open the oven door. If the calibration process is started by mistake, turn off the oven.

Starting the ClimaOptima Calibration Process

1. On the SuperUser display, touch **Calibrate auto humid.** Calibrate ClimaOptima is displayed.

2. Touch **Start** to begin the calibration process.

The following table lists the steps involved in the calibration process.

Step		Time	Temp. (Celsius)	Oven	Exhaust
1	Cal.	Approx. 15 min.	70	Dry	Open
2	Cal.	Approx. 2 min.	70	Dry	Open
3	Cal.	Approx. 2 min.	70	Dry	Closed
4	Cal.	Approx. 8 min.	250	Dry	Open
5	Cal.	Approx. 3 min.	250	Dry	Closed
6	Cal.	Approx. 5 min.	190	Wet	Closed
7	Cooling	Approx. 30 sec.	105		Open
8	Cal.	Approx. 5 min.	130	Wet	Closed
9	Cooling	Approx. 8 min.	45		Open
10	Cal.	Approx. 4 min.	70	Wet	Closed

Calibrating the Oven Door Sensor

You use the Calibrate setting to calibrate the oven door sensor. The oven door sensor has been calibrated prior to delivery, but we recommend that you calibrate the oven after the oven has been installed in its proper location and when the CPU has been replaced.

If you have a Pass-Through oven with both a front and a back door, you have to calibrate both sensors.

The measurement is an internal value that expresses the distance between the magnet and the sensor.

Starting the Oven Door Calibration Process

1. On the SuperUser display, touch **Calibrate front door.**
2. On the **Calibrate front door** display, you can see the status of the door.
3. Close the door so that the door status is **Closed**, and then touch **Press when door closed**.

4. Open the door so that the door is in the first step open position and then touch **Press when door open**.

5. Look at the **Threshold** and **Actual** values.

   •• The **Threshold** value displays the value that marks the shift between status door open and the status door closed.

   •• The **Actual** value displays the actual input from the sensor. The actual value must be greater than **10** when the door is closed.

6. Verify that a **green checkmark** is displayed next to **Press when door closed** and **Press when door open**. If the values are not acceptable, the display shows **Door sensor error**. See Troubleshooting on page 22 for more information.

7. Touch **Done** to end the calibration process.
   If the door has not been calibrated, a warning is displayed asking if you want to exit anyway.

Note If the oven has both a front and a back door, you calibrate the sensor of the back door by touching **Calibrate back door**. You then go through the same steps as described above.

Logs and Statistics

You can use the logs and statistics to see which processes failed and when they failed.

Fault Log

The Fault log displays the latest thirty errors in a list with the most recent error on top.

1. On the SuperUser display, touch **Logs and statistics**, and then touch **Fault log.** The fault log is displayed.

Fault Statistics

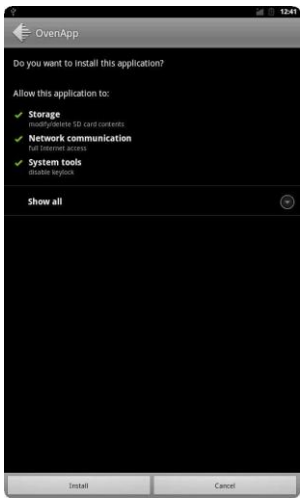
The Fault statistics list displays a list of all error codes, the number of times each error code has been displayed, and the date the error code was last displayed.

1. On the SuperUser display, touch **Logs and statistics**, and then touch **Fault statistics.** The fault statistics list is displayed.
2. To clear the fault statistics list and the fault log list, touch **Reset**, and then touch **Yes**.

Service Counters

The Service Counters list displays how often a component has been activated and for how long.

1. On the SuperUser display, touch **Logs and statistics**, and then touch **Service counters.** The service counter list is displayed.
2. To clear the service counter list, touch **Reset**, and then touch **Yes**.



Install new software

You use the Install new software to upload the latest software version.

1. On the SuperUser display, touch **Install new software**, and then touch **OK**. The OvenApp is displayed.
2. Touch **Install** to install the latest software.

SETTINGS ON THE TECHNICIAN MENU

You can access the following areas on the Technician Menu.

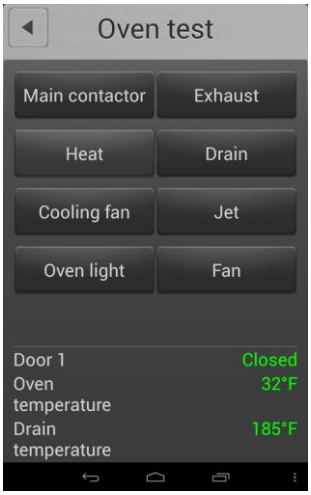
- Test Functions (See Using the Test Functions on page 21)
- Oven setup (See Changing the Oven Set-up on page 26)
- Gas settings (See Gas Settings on page 27)
- Adjustments (See Making Temperature Adjustments on page 29)
- Settings (See Changing Oven Settings on page 30)
- Delime (See Deliming Settings on page 31)
- Bake time correction (See Making Corrections to Bake Time on page 32)
- Middle East (See Specifying Middle East Specific Settings on page 33)
- Demo mode (See Enabling Demo mode on page 33)

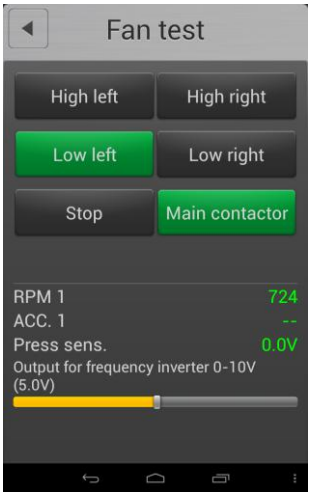
Using the Test Functions

The test functions are useful for fault finding. You can test the following functions.

- Oven
- Fan
- Steam
- Wash
- Miscellaneous
- Main alarm
- Gas

Settings on the Technician Menu





Testing the Oven

1. On the **Technician** display, touch **Test functions**, and then touch **Oven.**
2. **Touch each icon to turn run component and test the functions. The button turns green if the component is active.**
3. **Note: To run the Heat function the Convection Fan must also be turned on.**
4. **At the bottom of the display the status of a number of input functions is displayed.**

Value	Description
Door 1	Displays whether the door is open or closed. Door 2 is only displayed if the oven is a pass-through oven.
Oven temperature	Displays the current temperature in the oven chamber.
Drain temperature	Displays the current temperature in the drain.
Exhaust	Displays whether the exhaust is open or closed.

Testing the Fan

1. On the **Technician** display, touch **Test functions**, and then touch **Fan.**
2. Touch each icon to run component and test its function. The status of each function is shown at the bottom of the display. The icon turns green if the component is active.

Value	Description
RPM	Displays fan revolutions per minute.
ACC.	Displays the acceleration time.
Press sens.	Displays the voltage of the ClimaOptima sensor
Output for frequency inverter 0-10VDC	Controls fan speed. Slide the bar to the left or right to change the fan speed.

Testing the Boiler

1. On the **Technician** display, touch **Test functions**, and then touch **Steam.**
2. **Touch Empty to empty the steam generator, and then ensure that the displayed Level value is Low.**
3. **Touch Fill to fill the steam generator, and then ensure that the displayed Level is High. The Heat function is disabled until level reads High.**
4. ~~**Slide the water level bar to the left or right to set the level, which should be between the Low and High level values. The default value is 75.**~~

Value	Description
Generator temperature	Displays the current temperature of the steam generator.
Level	Displays the water level as High or Low.
Sensor input (NOT used in the USA)	Reads the value from the sensor. The value changes depending on whether the level has been set to high or low.
Set level (50-80) (NOT used in the USA)	Sets the water level. The default value is 75. A low value is normally around 80. The value depends on the quality of the water.

Testing the CombiWash Function

1. On the **Technician** display, touch **Test functions**, and then touch **Wash.**
2. Touch each button in turn, to determine whether the detergent and rinse aid pumps are working properly. The Water button tests whether the solenoid valve is working properly.
   The water pressure must be at least 2.5 bars or **36PSI** when using CombiWash.

Value	Description
Water pressure	Displays **Yes** when the water pressure is ok and **No** when the water pressure is low.

Testing the External Ventilator and the Restart Lamp

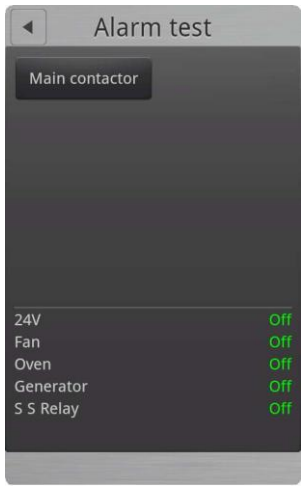
1. On the **Technician** display, touch **Test functions**, and then touch **Miscellaneous.**
2. Touch **External** vent, to test if the external ventilation is working. The outlet is named terminal no.2. When external ventilation is activated, the outlet is active during program performance and until 10 minutes after the program has completed.
3. Touch **Restart** lamp, to test that the restart lamp is active.
4. To test the probes, you can, for example, place each probe in hot water or ice water.

Value	Description
Core 1 temperatures	Displays the temperature of each of the 3 sensors on the probe.
Core 2 temperatures	Displays the temperature of each of the 3 sensors on the probe.
Restart button	Displays the status of the restart button. Should switch from **Off** to **On** when you touch the **Restart** button. The button is located on the backside on the oven. The button is only available on pass-through ovens.
Press. Sens.	Displays the voltage of the pressure sensor. The value is between 0 -5 volts.
IO temp.	Displays the temperature of the IO board. The temperature increases if the cooling fan is broken.
CPU temp.	Displays the temperature of the CPU board. The temperature increases if the cooling fan is broken.

Important note: External ventilation 1 and 2 only control the voltage and therefore they must be connected through an external relay with a maximum voltage of 24V.

Testing the Alarm

This function tests the thermo-switch circuit.



5. On the **Technician** display, touch **Test functions**, and then touch **Main alarm.**

6. Touch **Main contactor.** If all status values are displayed in green and the status is On, it indicates that the alarm is working properly. If a value is displayed in red and the status is Off, a fault has occurred.

Value	Description
24V	Displays whether the alarm is on or off.
Fan	Displays whether the alarm is on or off. (Auto Reset)
Oven	Displays whether the alarm is on or off. (Manual Reset)
Generator	Displays whether the alarm is on or off. (Manual Reset)
S S Relay	Displays whether the alarm is on or off. (Auto Reset)

Testing the Gas Functions

1. On the **Technician** display, touch **Test functions**, and then touch **Gas.**

2. Touch each button in turn to test the gas functions. Note that **BLCT-202** models have both a Heater 1 and a Heater 2 button.

Value	Description
Oven temperature	Displays the current oven temperature.
Gas valve	Displays whether the gas valve is **Off** or **On**.
Pressure switch	Displays whether the pressure switch is **Off** or **On**.
Fan set point	Displays the specified rpm value
Fan speed	Displays the fan revolutions per minute.

Changing the Oven Set-up

Specifying the Heating System

1. On the **Technician** display, touch **Oven setup**, and then touch **Heating.**

2. Slide your finger up or down to select **Electric** or **Gas LPG, GAS LPGB, GAS G20 Pr, GAS G25**, and then touch **OK**. You can see whether the oven is a gas or an electric oven on the serial plate located on the oven exterior on the bottom right side.

Specifying the Oven Type

1. On the **Technician** display, touch **Oven setup**, and then touch **Oven type.**

2. Slide your finger up or down to select the correct oven type: **BPE, CPE,** or **KPE**, and then touch **OK.** You can see the oven type on the serial plate located on the oven exterior on the bottom right side.

Specifying the Oven Size

1. On the **Technician** display, touch **Oven setup**, and then touch **Oven size.**

2. Slide your finger up or down to select the correct oven size, and then touch **OK**. You can see the oven size on the serial plate located on the oven exterior on the bottom right side.

Setting the Wash System

1. On the **Technician** display, touch **Oven setup**, and then touch **Wash system.**

2. Slide your finger up or down to select the correct wash system, **None**, **BlueCycle** or **CombiWash**, and then touch **OK**. BlueCycle is only available on OEM ovens.

Wash system	Description
CombiWash	Automatic cleaning cycle
BlueCycle	Automatic cleaning cycle used for OEM ovens.
None	Used when the oven is cleaned manually

Setting the ClimaOptima function

1. On the **Technician** display, touch **Oven setup**, and then touch **Auto humidity.**
2. Slide your finger up or down to select **Yes** or **No**. Select **Yes** to enable ClimaOptima and **No** to disable ClimaOptima.

Setting Up a Pass-through Oven

Use this function to specify whether the oven is a pass-through oven that can be loaded and unloaded both from the front and the rear side.

1. On the **Technician** display, touch **Oven setup**, and then touch **Pass-through.**
2. Slide your finger up or down to select **Yes** or **No**. Select **Yes** if the oven is a pass-through oven and select **No** if the oven only has 1 door.

Setting the CombiNet Function

Use this function to specify whether the oven can be connected to a network.

1. On the Technician display, touch **Oven setup**, and then touch **Net**.
2. Slide your finger up or down to select **Yes** or **No**. Select **Yes** if the oven is a CombiNet oven and select **No** if the oven cannot be connected to a network.

Gas Settings

1. On the **Technician** display, touch **Gas settings.** You can now change the speed of the gas air control according to the gas type that is being used. For more infor-mation, See Appendix C: Gas Burner Settings on p. 34.
2. **Gas 1:** smaller ovens with one gas fan: 61, 62, 101, 102 and the larger oven with two gas fans: 202
3. **Gas 2:** larger oven with two gas fans (ex model 202)

Settings on the Technician Menu

Setting	Description
Min speed gas 1	Touch **Min speed gas 1**, and the slide your finger up or down to select the preferred value, and then touch **OK**.
Start speed gas 1	Touch **Start speed gas 1**, and the slide your finger up or down to select the preferred value, and then touch **OK**.
Max speed gas 1	Touch **Max speed gas 1**, and the slide your finger up or down to select the preferred value, and then touch **OK**.
Min speed gas 2	Touch **Min speed gas 2**, and the slide your finger up or down to select the preferred value, and then touch **OK**.
Start speed gas 2	Touch **Start speed gas 2**, and the slide your finger up or down to select the preferred value, and then press **OK**.
Max speed gas 2	Touch **Max speed gas 2**, and the slide your finger up or down to select the preferred value, and then touch **OK**.

Making Temperature Adjustments

Use this function to adjust the oven or the core temperature offsets. This is useful when the temperature should correspond with the temperature of a 3rd party probe. The default setting is 0.

Adjust the Oven Temperature

1. On the **Technician** display, touch **Adjustments.**
2. Touch **Oven temp offset**.
3. Slide your finger up or down to select the preferred offset. You can adjust the temperature offset up or down by 10°C (18°F) in 1°C increments which is equal to 1.8ºF at a time.

Adjust the Core Temperature

1. On the **Technician** display, touch **Adjustments.**
2. Touch **Core temp offset.**
3. Slide your finger up or down to select the preferred offset. You can adjust the temperature by 1°C increments which are equal to 1.8ºF at a time.

Adjust the sous vide temperature

1. On the **Technician** display, touch **Adjustments.**
2. Touch **Core temp sous vide offset.**
3. Slide your finger up or down to select the preferred offset. You can adjust the temperature by 1°C increments which are equal to 1.8ºF at a time.

Changing Oven Settings

1. On the **Technician** display, touch **Settings**. You can now change the following settings.

Setting	Description
Custom mode	Settings only applicable to a specific customer.
Soap level monitoring	**Yes/No** setting. Select Yes to display a message when the rinse or soap containers must be changed. Can only be used with standard 5 liter containers.
Drain cooling	**Yes/No** setting. Select **Yes** to automatically cool down the drain when the temperature exceeds 75°C/167°F. Cooling stops at 70°C/158°F. Note that local rules and regulations may vary.
Fan speed alarm	**Yes/No** setting. Select **Yes** if you want the oven to sound an alarm when the fan speed is too slow.
Restart key	**Display/Both/None** setting. This setting only applies to pass-through ovens. Select **Display** if you only want to enable the restart button on the front display. Select **Both** if you want to enable the restart button on the front display as well as the physical restart button on the rear side of the oven. Select **None**, if both buttons should be disabled.
Restart time	Specifies the restart time.
Restart after power failure	**Yes/No** restart setting. Select **Yes** if you want the oven to restart after power failure. The oven restarts at the function it was in at the time of the power failure.

Deliming Settings

The Delime program is used to descale the steam generator. This function is not used if the oven is connected to a water treatment filter and the water has been tested to prove it meets the purity requirements but is still recommended to run every 90 hours.

Starting the Deliming Program

1. On the **Technician** display, touch **Delime**.
2. To start the delime program, touch **Delime Program**.
3. Touch **Delime** to start the program.
4. A message is displayed asking if the oven is empty. Verify that the oven is empty, and then select **Yes** and touch **OK.**
5. The deliming program starts. The display shows the current step of the process.
6. When the deliming process has finished, the display shows a message saying “Descale is done”, and an alarm sounds for 5 seconds. Touch **OK**.

Enabling or Disabling Automatic Deliming

This function is only available for OEM ovens.

1. On the **Technician** display, touch **Delime**.
2. Touch **Auto delime**.
3. Select **Yes or No** and then touch **OK.**

Specifying the Deliming Interval

Use this function to specify how often you want the oven to display a message saying that the oven needs to be delimed.

1. On the **Technician** display, touch **Delime**.
2. Touch **Delime interval**.
3. Slide your finger up or down to select the preferred interval: **30**, **60**, or **90** hours, and then touch **OK**.

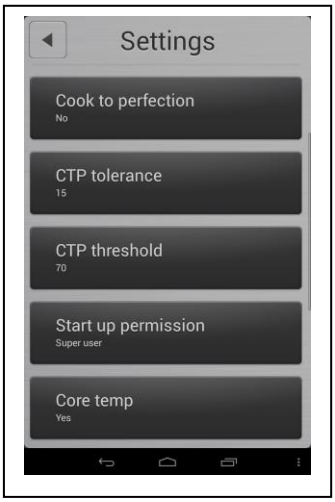
Flushing the descaler

1. On the **Technician** display, touch **Delime.**
2. **Touch Delime Program.**
3. **Touch Delime.**
4. Touch **Delime Flush**.

The flushing program starts, and the displays shows the current step of the process.

Cook to Perfection

Use this function to enable or disable automatic recalculation of the bake time in case of mistakes such during the baking process. Depending on software can also be found under **SuperUser** Settings.



Enabling or Disabling Automatic Cook to Perfection

1. On the **Technician (or SuperUser)** display, touch **Cook to Perfection**.
2. Touch CTP enabled, drag your finger up or down to enable or disable bake time corrections, and then touch OK.

Specifying Cook to Perfection Tolerance

1. On the **Technician** display, touch **Cook to Perfection**.
2. Touch CTP tolerance, drag your finger up or down to select the preferred value and then touch OK.

Specifying Cook to Perfection Threshold

1. On **Technician** (SuperUser Setting) display, touch **Cook to Perfection**.
2. Touch CTP threshold, drag your finger up or down to select the preferred value and then touch OK.

Specifying Middle East Specific Settings

Enabling this setting disables all recipes containing pork.

1. On the **Technician** display, touch **Middle East.**
2. Touch **Yes**, and then touch **OK**.

Enabling Demo mode

When you want to use the oven for demonstration purposes, you should enable demo mode. When demo mode is enabled, the heating elements and the steam generator will not be switched on when the oven is running.

1. On the **Technician** display, touch **Demo Mode.**
2. Touch **Yes**, and then touch **OK**.

TROUBLESHOOTING

If the oven displays an error code, try the solutions below before contacting **Blodgett** technical service. **802-658-6600**

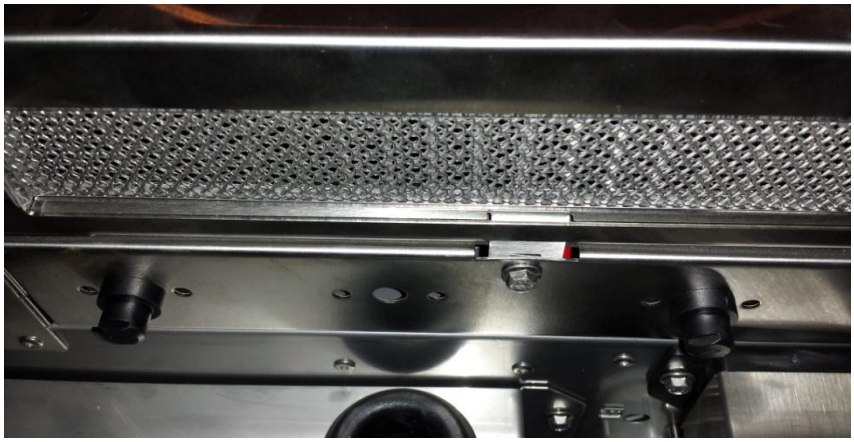
After each step is carried out, be sure to test if the oven is working again.

General Error Codes

Error Code 3		
The bolier high limit has tripped because the temperature has risen above 135°C/275°F. Press the Q2 button under the oven to reconnect.		
Steps	**Check list**	**Solution**
1	Go to the test menu (main alarm) to see if the thermo switch has tripped. Reset the switch.	
2	Test if the solenoid valve, level sensor, water level tube, empty pump, and the solid state relay are working properly.	The level tube may have debris giving a false level reading allowing a dry fire. Clean the tube or replace.
3	Check the cable and the cable plugs	
4	-	Change the Boiler High Limit

Q1 Cavity High Limit- is on the left. Fix problem before resetting. Unscrew and remove the cap. A very small screw driver or paper clip is needed to push up inside to reset. Unplug the oven before resetting.

Q2 Boiler High Limit- is on the right. Fix problem before resetting. Unscrew and remove the cap. A very small screw driver or paper clip is needed to push up inside to reset. Unplug the oven before resetting.



Error Code 4

The overheating switch of the oven chamber is off because the oven chamber temperature has risen above 350°C/662°F. Press the Q1 button (**cavity high limit**) at the bottom of the oven to reset the switch. If the oven comes with two fan motors, there are 2 overheating switches.

Steps	Check list	Solution
1	Go to the test menu (main alarm) to see if the overheating thermo switch has tripped. Reset the switch.	
2	Test whether the fan is running and whether the solid state relay is working properly.	
3	Check the cable and the cable plugs.	
4	-	Change the overheating sensor.

Error Code 5

The fan motor is too hot (above 120°C/248°F). Let the motor cool off for about 20-30 minutes and then try turning it on again.

Steps	Check list	Solution
1	Go to the test menu (main alarm) to see which information is displayed.	
2	Check the cable and the cable plugs.	
3	Check the door sensor since 5VDC may affect the overheating circuit.	
4	Check the fan motor windings.	Change the fan motor.

Probe Chart	
Ohms	**Temp Fº**
100	**32**
108	**68**
109	**75**
112	**86**
120	**125**
123	**140**
130	**175**
136	**200**
138	**212**
146	**250**
157	**300**
168	**356**
175	**392**
186	**450**
197	**500**
208	**550**

Error Code 6

The drain temperature has been above 75°C/167°F for more than 5 minutes. It is normally kept below 60°C/140°F.

Steps	Check list	Solution
1	Check that the water is turned on.	
2	Check that the water supply connected to the oven is cold and not hot.	
3	Check whether the temperature sensor is broken. (Measure the real temperature and compare it to the temperature measured by the test function.)	Check the ohms of the probe and compare them with the temp chart. Change probe if needed.
4	Clean the jet and the solenoid valve at the drain, and then check the temperature again.	

Error Code 7

The temperature sensor (probe) in the oven chamber is broken. The oven cannot be used until the error has been corrected.

Steps	Check list	Solution
1	Go to the test menu (oven) to see which temperature is displayed.	
2	Check the cable and the cable plugs and change the plug if necessary.	
3	Test the sensor using an ohmmeter, and check whether the value matches the value in the table and the current temperature.	If no, change the sensor.
4	Check each lead to ground for shorts	

Error Code 8		
The probe is broken or is not connected properly. The program cannot be used until the error has been corrected.		
Steps	**Check list**	**Solution**
1	Go to the test menu (miscellaneous) to see which information is displayed.	
2	Check the cable and the cable plugs and change the plug if necessary.	
3	Test the sensor using an ohmmeter, and check whether the value matches the value in the table and the current temperature.	If no, change the probe.

Error Code 9		
The temperature sensor (probe) in the boiler is not working properly. Programs using the steam cannot be used until the error has been corrected.		
Steps	**Check list**	**Solution**
1	Go to the test menu (steam generator) to see which information is displayed.	
2	Check the cable and the cable plugs and change the plug if necessary.	
3	Test the sensor using an ohmmeter, and check whether the value matches the value in the table and the current temperature.	If no, change the probe.
4	Check each lead to ground for shorts	

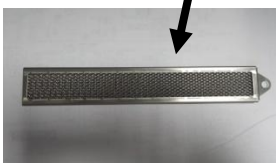
Error Code 10		
The temperature sensor (probe) in the drain is broken. The oven can still be used, but the error has to be corrected as soon as possible.		
Steps	**Check list**	**Solution**
1	Go to the test menu (oven) to see which temperature is displayed.	
2	Check the cable and the cable plugs and change the plug if necessary.	
3	Test the sensor using an ohmmeter, and check whether the value matches the value in the table and the current temperature.	If no, change the probe.
4	Check each lead to ground for shorts	

Error Code 11		
There's not enough water. The steam generator was not filled to high level water within 2 minutes.		
Steps	**Check list**	**Solution**
1	Go to the test menu (steam generator) to see if the water level is correct. Check water level in front of sensor. Check that water is turned on. The water pressure should be at least 30psi	
2	Test whether the solenoid valve and the level sensor are working (is 24VAC measured at the coil when the fill valve is activated?)	Clean the solenoid valve.
3	Check water level tube for debris. Water could be too pure to sense.	

Error Code 12		
The heat sink for the solid state relay is too hot because the temperature has risen above 120°C/248°F. Let it cool off for 20-30 minutes and then retry.		
Steps	**Check list**	**Solution**
1	Go to the test menu (Main Alarm) to see which information is displayed.	
2	Check the cable and the cable plugs, and then tighten the solid state relay.	
3	-	Clean the intake filter.
4	-	Change the overheating sensor.

Error Code 13		
The temperature of the top heating element of the steam generator has risen above 130°C/266°F.		
Steps	**Check list**	**Solution**
1	Go to the test menu (steam generator) to see which information the computer displays.	The steam generator may have to be descaled.
2	Check the cable and the cable plugs.	Change the plug if necessary.
3	Test the sensor using an ohmmeter, and check whether the value matches the value in the table.	If no, change the sensor.
4	A dry fire occurred because the sensor gave a false water level reading.	Water level tube may be dirty.

1.



4.

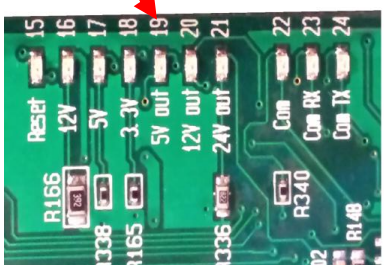
5 & 6

Error Code 14

The rotational speed of the fan is too slow.

Steps	Check list	Solution
1	Verify that the intake filter is not blocked.	Clean if necessary.
2	Go to the test menu and test if the fan motor is running.	
3	Check that the fan wheel is not blocked.	
4	Check that the main contactor can be activated. (Activate the main contactor in the fan test menu. Verify that there is 24VAC between A1 and A2 on the main contactor.)	If 24VAC is measured, but the main contactor is not activated, change the main contactor.
5	Verify that the frequency inverter receives 230VAC on L/R and N/S 120VAC for Gas	
6	Is the red LED in the frequency inverter flashing? Check how often and check the meaning of the flashes printed on the side.	Change the frequency inverter. (Contact Blodgett service)
7	Verify that the rotation sensor measures 5VDC. (Measure 5VDC between the black and the red cable on the rotation sensor.)	If you can measure 5VDC, but there is no signal from the sensor, change the sensor.
8	Verify that the 5VDC diode on the IO board lights up.	
9	Disconnect the J1 plug. If the 5VDC diode emits light, there is a short circuit in the wiring.	
10	Does the diode does not light up?	Change the IO board.

8.



Error Code 15		
The CPU board temperature has risen above 60°C/140°F.		
Steps	**Check list**	**Solution**
1	Go to the test menu to see which infor-mation the computer displays.	
2	Check whether the ambient temperature is too high.	Move the oven if necessary, and clean the intake filter.
3	Check whether the test function temper-ature matches the current temperature.	Move the oven or the heat source.
4	Check the operation of the cooling fans and that the intake filter is clear.	

Error Code 16		
The IO board temperature has risen above 60°C/140°F.		
Steps	**Check list**	**Solution**
1	Go to the test menu to see which information the computer displays.	
2	Check whether the ambient temperature is too high.	Move the oven if necessary, and clean the intake filter.
3	Check whether the test function temper-ature matches the current temperature.	Move the oven or the heat source.
4	Test the operation of the cooling fans and that the intake filter is clear.	

Error Code 19		
An internal error occurred. The oven server process is not responding. Oven server process failed.		
Steps	**Check list**	**Solution**
1	-	Restart the oven.

Error Code 20		
An internal error occurred. A communication failure occurred between the computer and the IO board. The IO board software is not responding. Wrong software version on the IO board.		
Steps	**Check list**	**Solution**
1	Check the wire connection between the IO board and the CPU board.	Change the IO board or the CPU board if necessary.

Note: Check to make sure the control filter screen is in place. Failure to have this in place can result in debris coming in contact with the electrical connections and may void warranty.

Error Code 21		
Invalid program. The program you have chosen is not supported by the oven.		
Steps	**Check list**	**Solution**
1	Go to the USB key function.	Download the program combination that matches this oven type.

Error Code 22		
Program interrupted. There was a power outage while the program was running. The power outage lasted for so long that the program cannot be restarted.		
Steps	**Check list**	**Solution**
1	-	The oven can be set up to restart after a power outage. Contact service personnel.

Error Code 23		
The oven is too hot for CombiWash to start.		
Steps	**Check list**	**Solution**
1	Cool down the oven and restart.	
2	Go to the test menu to see which information the computer displays.	
3	Check that the temperature in the oven chamber matches the temperature that is displayed.	Cool down the oven and restart CombiWash.
4	Test the temperature sensor using an ohmmeter, and check whether the value matches the value in the table.	Change the sensor.

Error Code 24		
Drain blocked. The steam generator could not be emptied during flushing. The level sensor reports high water level when the generator is emptied.		
Steps	**Check list**	**Solution**
1	Go to the test menu to see which information the computer displays.	
2	Check that there is no scale in the steam generator and no foreign objects in the empty pump. The empty pump may be broken. Check if the generator can be emptied now.	
3	Clean and descale the water level tube, and test it using the test menu, and then check if the generator can be emptied now.	Tube may have debris in front of the water level sensor giving a false reading of full when it is really empty.

Error Code 25		
The ClimaOptima function has not been calibrated.		
Steps	**Check list**	**Solution**
1	Go to the service menu to calibrate.	Restart the calibration process. The oven must be cold.

Error Code 26		
The ClimaOptima sensor signals outside of the active area.		
Steps	**Check list**	**Solution**
1	Go to the test menu to see which information the computer displays.	
2	Check the cable and the cable plugs and change the plug if necessary, and then test if the sensor is working.	
3	Check the ClimaOptima sensor in the test menu, and replace it if necessary, and then test if the sensor is working.	

Error Code 27		
ClimaOptima calibration could not be completed. A step took too long.		
Steps	**Check list**	**Solution**
1	Go to the test menu to see which information the computer displays.	
2	The jet may be clogged & check that the steam jet solenoid is working properly.	Restart the calibration process. The oven must be cold.

Error Code 28		
An invalid combination of the main alarm has been detected. The main alarm is not displayed correctly.		
Steps	**Check list**	**Solution**
1	Go to the test menu to see which information the computer displays.	
2	Check the cable and the cable plugs.	Change the plug if necessary, and then test if the alarm is working.
3	-	Change the sensor.

Error Code 29		
The door sensor is not working properly. Note the oven does not stop working when the door is opened. The oven can be used.		
Steps	**Check list**	**Solution**
1	Go to the test menu to see which information the computer displays.	Recalibrate the door.
2	Check the cable and the cable plugs, and the test if the sensor is working.	
3	Check the magnet on the drip slide.	Change the drip slide.
4	-	If the magnet works, change the door sensor, and remember to calibrate the door afterwards.

Error Code 34		
The water pressure is too low.		
Steps	**Check list**	**Solution**
1	Check that the water is turned on.	Clean the solenoid valve filter.
2	Check that the water pressure is at least 36 psi.	Change the sensor.

Error Code 37		
While running the CombiWash program, the oven could not cool down to set point.		
Steps	**Check list**	**Solution**
1	Check that the jet in the oven chamber is not clogged and working.	Run CombiWash step 0 before using the oven.

Error Code 38		
CombiWash was interrupted while there was still detergent in the oven chamber.		
Steps	**Check list**	**Solution**
1	-	Run CombiWash step 0 before using the oven.

Error Code 39		
There is insufficient memory to run the selected operation.		
Steps	**Check list**	**Solution**
1	-	If possible, delete some HACCP files.

Error Code 40		
The IO board temperature has been too high.		
Steps	**Check list**	**Solution**
1	-	Clean the filter at the bottom of the panel. Note that this is a warning. If the temperature continues to rise, the oven will stop and display error code 16.

Error Code 41		
The steam generator temperature sensor is too hot. The main contactor has been disconnected.		
Steps	**Check list**	**Solution**
1	-	Contact HOUNÖ service.

Error Code 42		
A software defect has been detected during operation. The steam generator was activated by mistake.		
Steps	**Check list**	**Solution**
1	-	Contact HOUNÖ service.

Error Code 45		
There is no 24VAC. Main contactor output is not working.		
Steps	**Check list**	**Solution**
1	Check fuse F1.	

Gas Error Codes

The following error codes are gas oven specific.

Error 50/60		
Pressure switch error. The pressure switch is active at start (timeout 20 sec.)		
Steps	**Check list**	**Solution**
1	Go to the test menu, and adjust the pressure switch. (See Appendix D: Touch controller “XPE” – Set-up and Adjustment on page 59). Verify that it the pressure switch is working properly.	Change the pressure switch.

Error 51/61		
Pressure switch error. The pressure switch is not active when the gas fan is running.		
Steps	**Check list**	**Solution**
1	Go to test function. Check that the relay K16 is working properly.	
2	Adjust the pressure switch. (See Appendix D: Touch controller “XPE” – Set-up and Adjustment on page 59). Verify that it the pressure switch is working properly.	Change the pressure switch.

Error 52/62		
Gas valve failure. The gas valve does not open after 5 startup attempts (timeout 20 sec.)		
Steps	**Check list**	**Solution**
1	Go to the test menu. Perform the startup sequence.	
2	Check that the controller receives feedback from the pressure switch and the gas valve.	If there is no feedback, perform the startup sequence again.
3	Check that the relays are working properly.	Change the relays.
4	Check the Dungs control box. (See Appendix I: Identifying Gas-air Units and Coil on page 66)	

Error 53/63
Fan RPM. The pressure switch is active at start (timeout 20 sec.)

Error 54/64		
Fan error. The gas fan RPM before ignition is not correct.		
Steps	**Check list**	**Solution**
1	Go to the test menu. Test the gas fan. Verify that the RPMs are registered.	If no, test the gas fan. Verify that there is power input.
2	Test the gas fan: Set the speed at 2000 RPM and verify that the actual RPM reaches 2000 RPM.	Remove the low voltage plugs from the IO board J18, J19 and J20. The fan should run at full speed. If no RPMs are registered, change the gas fan.
3	Verify that the main contactor is activated.	Ensure that the main contactor is activated, and then go to the test menu and test the fan again.
4	Check the fuses and the wires.	

Error 55/65		
Ignition failure. Warning only: did not ignite at first try.		
Steps	**Check list**	**Solution**
1	Check, clean, or change the electrode or burner.	
2	Go to test menu. Perform the start-up sequence.	

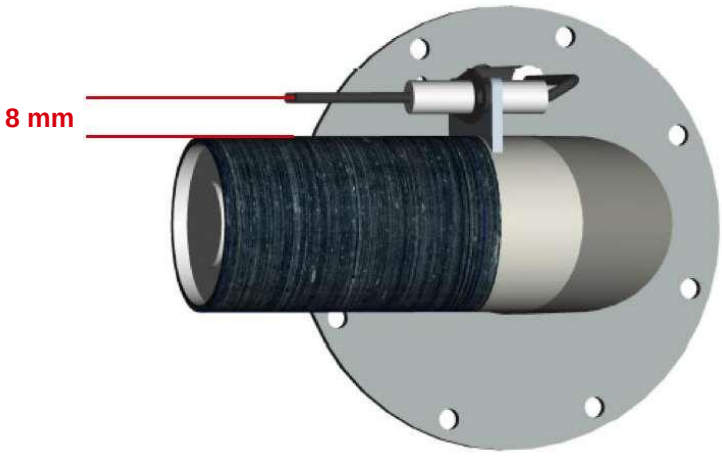
Error 56/66		
Gas failure. No flame has been detected after 5 attempts.		
Steps	**Check list**	**Solution**
1	Check if gas supply is available.	
2	Check, clean, or change the electrode or burner.	
3	Go to the test function. Perform the startup sequence.	

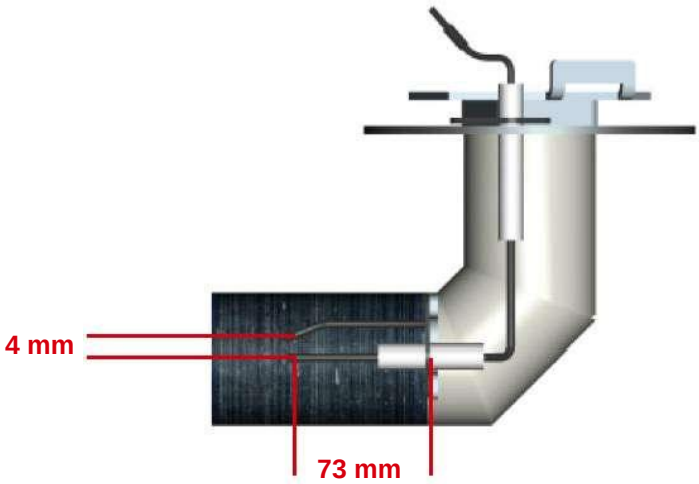
Error 57/67		
STOP during operation. Warning only: gas stop during operation.		
Steps	**Check list**	**Solution**
1	Check, clean, or change the electrode or burner.	
2	Go to the test function. Perform the startup sequence.	

APPENDIX A: BURNER ELECTRODE ADJUSTMENTS

BLCM, BLCP, BLCT 61

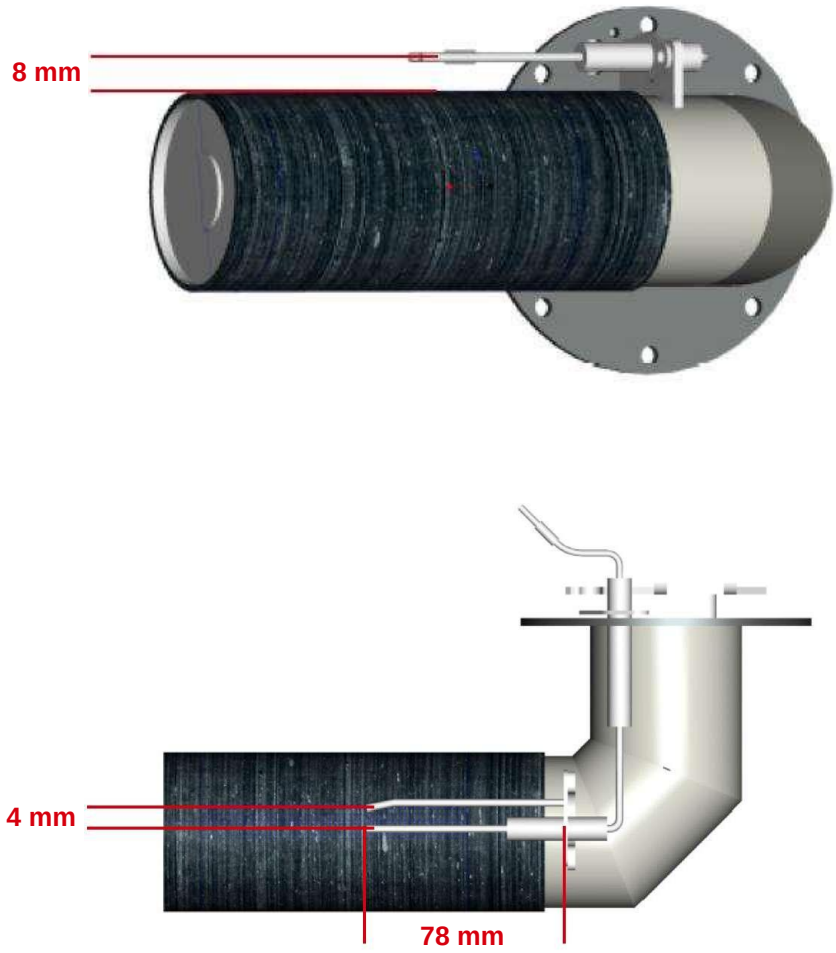
13kW





BLCM, BLCP, BLCT 101, 102, 202

21 kW, 24kW, 48kW



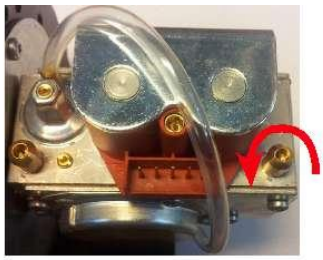
APPENDIX B:
MEASURING GAS PRESSURE

1. Prepare gas-pressure meter.
2. Open the gas-test nipple using a flat-headed screwdriver.
3. Turn the screw counter-clockwise.

WARNING

When the gas-test nipple is opened, gas will escape. Be prepared and have the gas-pressure meter ready before opening the test nipple.

4. Measure static the gas pressure.
5. Switch on unit and measure the dynamic gas pressure. The dynamic gas pressure must be between the following values
   - “1.8-2.5 kPa” - “18 - 25 mbar” “7-10 W.C.” for natural gas.
   - “3-5.7 kPa” – “30 - 57 mbar” “11-14 W.C.” for LPG.
6. **Note:** Local regulations might state otherwise. Please comply with local rules and regulations.
7. Close the gas-test nipple using a flat-headed screwdriver.
8. Turn the screw clockwise.



WARNING

Check all gas lines for gas leakages using an appropriate leakage tester.

APPENDIX C: GAS BURNER SETTINGS

When you adjust the gas burner, the tolerances are as follows:
Max. rpm setting: ±0.2%
Min. rpm setting: +/-0.2%

Adjustment "CE" gas ovens (burner 1)														
Gas Oven Adjustment Settings				Hot Air Burner 1 "Bottom"										
				O_2%, CO_2% "MAX" RPM				O_2%, CO_2% "MIN", RPM			RPM Adjustment normal operation			Air Proving Switch - ON
Type of Gas	Heat Power kW	Ovn Types	Gas inlet Pressure	O_2%	CO_2%	RPM	kW	O_2%	CO_2%	RPM	"u16" Min	"u16" Start	"u16" Max	OFF -> ON
Nature Gas (G20)	13 kW	1.06/5	18-25 mbar	4,1%	9,4%	6700	13 kW	4,6%	9,1%	4800	4800	4800	6700	3100 ±100
	21 kW	1.10/8	18-25 mbar	4,3%	9,3%	6300	21 kW	4,1%	9,4%	2700	2700	3900	6300	2300 ±100
	42 kW	1.20/15	18-25 mbar	4,3%	9,3%	6300	21 kW	4,1%	9,4%	2700	2700	3900	6300	2300 ±100
	21 kW	2.06	18-25 mbar	4,1%	9,4%	6200	21 kW	4,1%	9,4%	3800	3800	3900	6200	2800 ±100
	24 kW	2.10	18-25 mbar	4,1%	9,4%	6600	24 kW	4,5%	9,2%	2800	2800	3600	6600	2300 ±100
	48 kW	2.20	18-25 mbar	4,1%	9,4%	6600	24 kW	4,5%	9,2%	2800	2800	3600	6600	2300 ±100
Nature Gas (G25)	13 kW	1.06/5	18-25 mbar	4,0%	9,3%	6800	13 kW	4,3%	9,1%	4800	4800	4800	6800	3100 ±100
	21 kW	1.10/8	18-25 mbar	4,0%	9,3%	6400	21 kW	4,0%	9,3%	2800	2800	3900	6400	2300 ±100
	42 kW	1.20/15	18-25 mbar	4,0%	9,3%	6400	21 kW	4,0%	9,3%	2800	2800	3900	6400	2300 ±100
	21 kW	2.06	18-25 mbar	3,8%	9,4%	6200	21 kW	3,8%	9,4%	3800	3800	3900	6200	2800 ±100
	24 kW	2.10	18-25 mbar	3,8%	9,4%	6600	24 kW	4,1%	9,2%	2800	2800	3600	6600	2300 ±100
	48 kW	2.20	18-25 mbar	3,8%	9,4%	6600	24 kW	4,1%	9,2%	2800	2800	3600	6600	2300 ±100
LPG 3BP (G30/G31)	13 kW	1.06/5	28-57 mbar	4,5%	11,0%	6500	13 kW	5,1%	10,6%	4800	4800	4800	6500	3100 ±100
	21 kW	1.10/8	28-57 mbar	4,5%	11,0%	6000	21 kW	4,5%	11,0%	2600	2600	4300	6000	2300 ±100
	42 kW	1.20/15	28-57 mbar	4,5%	11,0%	6000	21 kW	4,5%	11,0%	2600	2600	4300	6000	2300 ±100
	21 kW	2.06	28-57 mbar	4,5%	11,0%	6200	21 kW	4,5%	11,0%	3800	3800	3900	6200	2800 ±100
	24 kW	2.10	28-57 mbar	4,0%	11,4%	6200	24 kW	4,7%	10,9%	2800	2800	3600	6200	2300 ±100
	48 kW	2.20	28-57 mbar	4,0%	11,4%	6200	24 kW	4,7%	10,9%	2800	2800	3600	6200	2300 ±100
LPG 3P (G31)	13 kW	1.06/5	30-50 mbar	5,2%	10,3%	6800	13 kW	5,2%	10,3%	4800	4800	4800	6800	3100 ±100
	21 kW	1.10/8	30-50 mbar	5,4%	10,2%	6300	21 kW	5,4%	10,2%	3900	3000	3900	6300	2300 ±100
	42 kW	1.20/15	30-50 mbar	5,4%	10,2%	6300	21 kW	5,4%	10,2%	3900	3000	3900	6300	2300 ±100
	21 kW	2.06	30-50 mbar	5,4%	10,2%	6400	21 kW	5,4%	10,2%	3800	3800	3900	6400	2800 ±100
	24 kW	2.10	30-50 mbar	5,1%	10,4%	6600	24 kW	5,8%	9,9%	2900	2900	3600	6600	2300 ±100
	48 kW	2.20	30-50 mbar	5,1%	10,4%	6600	24 kW	5,8%	9,9%	2900	2900	3600	6600	2300 ±100

Adjustment "ETL" gas ovens (burner 1)

Houno Gas Oven Adjustment Settings				Hot Air Burner 1 "Bottom"										
				O_2%, CO_2% "MAX" RPM				O_2%, CO_2% "MIN", RPM			RPM Adjustement normal operation			Air Proving Switch - ON
Type of Gas	Heat Power BTU/hr	Ovn Types	Gas inlet Pressure	O_2%	CO_2%	RPM	BTU/hr	O_2%	CO_2%	RPM	"u16" Min	"u16" Start	"u16" Max	OFF -> ON
NAT (G20)	58000	1.06/5	3,2-8,0 inH_2O	4,1%	9,4%	6700	58000	4,6%	9,1%	4800	4800	4800	6700	3100 ±100
	87000	1.10/8	3,2-8,0 inH_2O	4,3%	9,3%	6300	87000	4,1%	9,4%	2700	2700	3900	6300	2300 ±100
	174000	1.20/15	3,2-8,0 inH_2O	4,3%	9,3%	6300	87000	4,1%	9,4%	2700	2700	3900	6300	2300 ±100
	81800	2.06	3,2-8,0 inH_2O	4,1%	9,4%	6200	95500	4,1%	9,4%	3800	3800	3900	6200	2800 ±100
	95500	2.10	3,2-8,0 inH_2O	4,1%	9,4%	6600	95500	4,5%	9,2%	2800	2800	3600	6600	2300 ±100
	190000	2.20	3,2-8,0 inH_2O	4,1%	9,4%	6600	95500	4,5%	9,2%	2800	2800	3600	6600	2300 ±100
LP (G31)	60000	1.06/5	5,2-14 inH_2O	5,2%	10,3%	6800	60000	5,2%	10,3%	4800	4800	4800	6800	3100 ±100
	87000	1.10/8	5,2-14 inH_2O	5,4%	10,2%	6300	87000	5,4%	10,2%	3900	3000	3900	6300	2300 ±100
	174000	1.20/15	5,2-14 inH_2O	5,4%	10,2%	6300	87000	5,4%	10,2%	3900	3000	3900	6300	2300 ±100
	81800	2.06	5,2-14 inH_2O	5,4%	10,2%	6400	95500	5,4%	10,2%	3800	3800	3900	6400	2800 ±100
	95500	2.10	5,2-14 inH_2O	5,1%	10,4%	6600	95500	5,8%	9,9%	2900	2900	3600	6600	2300 ±100
	190000	2.20	5,2-14 inH_2O	5,1%	10,4%	6600	95500	5,8%	9,9%	2900	2900	3600	6600	2300 ±100

Adjustment "CE" gas ovens (burner 2)

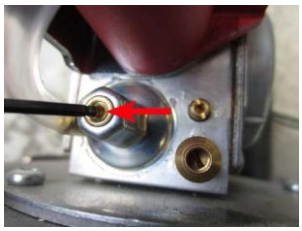
Houno Gas Oven Adjustment Settings				Hot Air Burner 2 "Top"										
				O_2%, CO_2% "MAX" RPM				O_2%, CO_2% "MIN", RPM			RPM Adjustement normal operation			Air Proving Switch - ON
Type of Gas	Heat Power kW	Ovn Types	Gas inlet Pressure	O_2%	CO_2%	RPM	kW	O_2%	CO_2%	RPM	"u17" Min	"u17" Start	"u17" Max	OFF -> ON
Nature Gas (G20)	13 kW	1.06/5	18-25 mbar											
	21 kW	1.10/8	18-25 mbar											
	42 kW	1.20/15	18-25 mbar	4,3%	9,3%	6300	21 kW	4,1%	9,4%	2700	2700	3900	6300	2300 ±100
	21 kW	2.06	18-25 mbar											
	24 kW	2.10	18-25 mbar											
	48 kW	2.20	18-25 mbar	4,1%	9,4%	6600	24 kW	4,5%	9,2%	2800	2800	3600	6600	2300 ±100
Nature Gas (G25)	13 kW	1.06/5	18-25 mbar											
	21 kW	1.10/8	18-25 mbar											
	42 kW	1.20/15	18-25 mbar	4,00%	9,3%	6400	21 kW	4,00%	9,3%	3900	2800	3900	6400	2300 ±100
	21 kW	2.06	18-25 mbar											
	24 kW	2.10	18-25 mbar											
	48 kW	2.20	18-25 mbar	3,80%	9,40%	6600	24 kW	4,10%	9,20%	2800	2800	3300	6600	2300 ±100
LPG 3BP (G30/G31)	13 kW	1.06/5	28-57 mbar											
	21 kW	1.10/8	28-57 mbar											
	42 kW	1.20/15	28-57 mbar	4,5%	11,0%	6000	21 kW	4,5%	11,0%	2600	2600	4300	6000	2300 ±100
	21 kW	2.06	28-57 mbar											
	24 kW	2.10	28-57 mbar											
	48 kW	2.20	28-57 mbar	4,0%	11,4%	6200	24 kW	4,7%	10,9%	2800	2800	3300	6200	2300 ±100
LPG 3P (G31)	13 kW	1.06/5	30-50 mbar											
	21 kW	1.10/8	30-50 mbar											
	42 kW	1.20/15	30-50 mbar	5,4%	10,2%	6300	21 kW	5,4%	10,2%	3900	3000	3900	6300	2300 ±100
	21 kW	2.06	30-50 mbar											
	24 kW	2.10	30-50 mbar											
	48 kW	2.20	30-50 mbar	5,1%	10,4%	6600	24 kW	5,8%	9,9%	2900	2900	3300	6600	2300 ±100

Adjustment "ETL" gas ovens (burner 2)

Houno Gas Oven Adjustment Settings				Hot Air Burner 2 "Top"										
				O_2%, CO_2% "MAX" RPM				O_2%, CO_2% "MIN", RPM			RPM Adjustement normal operation			Air Proving Switch - ON
Type of Gas	Heat Power BTU/hr	Ovn Types	Gas inlet Pressure	O_2%	CO_2%	RPM	BTU/hr	O_2%	CO_2%	RPM	"u17" Min	"u17" Start	"u17" Max	OFF -> ON
NAT (G20)	58000	1.06/5	3,2-8,0 inH_2O											
	87000	1.10/8	3,2-8,0 inH_2O											
	174000	1.20/15	3,2-8,0 inH_2O	4,3%	9,3%	6300	87000	4,1%	9,4%	2700	2700	3900	6300	2300 ±100
	81800	2.06	3,2-8,0 inH_2O											
	95500	2.10	3,2-8,0 inH_2O											
	190000	2.20	3,2-8,0 inH_2O	4,1%	9,4%	6600	95500	4,5%	9,2%	2800	2800	3600	6600	2300 ±100
LP (G31)	60000	1.06/5	5,2-14 inH_2O											
	87000	1.10/8	5,2-14 inH_2O											
	174000	1.20/15	5,2-14 inH_2O	5,4%	10,2%	6300	87000	5,4%	10,2%	3900	3000	3900	6300	2300 ±100
	81800	2.06	5,2-14 inH_2O											
	95500	2.10	5,2-14 inH_2O											
	190000	2.20	5,2-14 inH_2O	5,1%	10,4%	6600	95500	5,8%	9,9%	2900	2900	3600	6600	2300 ±100

APPENDIX D:
TOUCH CONTROLLER “XPE”
– SET-UP AND ADJUSTMENT

Converting A Gas Oven to Another Gas Type

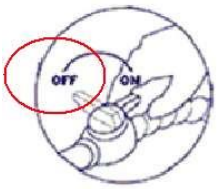


When you convert to another gas type, never adjust the offset governor “Minimum”.

1. Make the following adjustment on the “Max rpm” screw
   - From G20 --> G25, 1 turn counter-clockwise.
   - From G20 --> LGP, 2 turns clockwise
   - From G25 --> G20, 1 turn clockwise.
   - From G25 --> LGP, 3 turns clockwise.
   - From LPG --> G20, 2 turns counter-clockwise.
   - From LPG --> G25, 3 turns counter-clockwise.
2. Set up the controller for the new gas type.
3. Verify or change if necessary the preset rpm in the controller.
4. Perform flue gas analysis or adjustments. For more information, see the instal-lation manual.

APPENDIX E:
GAS PRESSURE-SWITCH ADJUSTMENT

1. Turn off the gas inlet.



> **WARNING** If the gas to the oven is not turned off before the pressure switch is adjusted, the oven may ignite during the adjusting process creating high CO values. This can cause fatal poisoning.

2. On the **Technician** menu, touch **Test** functions, and then touch **Gas**.

3. Touch **Main contactor**, and then touch the **Fan** button next to the **Main contactor** button.
4. Touch **RPM**, and then select **1000 RPM**.
5. Touch **Gas Control**, and then wait for 10 seconds.
6. Touch the **Fan** button next to **Pres. Switch**.
7. Touch the **RPM** button and slowly increase the RPM. Register at which **Actual RPM** value, the pressure switch turns **ON**.

8. The Actual RPM value must match the values in the following table. If the value does not match, you must adjust the pressure switch.

Pressure-switch table OFF->ON		
Oven types	**RPM**	**Tolerance**
1.06 = 61	3100	±100
1.10 = 101	2300	±100
1.20	2300	±100
2.06 = 62	2800	±100
2.10 = 102	2300	±100
2.20 = 202	2300	±100

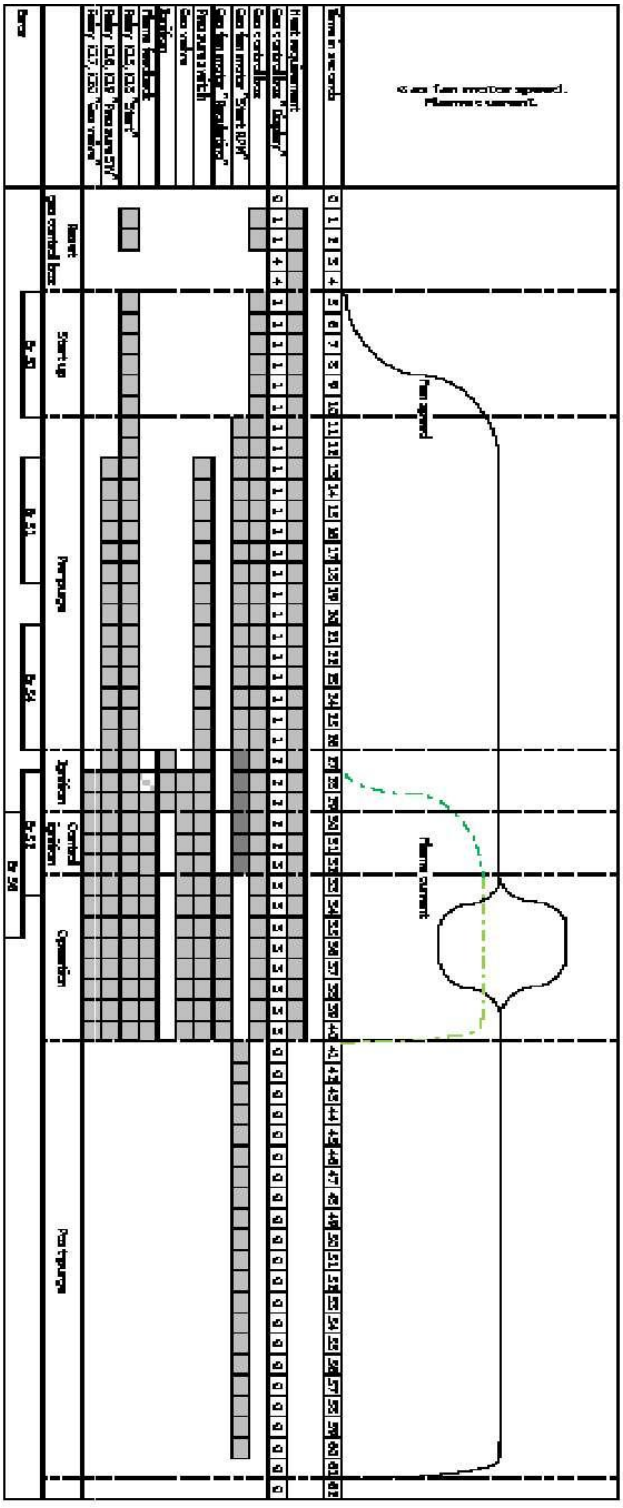
9. If the registered value is lower than the value in the table, you have to adjust the pressure switch clockwise. ½ turn adjusts approximately 150 RPM.

10. If the registered value is higher than the value in the table, you have to adjust the pressure switch counter-clockwise. ½ turn adjusts approximately 150 RPM.

11. When you have completed the adjustment, turn the controller OFF and ON.

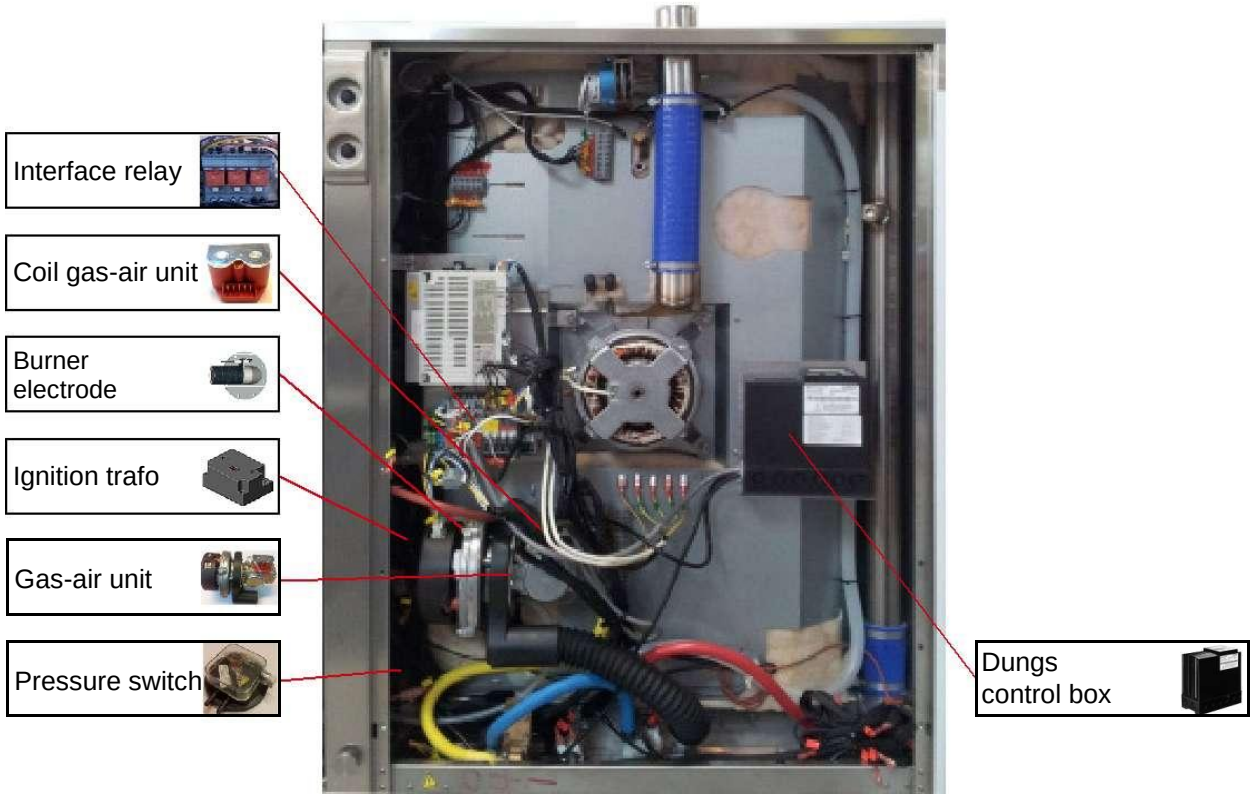
12. Turn on the gas inlet.

APPENDIX F:
GAS SEQUENCE DIAGRAM

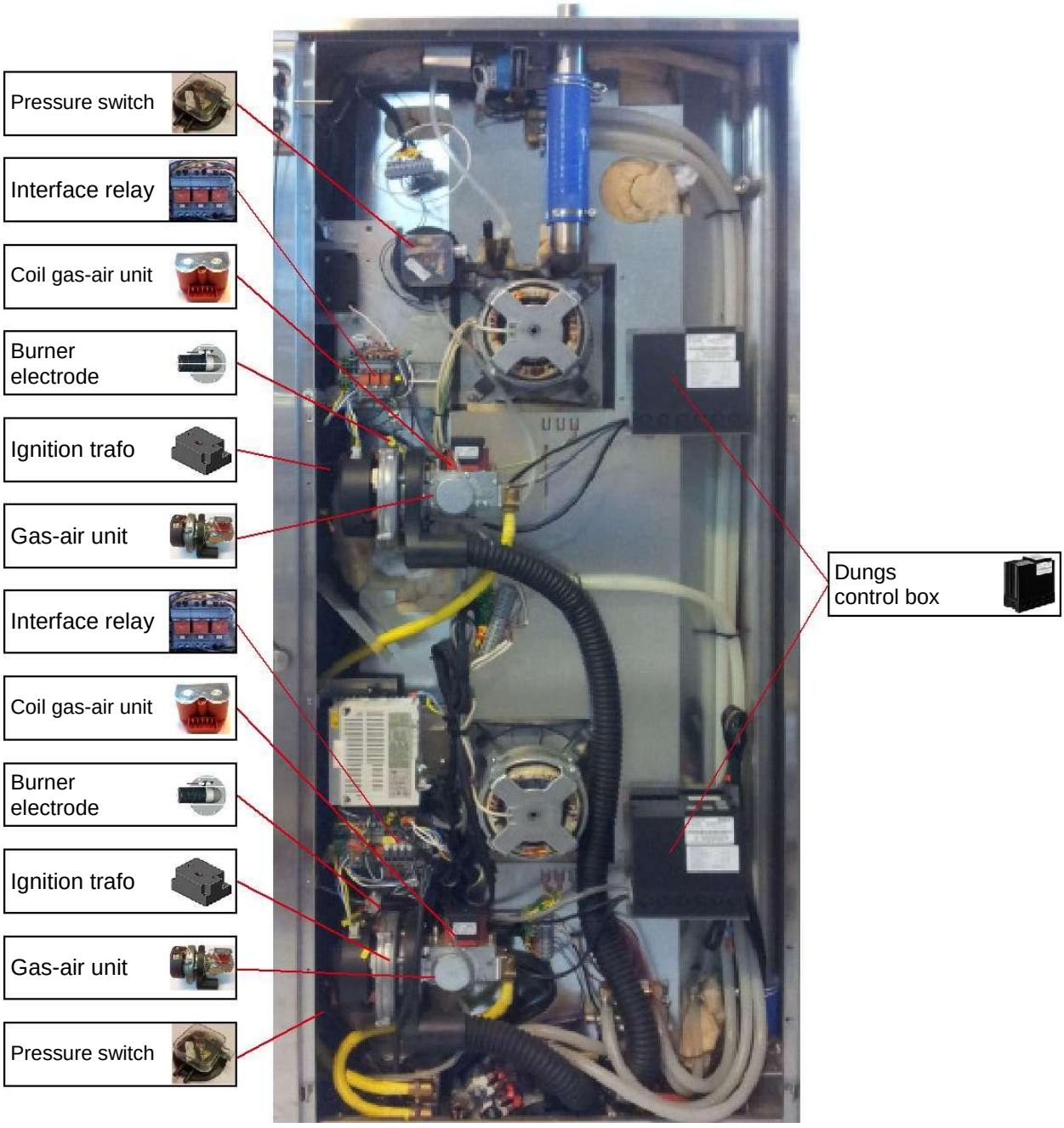


APPENDIX G:
GAS COMPONENTS POSITION

Gas components position 61, 62, 101, 102,



Gas component position 202



APPENDIX H: GAS COMPONENTS

		Gas-Air unit						Coil gas-air unit		Cable coil	
	kW	Black 9kW		White 18kW		Red 27kW					
	Voltage	230VAC	120VAC	230VAC	120VAC	230VAC	120VAC	230VAC	120VAC	230VAC	120VAC
	Part no.	32700180	32700177	32700181	32700178	32700182	32700179	32700170	32700173	32700169	32700174
120VAC	1.06/61		x						x		x
	1.10/101				x				x		x
	1.20				x				x		x
	2.06/62										
	2.14/2.10/102						x		x		x
	2.20/202						x		x		x
230VAC	1.06	x						x		x	
	1.10			x				x		x	
	1.20			x				x		x	
	2.06										
	2.14/2.10					x		x		x	
	2.20					x		x		x	

		Burner w. electrode		Electrode		Ignition trafo		Cable ignition trafo		Dungs control box	
	kW	9kW	18/27kW	9kW	18/27kW						
	Voltage					230VAC	120VAC	230VAC	120VAC	230VAC	120VAC
	Part no.	32720022	32720021	32700126	32700055	32700166	32700172	32800073	32800073	32700165	32700171
120VAC	1.06	x		x			x		x		x
	1.10		x		x		x		x		x
	1.20		x		x		x		x		x
	2.06										
	2.14/2.10		x		x		x		x		x
	2.20		x		x		x		x		x
230VAC	1.06	x		x		x		x		x	
	1.10		x		x	x		x		x	
	1.20		x		x	x		x		x	
	2.06										
	2.14/2.10		x		x	x		x		x	
	2.20		x		x	x		x		x	

APPENDIX I: IDENTIFYING GAS-AIR UNITS AND COIL

	13 kW - Black
	21-24 kW – Red
	Yellow: 120VAC - Coil
	Red: 230VAC – Coil

APPENDIX J:
ERROR CODES ON DUNGS' CONTROL BOX

Error overview		
MPA 41xx error without error ID		
Error ID	**Internal error**	**Error description**
F1 flashing		Low voltage Bus connection interrupted Internal error
F2 flashing	x	The connected display is invalid
F3 flashing		The password has been entered incorrectly when trying to change it or has not been confirmed by means of the unlock key
F4 flashing		The signal of the remote unlocking via bus is active too long
F5 to F8		not used
F9 flashing		Connection to bus missing. The bus module has been connected but there is not any connection to the master.
FA flashing	x	Failed to read parameter "Output operating mode", the output for the operating mode is not switched

Appendix J: Error codes on Dungs' Control Box

Error overview			
MPA 41xx			
Error from the basic system (0x01 to 0x3F)			
Error ID	**Flash code minimum indication**	**Internal error**	**Error description**
0x01	0	X	ERROR_INTERRUPT_CYCL_STATE FRAME
0x02	0	X	ERROR_WD_TRIGGERING
0x03	0		ERROR_WD_HARDWARE Possible cause of the error: Too high ambient temperature Overvoltage
0x04	0		ERROR_UNLOCKING_DENIED Possible cause of the error: More than 5 unlocking operations in the last 15 minutes. Remedy: Wait or extended unlocking
0x05	0	x	ERROR_ROM_TEST
0x06	0	x	ERROR_RAM_TEST
0x07	0	x	ERROR_PINSHORTCIRCUIT
0x08	0	x	ERROR_STACK_OVERFLOW
0x09	0	x	ERROR_PROGRAMMING
0x0A	0	x	ERROR_DI_VARIABLE
0x0B	0	x	ERROR_IN_TABCONTROLERROR
0x0C	0	x	ERROR_CONFIGURATION
0x0D	0	x	ERROR_CPU_TEST
0x0E	0	x	ERROR_EEPROM_PARAMETER
0x0F	0	x	ERROR_ADDRESS_TEST
0x10	0	x	ERROR_FUNCTION_ERROR ID
0x11	0		ERROR_UNDERVOLTAGE Possible cause of the error: The admissible lower voltage limit was not reached at least for a short time
0x12	0		ERROR_POWERFAILURE Possible cause of the error: The supply voltage was interrupted during startup, operation or regular switch-off
0x13	0	x	ERROR_WD_STATUS Safety chain not potential-free. Possible cause of the error: The fan continues running too long. Remedy: Increase the time for the restart protection
0x14	0	x	ERROR_DI_SEGMENT_TEST
0x15	0	x	ERROR_SFRREGISTER_TEST
0x16	0		ERROR_TWI_COMMUNICATION Possible cause of the error: A TWI bus user was connected to the bus or separated from the bus while the MPA was not disconnected from the mains. Remedy: Connect or separate a user of the TWI bus only if the MPA is disconnected from the mains. Too many users are connected to the TWI bus or EMC faults occur on the TWI line. Remedy: Use shorter lines or reduce the number of users
0x17	0	x	ERROR_STATE FRAME_OVERLOAD

Error overview			
MPA 41xx			
Error from the basic system (0x01 to 0x3F)			
Error ID	**Flash code minimum indication**	**Internal error**	**Error description**
0x18	7		ERROR_EXTERNAL_APPLICATION Possible cause of the error: A switch-off has been activated by an external user, for example by selecting the function "Switch-off" in the PC software of the VisionBox Timeout of parameter mode/manual mode (0.5 h without pressing a key) - detail error 4th byte=0xA0 An invalid fieldbus address has been entered in P11 for the connected bus module. Detail error 4th byte = 0xA1 and 6th byte = set address P11
0x19	0		not used
0x1A	0	x	ERROR_SWWD_DURING_INITIALISATION
0x1B	0	x	ERROR_BUFFEROVERFLOW
0x1C	0	x	ERROR_SYNCHRONISATION_DURING_INITIALISATION
0x1D	0		ERROR_PROCESSORFAILURE Possible cause of the error: There is strong EMC interference on MPA
0x1E	0	x	ERROR_SFRREGISTER_STATEBLOCK
0x40 - 0x42			reserved
0x43	0	x	ERROR_TEST_IONISATIONINPUT
0x44 - 0x5F			reserved
0x59			ERROR_MONITORING_INTERFACEP2 Internal failure Fieldbus not connected or interrupted while P38 setting = 2 (external detarmination V2)
0x60	2		ERROR_PARAMETER CHANGE_NOT RELEASED A monitored parameter has been changed
0x61			ERROR_SHUTTERTEST
0xA0	0	x	ERROR_STATE_DURATION_TOO_LONG
0xA1			reserved
0xA2	1		ERROR_SAFETY_CHAIN_OPEN Possible cause of the error: The safety chain has been opened or is not closed The wires of the safety chain are interrupted
0xA3			not used
0xA4	0	x	ERROR_FEEDBACK_V1_INCORRECT
0xA5	0	x	ERROR_FEEDBACK_V2_INCORRECT
0xA6	6		ERROR_EXTERNAL_LIGHT Possible cause of the error: Earth connection to an ionisation electrode Gas flows out and is burned for example by neighbouring burners Wrong configuration of P46 and P47 (total must be greater than 0.5 s) Defective UV tube Connected flame detector (UV, ...) detects light or is defective
0xA7	3		ERROR_NO FLAME_DURING_FIRST SAFETY TIME Additional information byte 0: Bit 0 = Flame to FLW1; Bit 1 = Flame to FLW2 Additional information byte 1: Flame quality for FLW1 Possible cause of the error: Ionisation electrode incorrectly set Ignition electrodes incorrectly set Insulated lines of the ignition electrodes or defective ionisation electrode Gas valves do not open the gas flow Connected flame detector (UV, ...) does not detect light or is defective Lines of mains connection on the MPA exchanged ("N" and "L1")

Appendix J: Error codes on Dungs' Control Box

Error overview			
MPA 41xx			
Error from the extended functions (0x40 to 0x9F)			
Error ID	**Flash code minimum indication**	**Internal error**	**Error description**
0xA8	4		ERROR_FLAME_GONE_OUT_DURING_OPERATION Additional information byte 0: Bit 0 = Flame to FLW1; Bit 1 = Flame to FLW2 Additional information byte 1: Flame quality for FLW1 Possible cause of the error: Flame body defective Connected flame detector (UV, ...) does not detect light or is defective
0xA9	3		ERROR_FLAME_GONE_OUT_DURING_STABILISATION Additional information byte 0: Bit 0 = Flame to FLW1; Bit 1 = Flame to FLW2 Additional information byte 1: Flame quality for FLW1
0xAA	5		ERROR_IDLE STATE CONTROL_LDW Possible cause of the error: The air pressure detector is defective There is air pressure during the idle state control, for example due to an air flow from the exhaust line,... The threshold value of the air pressure detector is set incorrectly
0xAB	5		ERROR_NO_AIR_PRESSURE
0xAC	0	x	ERROR_FEEDBACK_IGNITION_INCORRECT
0xAD	0		ERROR_LACKOFGAS_GDWMIN
0xAE–0xAF			reserved
0xB0	0	x	ERROR_TESTCIRCUIT_EXTENSION
0xB1-2			reserved
0xB3			ERROR_GASVALVEFEEDBACK_FALSE Additional information byte 0:1 = V1, 2=V2
0xB4-5			reserved
0xB6	0		ERROR_LIMIT SWITCH_MAIN GAS (POC)

SAFETY

Please read the safety instructions carefully.

- •• Ensure that installation is carried out by qualified installation and service personnel only.
- •• Read, understand, and follow the instructions for use.
- •• Place trays filled with hot liquid at the bottom runners of the oven chamber and practice extreme caution when removing the tray from the oven chamber.
- •• Do not store petrol or other flammable vapors or liquids in the vicinity of this appliance.
- •• Do not touch hot surfaces. The temperature of some surfaces may exceed 60°C/140°F or more.
- •• Do not attempt to operate or open the oven during the automatic cleansing process.
- •• Use the parking brakes on the trolley wheels to prevent trolleys from rolling on uneven floors.
- •• Contact qualified service personnel before you make changes to the set-up of the oven. Incorrect changes may have serious effects on its reliability in service.

SERVICE AND REPAIR

- All maintenance and repair must be carried out by qualified installation and service personnel only. Installation or service by other than qualified personnel may result in damage to the oven and/or injury to the operator.
- When cleaning the oven, only use cleaning detergent that matches the speci-fications from the factory. Do not use corrosive cleaners not intended for oven cleaning on your Combi oven.