

Service manual

Invoq miniCombi

6-1/1 GN

10-1/1 GN

Electric

EN - English

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General information

Target group

This document is aimed at service technicians who have been trained in installing and servicing the oven. The oven must only be installed and serviced by qualified service technicians.

Technical changes

This document is subject to changes without notice.

More documentation

You find more documentation about the oven at <https://asset-library.invoqoven.com/>

Warranty

You find more information about our warranty conditions at our website. For more information, see the back page.

Permissions

Log in as "Technician" to have the necessary rights to be able to change the oven setup, use the test functions, update software, etc. See section "Accessing the settings menu".

Screen dumps

The screen dumps in this manual are based on an Invoq miniCombi 10-1/1 GN oven with core probe.

Symbols used in this document



DANGER

Dangerous situation which will, if not avoided, result in death or serious personal injury.



WARNING

Dangerous situation which may, if not avoided, result in death or serious personal injury.



CAUTION

Dangerous situation which will, if not avoided, result in minor or moderate personal injury.



SIGNAL WORD

Description of the hazard
Action to avoid the hazard.

IMPORTANT!

If these instructions are not observed, it may result in malfunction or damage to the oven.



Tips and advice that makes the work easier.



A red or grey circle with a diagonal bar indicates that an action must not be taken or must be stopped.



A blue or grey circle with a white graphical symbol indicates that an action must be taken.

Safety information



Read this document before using, installing or servicing the product.
Retain this document for future reference.



Installation and operation must comply with local regulations and accepted codes of good practice.



Installation, maintenance and repair must be carried out by qualified installation and service technicians only. Installation and/or service by others than qualified service technicians may result in injury to the operator and/or damage to the oven.

IMPORTANT!

The oven is an atmospheric appliance and, therefore, it does not fall under any pressure equipment, regulation or directive.

General safety instructions



The oven must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility to avoid a hazard due to inadvertent resetting of the thermal cut-out.



DANGER

Risk of fire or explosion

- Do not store flammable liquids or gases close to the oven.



DANGER

Risk of injury

- Follow the instructions in this manual carefully.
- Make sure this manual is freely available to everyone working with the oven and for later reference.

Safety instructions before use



DANGER

Risk of electric shock

- Install an approved plug or safety switch close to the oven to ensure that the oven can be disconnected during installation and repair.
- The safety switch must be compliant with applicable national and local requirements.
- In case of Stackit arrangements, install a safety switch on each oven.



DANGER

Risk of electric shock

- Pay attention to the colour coding of the wiring.; yellow/green is the earth connection.



DANGER

Risk of electric shock

- Provide the oven with additional electrical protection in accordance with applicable rules and regulations.
- Use a type F or type B RCD 30 mA.



DANGER

Risk of drawing-in or trapping

- Always make sure no humans or animals are unintentionally in the cavity before starting the oven.



DANGER

Risk of squeezing

- Never lift the oven from the left-hand side.

Safety instructions during use



WARNING

Risk of crushing

- Always close the door with one hand on the handle to avoid crushing your fingers.



WARNING

Risk of chemical burns

- Never use the oven during automatic cleaning.



WARNING

Risk of scalding

- Open the door carefully to avoid being hit by steam and warmth.



CAUTION

Risk of burn injury

- Do not touch hot surfaces – the temperature of some surfaces may exceed 60°C.

Safety instructions during maintenance and service



DANGER

Risk of electric shock

- Disconnect the oven from the power source during service and when replacing spare parts.
- Make sure that the service technician can see that the power plug is disconnected at all times during maintenance and repair.



DANGER

Risk of electric shock

- After maintenance and service, perform an electrical inspection in compliance with local and national rules and regulations.



WARNING

Risk of cutting or severing

- Be very careful, if you need to remove the baffle plate in front of the fan wheel during service or maintenance.



WARNING

Risk of slipping

- Be careful when you remove the used HydroShield water filter as it is heavy and filled with water.

**WARNING**

Risk of burn injury

- Cool down the oven before servicing or maintaining the oven.
- Use personal protective gloves if you perform maintenance or repair in a hot cavity.

**WARNING**

Risk of electric shock

- Disconnect the Invoq Hoodini or condensation hood from the power source during service and when replacing spare parts
- Only install the Invoq Hoodini or condensation hood on Invoq ovens.

**CAUTION**

Risk of burn injury

- Cool down the Invoq Hoodini or condensation hood before servicing or maintaining the unit.
- Use personal protective gloves if you perform maintenance or repair in on a hot Invoq Hoodini or condensation hood

**CAUTION**

Risk of crushing

- Remove the front plate from the Invoq Hoodini or condensation hood before replacing the filter.

Personal protective equipment

**CAUTION**

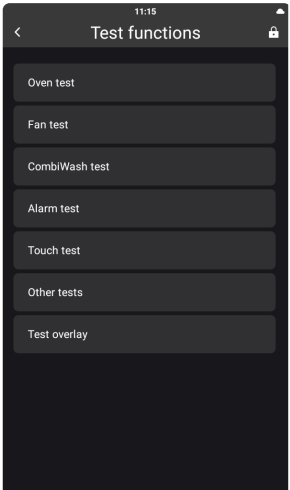
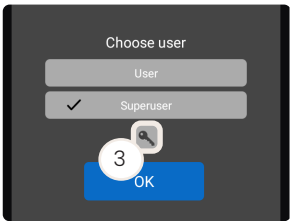
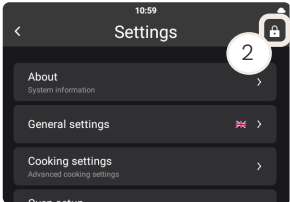
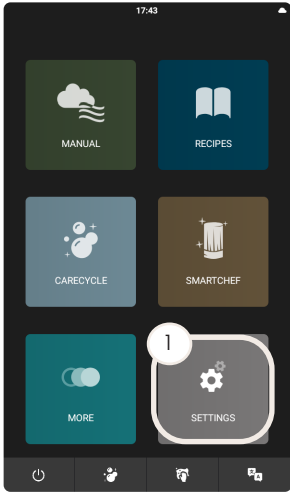
Risk of burn injury

- Use personal protective gloves if you perform maintenance or repair in a hot cavity.

**CAUTION**

Risk of skin irritation

- Use personal protective gloves to avoid direct contact with the HOUNÖ PROTECT detergent and rinse aid.



Setting the oven

Accessing the settings menu

- 1. Touch "Settings" in the home screen menu.
- 2. Touch the locked icon.
- 3. Touch the key icon.
- 4. Enter the code for the access rights needed.

User role	Permissions	Code
"User"	Access to the user menu.	-
"Superuser"	Access to the user and superuser menu.	876412
"Technician"	Access to the user, superuser and technician menu.	576021

Table 1

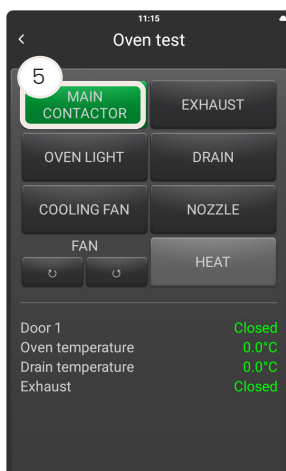
Log in as "Technician" to have the necessary rights to be able to change the oven setup, use the test functions,, etc. When you have finished using the "Technician" permissions, restart the oven to reset the access level to "Superuser".

Using the test functions

The test functions are useful for faultfinding. You can test the below-mentioned functions.

- Oven
- Fan
- CombiWash
- Alarm
- Touch
- Other
- Test overlay

Remember to activate the main contactor to be able to test the functions.

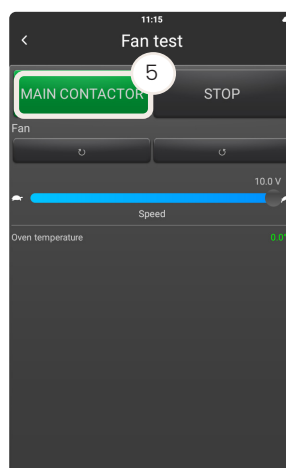


Testing the oven

1. Touch "Settings" in the home screen menu.
2. Touch "Oven setup".
3. Touch "Test functions".
4. Touch "Oven test".
5. Touch "Main contactor".
6. Touch the buttons with the name of the function you want to test.

Value	Description
"Door 1"	Displays whether the door is open or closed.
"Oven temperature"	Displays the current temperature in the oven.
"Drain temperature"	Displays the current temperature in the drain
"Exhaust"	Displays whether the exhaust is open or closed.

Table 2

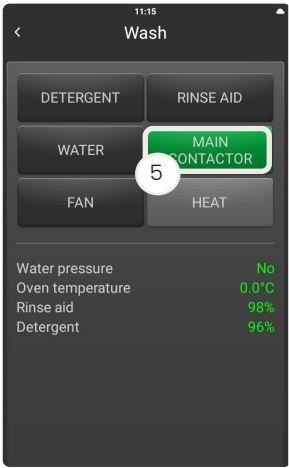


Testing the fan function

1. Touch "Settings" in the home screen menu.
2. Touch "Oven setup".
3. Touch "Test functions".
4. Touch "Fan test".
5. Touch "Main contactor".
6. Touch the buttons with the name of the function you want to test.

Value	Description
"Oven temperature"	The current oven temperature.

Table 3

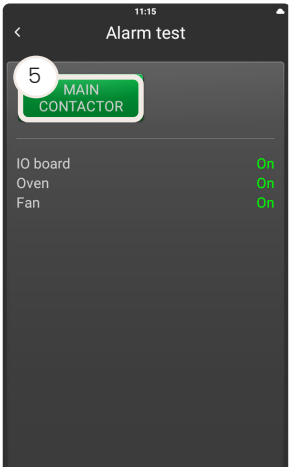


Testing the CombiWash functions

- 1. Touch "Settings" in the home screen menu.
- 2. Touch "Oven setup".
- 3. Touch "Test functions".
- 4. Touch "Water test".
- 5. Touch "Main contactor".
- 6. Touch the buttons with the name of the function you want to test.

Value	Description
"Water pressure"	The current water pressure.
"Oven temperature"	The current oven temperature.
"Rinse aid"	The amount of rinse aid available.
"Detergent"	The amount of detergent availalbe.

Table 5

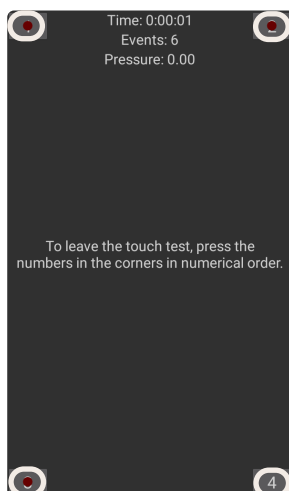


Testing the alarm functions

- 1. Touch "Settings" in the home screen menu.
- 2. Touch "Oven setup".
- 3. Touch "Test functions".
- 4. Touch "Alarm test".
- 5. Touch "Main contactor".
- 6. Touch the buttons with the name of the function you want to test.

Value	Description
"IO board"	Displays whether the alarm is on or off. If it is off, check the bus.
"Oven"	Displays whether the alarm is on or off. If it is off, check the thermo switch in the oven.
"Fan"	Displays whether the alarm is on or off. If it is off, check the thermo switch on the fan motor.

Table 4



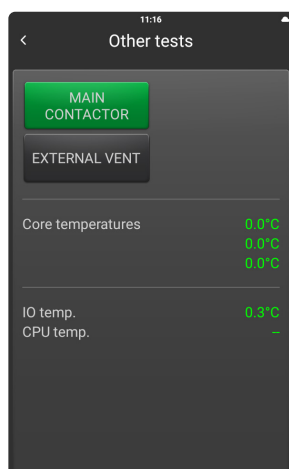
Testing the touch display function

1. Touch "Settings" in the home screen menu.
2. Touch "Oven setup".
3. Touch "Test functions".
4. Touch "Touch test".
5. Press a finger to the screen and drag it in any direction.



If there are any dead spots in the touch display, you will see a delay or markings that are not related to the markings made by your finger.

6. To leave the touch test, press the numbers in the corners in numerical order.

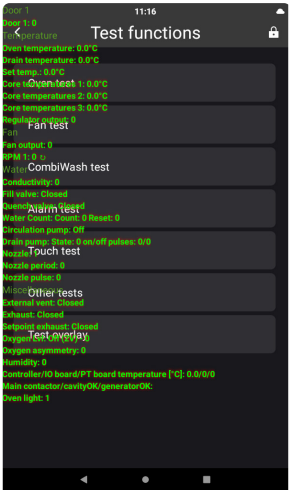


Testing the "Other test" function

1. Touch "Settings" in the home screen menu.
2. Touch "Oven setup".
3. Touch "Test functions".
4. Touch "Other test".

Value	Description
"Core temperatures"	Display the temperature of each of the three core probe sensors.
"IO temp."	Displays the temperature of the IO board. The temperature increases if the cooling fan is broken, or the filter is blocked.
"CPU temp."	Displays the temperature of the controller. The temperature increases if the cooling fan is broken, or the filter is blocked.

Table 6

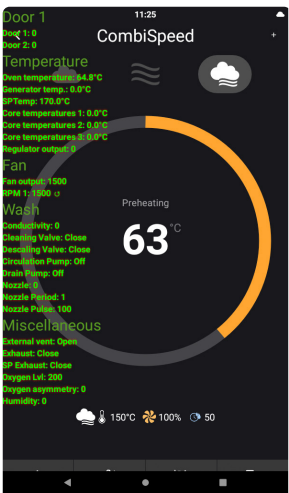


Displaying the test overlay function

The test overlay function gives you an overview of the current values of the oven.

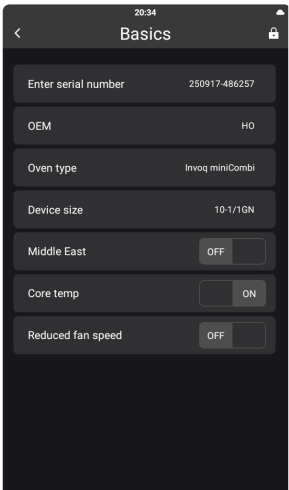
You can also view the test overlay function from the “Manual” menu.

- 1. Log in as “Technician” with the code 576021.
- 2. Touch “Manual” in the home screen menu.
- 3. Touch “+” to view the test overlay function.
- 4. Touch “+” again to remove the view.



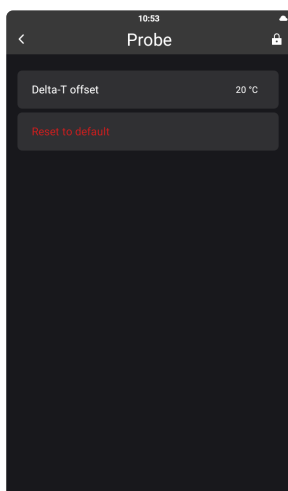
Setting the oven setup

- 1. Touch “Settings” in the home screen menu.
- 2. Touch “Oven setup”.
- 3. Touch “Basics”.



Value	Description
“Enter serial number”	Enter the serial number of the oven, which you find on the rating plate on the oven.
“OEM”	Select between the different private label customers.
“Oven type”	Select between the different oven types.
“Device size”	Select between the different oven sizes.
“Middle East”	If the value is set to “ON”, you only have access to recipes without pork.
“Core temp.”	Set the value to “ON” if you use a core probe.
“Reduced fan speed”	Toggle reduced fan speed on/off.

Table 7

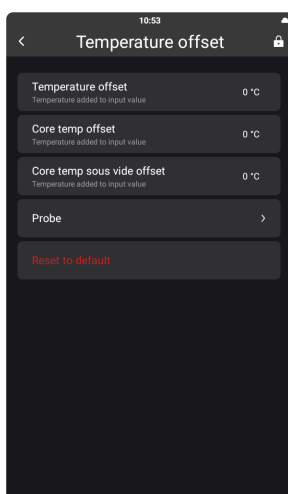


Adjusting the temperatures

1. Touch "Settings" in the home screen menu.
2. Touch "Cooking settings".
3. Touch "Temperature offset".
4. Touch "Probe".
5. Touch "Delta-T offset".
6. Select the preferred offset.



Touch "Reset to default" to restore the factory settings on this page.

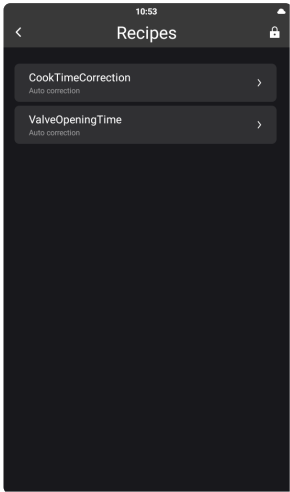


Changing the temperature offsets

1. Touch "Settings" in the home screen menu.
2. Touch "Cooking settings".
3. Touch "Temperature offsets".
4. Make the relevant changes.

Value	Description
"Temperature offset"	Set the temperature, which is added to the input value.
"Core temp offset"	Set the temperature, which is added to the input value. If the temperature is showing a temperature at 98°C, but is actually 100°C, you should set the offset to "2".
"Core temp sous vide offset"	Set the temperature, which is added to the input value.
"Probe"	Set the Delta-T offset.

Table 8

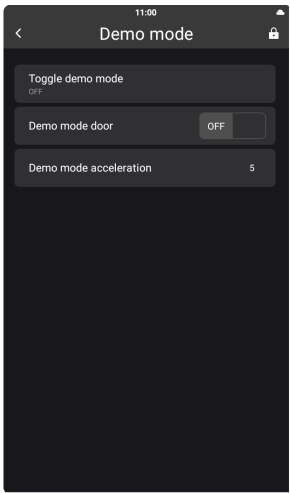


Changing the recipes cooking settings

1. Touch "Settings" in the home screen menu.
2. Touch "Cooking settings".
3. Touch "Recipes".
4. Make the relevant changes.

Value	Description
"CookTimeCorrection" (CTC)	In this menu, you can do the following: • Toggle the CookTimeCorrection on/off. • Set the temperature delta before activation (CTC tolerance). • Set the outside tolerance adjustment percentage (CTC tolerance).
"ValveOpeningTime" (VOT)	You can toggle the ValveOpeningTime on/off.

Table 10



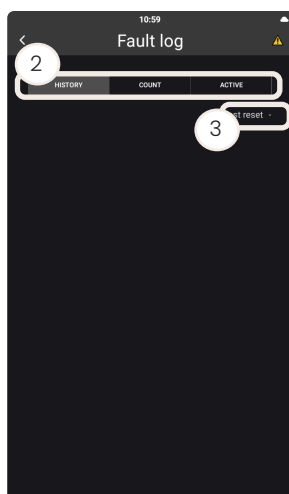
Enabling the "Demo mode" function

Use the demo mode function for demonstration purposes. In demo mode, the heating elements and the steam generator will not be switched on when the oven is running.

1. Touch "Settings" in the home screen menu.
2. Touch "Oven setup".
3. Touch "Demo mode".

Value	Description
"Toggle demo mode"	Toggle the demo mode function on and off.
"Demo mode door"	Toggle the demo mode door on and off.
"Demo mode acceleration"	This function speeds up the time in demo mode. 1 = time x 1 (1 second = 1 second). 5 = time x 5 (1 second = 0.2 seconds).

Table 9



Resetting the fault log

You can reset the fault log in case there is an active error, which is the case, if there is a warning icon in the upper right-hand side of the user interface.

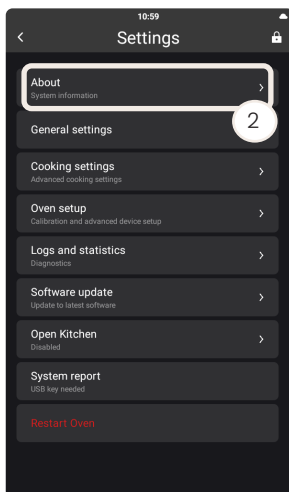
1. Touch the warning icon the home screen menu.
2. Select either "History", "Count" or "Active".
3. Touch "Reset" to reset the fault log counter, if necessary.

Value	Description
"History"	A chronological overview of the fault logs on the oven.
"Count"	A summary of the faults that have been on the oven.
"Active"	Displays any active faults on the oven.

Table 11



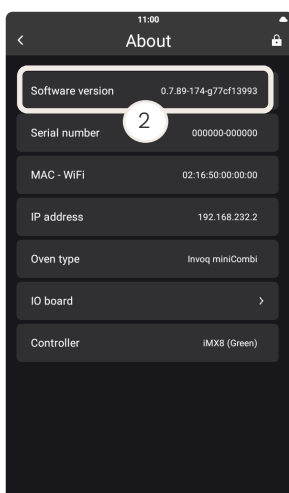
For more information about the error types, see the faultfinding manual.



Updating software

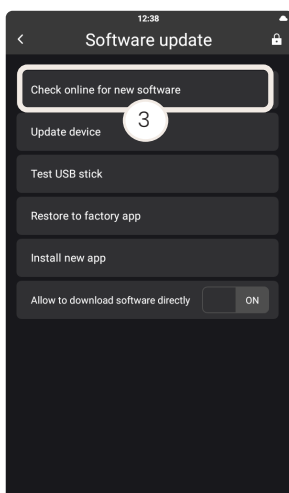
Check the software version

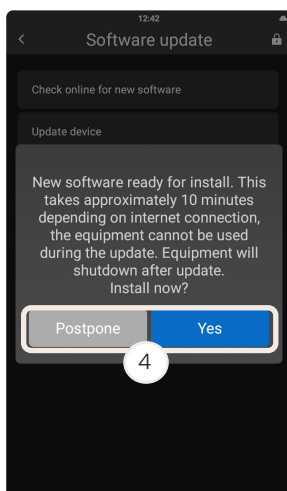
1. Go to "Settings" in the home screen menu.
2. Touch "About".



If the oven is online and software version 0.7.59 or later is installed

1. Go to "Settings" in the home screen menu.
2. Touch "Software update".
3. Touch "Check online for new software".





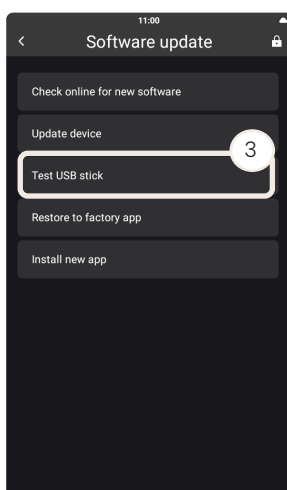
4. Touch "Yes" to install the latest software or "Postpone" if you want to postpone the installation.



This is possible in both "Superuser" and "Technician" mode.

If the oven is offline and a software version earlier than 0.7.59 is installed

The latest software version is available in the Invoq Asset Library. To update the software, you need a USB stick.



Verifying the USB stick

Before you download the latest software to the USB stick, make sure that the oven recognises the USB stick.

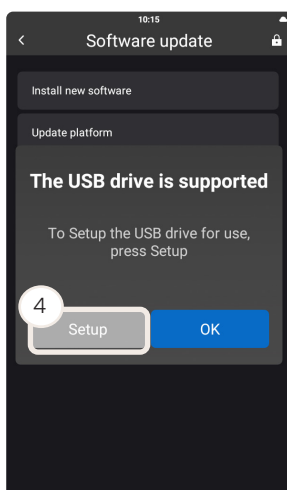
1. Go to "Settings" in the home screen menu.
2. Touch "Software update".
3. Touch "Test USB stick".
4. Touch "Setup" to add two folders on the USB stick - "Invoq" and "LOST DIR".
5. If the USB stick is supported, you will be asked if all folders on the USB stick should be set up.

Downloading the software

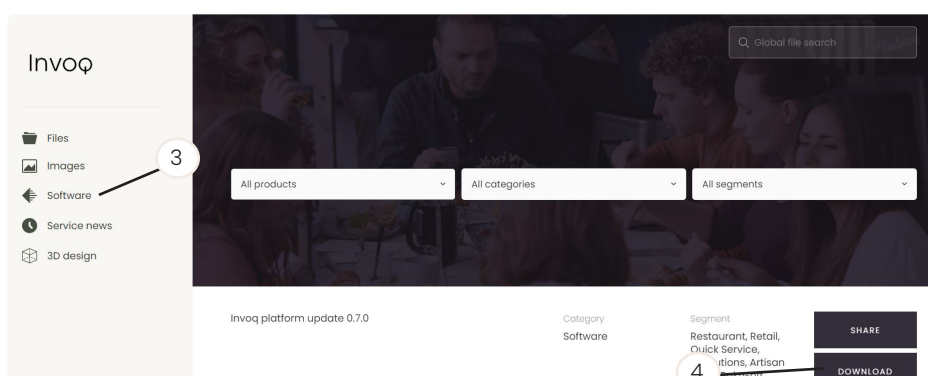
1. Verify the USB stick. See section "Verifying the USB stick".
2. Go to the Invoq Asset Library on <https://asset-library.invoqoven.com>.



If it is the first time you access the Asset Library, you need to create a user account.

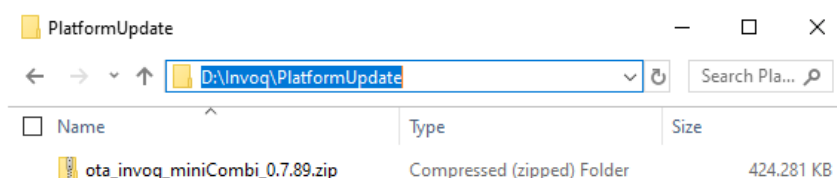


3. Select the "Software" menu.
4. Select download and wait until the download is complete.
5. Download both .zip files below.

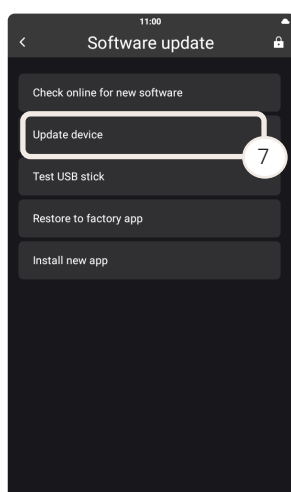


- Save the files in \Invoq\PlatformUpdate\ on the USB stick.

IMPORTANT! Do not unzip the .zip file.



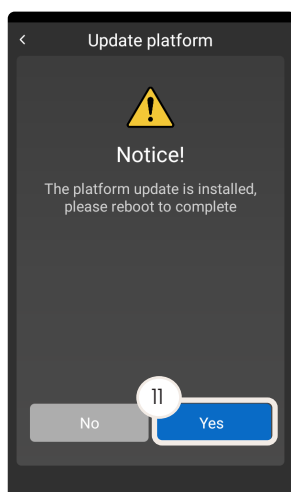
Example of USB stick with version 0.7.89. In this case the USB stick is assigned D:\ - this might be different on other PCs.



Updating software with USB stick

- Follow the instructions in "Verifying the USB stick" and "Downloading the software".
- Insert a USB stick on the right-hand side of the oven.
- Touch "Settings" in the home screen menu.
- Log in as "Technician". The password is 576021.
- Touch "Settings".
- Touch "Software update".
- Touch "Update device".
- Confirm that it is the correct software that will be installed.
- The update starts.

IMPORTANT! Do not interrupt the update procedure. The update will take approximately 10 minutes.



- When the update is completed, the display prompts that the update is successful.

Before service and maintenance

Follow the instructions below before servicing or maintaining the oven.

1. Cool down the oven. Use personal protective gloves if you perform maintenance or repair in a hot oven.
2. Make sure the oven cavity is empty.
3. Disconnect the water supply hose if it is too short.
4. Disconnect the oven from the power source.
5. After service and maintenance, make sure that the power cable, hoses, water treatment filter and drain are connected correctly.
6. After service and maintenance, perform an electrical inspection in compliance with local and national rules and regulations.

Opening the service accesses



DANGER

Risk of electric shock

- Disconnect the oven from the power source during service and when replacing spare parts.
- Make sure that the service technician can see that the power plug is disconnected at all times during maintenance and repair.



CAUTION

Risk of burn injury

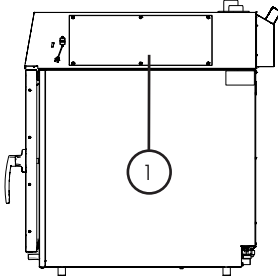
- Cool down the oven before servicing or maintaining the oven.
- Use personal protective gloves if you perform maintenance or repair in a hot cavity.



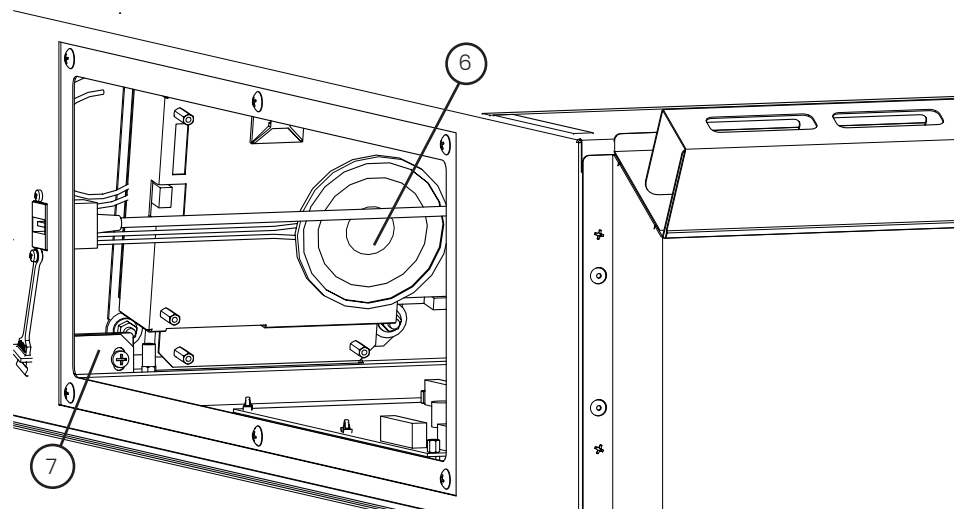
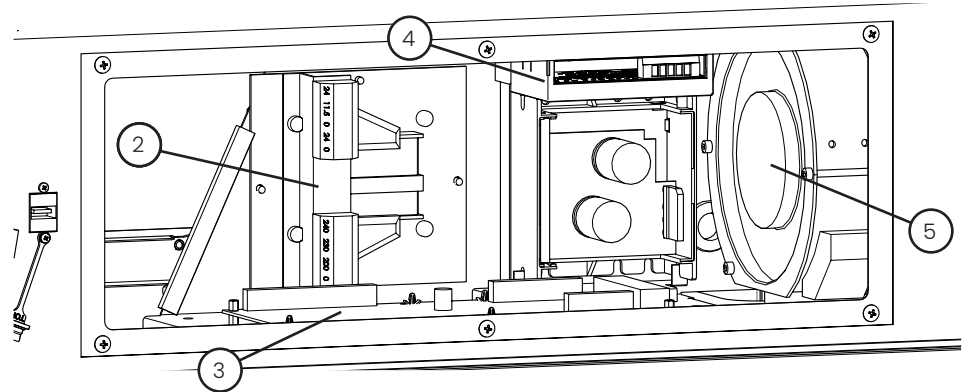
DANGER

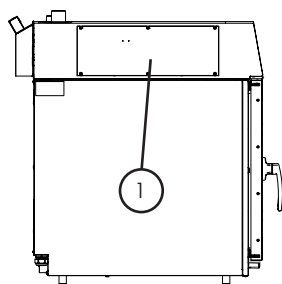
Risk of electric shock

- After maintenance and service, perform an electrical inspection in compliance with local and national rules and regulations.



- The inspection panel (1) on the right-hand side of the oven gives access to:
 2. transformer
 3. IO board
 4. frequency inverter
 5. cooling fan
 6. speaker
 7. door sensor, left-hinged door

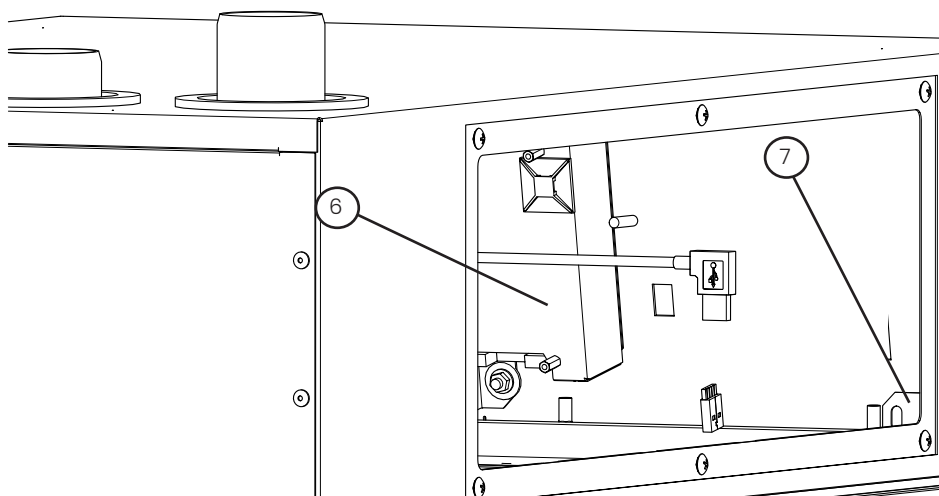
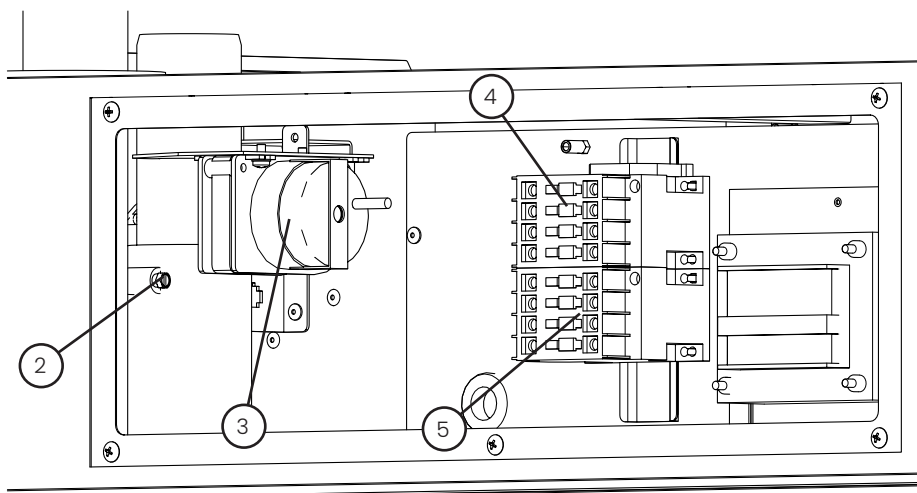


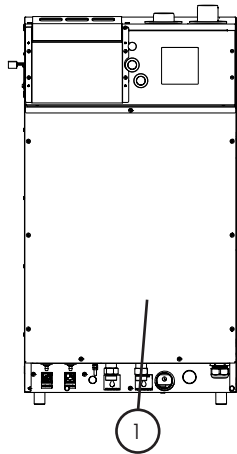


- The inspection panel (1) on the left-hand side of the oven gives access to:
 2. thermo switch
 3. exhaust motor
 4. main contactor, K1
 5. main contactor, K2, heat regulation
 6. controller
 7. door sensor, right-hinged door

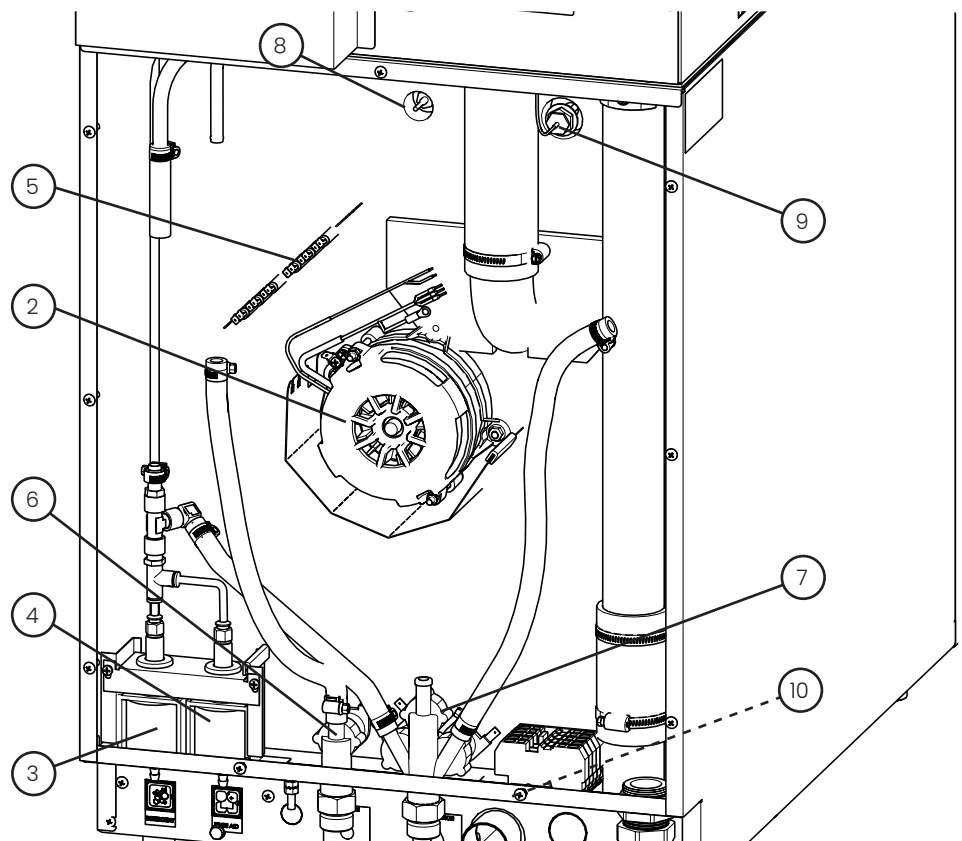


The wiring diagram is placed in the bottom.





- The back plate (1) on the oven gives access to:
 2. motor
 3. detergent pump
 4. rinse aid pump
 5. heating element
 6. solenoid valve, combi steam
 7. solenoid valve, wash/drain, cooling/pressostat
 8. temperature sensor
 9. thermo switch sensor
 10. temperature sensor, drain



Replacing parts



DANGER

Risk of electric shock

- Disconnect the oven from the power source during service and when replacing spare parts.
- Make sure that the service technician can see that the power plug is disconnected at all times during maintenance and repair.



CAUTION

Risk of burn injury

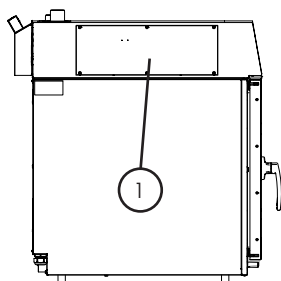
- Cool down the oven before servicing or maintaining the oven.
- Use personal protective gloves if you perform maintenance or repair in a hot cavity.



DANGER

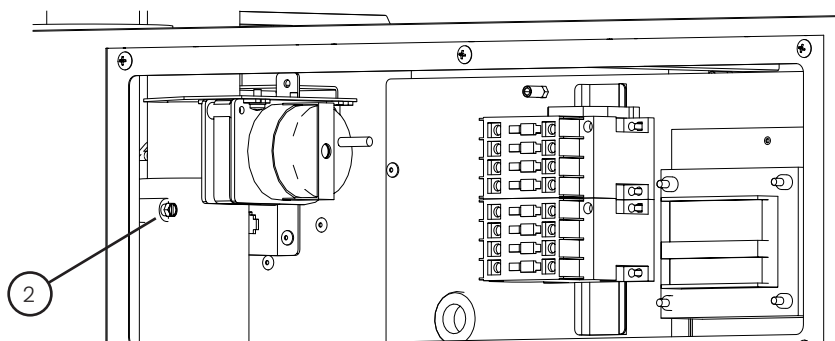
Risk of electric shock

- After maintenance and service, perform an electrical inspection in compliance with local and national rules and regulations.



Resetting the thermo switch for the oven cavity

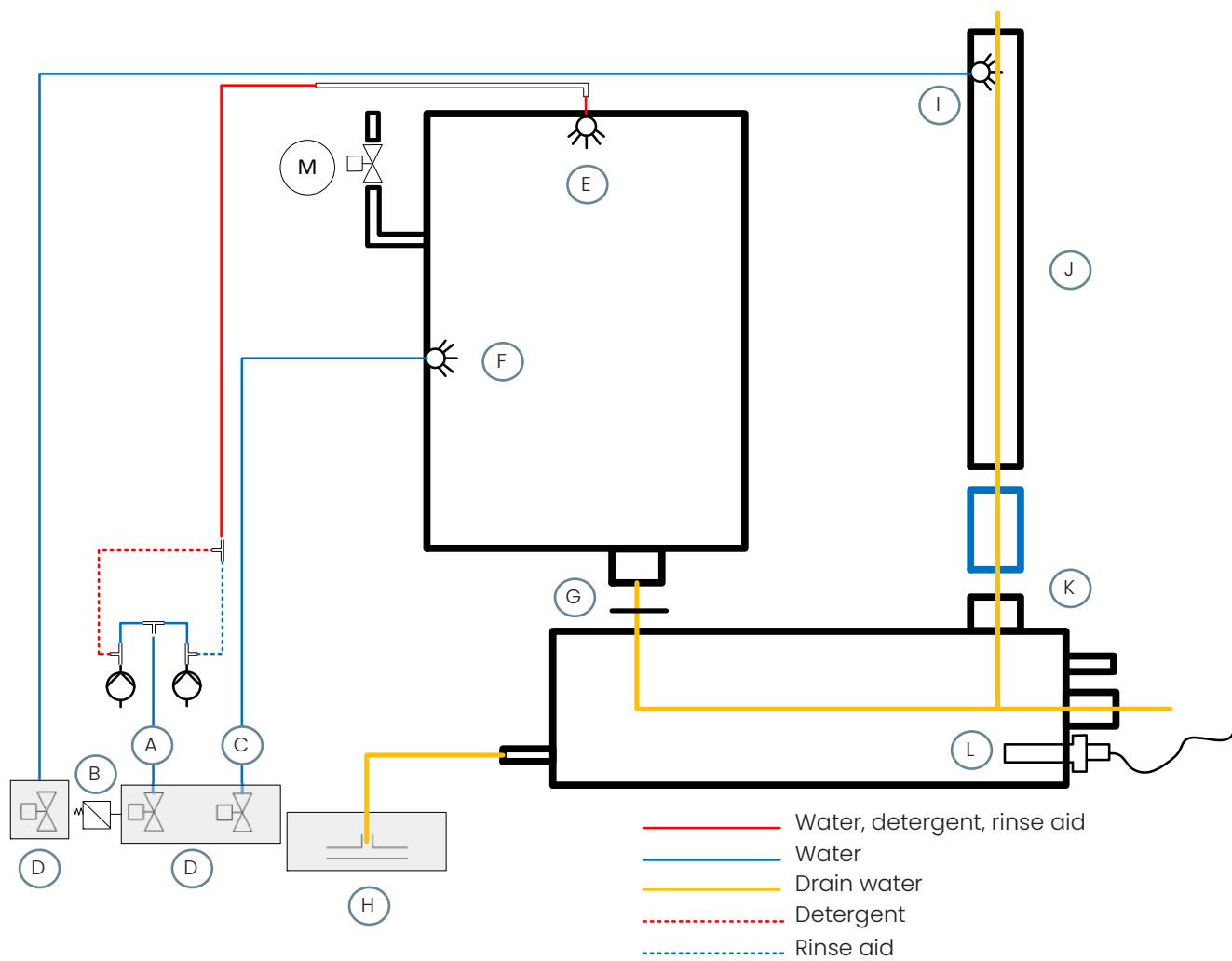
1. Open the inspection panel on the left-hand side of the oven.
2. Push the button with a screwdriver until it clicks to reset the thermo switch.
3. Close the inspection panel.



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Technical data

Water layout



Position	Description
A	Detergent pump
B	Water pressure switch
C	Rinse aid pump
D	Solenoid valve
E	Washing rotor
F	Injection steam
G	Sealing between oven cavity and drain box
H	Drip tray
I	Drain cooling nozzle
J	Ventilation tube for drain, Ø50 mm
K	Rubber hose connecting the ventilation pipe to the drain box
L	Drain temperature sensor

Table 12

IO board LEDs

Description and connection of the LEDs on the IO board, which gives an overview of the LEDs and their function. For more information, see the faultfinding manual.

PT100 temperature sensor table

For more information regarding the PT100 temperature sensor table, see the faultfinding manual.

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