Installation
&
Service Manual

Model:

CM-CV-ST-BM (ver. 2.66)
M (ver. 2.08)
B (ver. 1.01)
DM-DV (ver 2.10)

HOUNÖ

CONTENTS

Preface and Terms of Warranty

To ensure that our customers receive an excellent and reliable product, all HOUNÖ products are before dispatch connected and passed through an extensive test program in which all functions are subjected to a continuous and extreme load for several hours.

For optimum results – read this manual
Before you install the oven, we recommend that you study this manual thoroughly. This will save you time and prevent unnecessary problems from occurring[1].

When you meet this warning triangle  , you should be attentive as it indicates activities that may cause injury to the user or damage to the oven.

Claims Certificate
To ensure continuous development, HOUNÖ reserves the right to change the specifications, design or equipment any time without notice and without any obligation. Therefore, the information and specifications in this manual may be changed.

Terms of warranty
The oven cabinet and the technical parts of your new HOUNÖ oven are covered by a 12-month factory warranty. However, the heating elements in the oven chamber and the steam generator are guaranteed for 24 months. The period of warranty takes effect from the date of installation.

The warranty does not include....
We especially draw your attention to the fact that the factory warranty does not cover glass parts such as oven door glass, lamps, and lamp glass, nor does it cover sealing such as door gaskets, gaskets for heating elements, etc.

Furthermore, the factory warranty does not apply in the case of

1. defects that are due to the fact that installation has not been carried out in accordance with the HOUNÖ Installation & Service Manual at present in force (electricity, water/drain, exhaust).
2. defects and interruptions of operation that are the result of the oven not being handled/operated as specified in the user manual.

Yours sincerely,

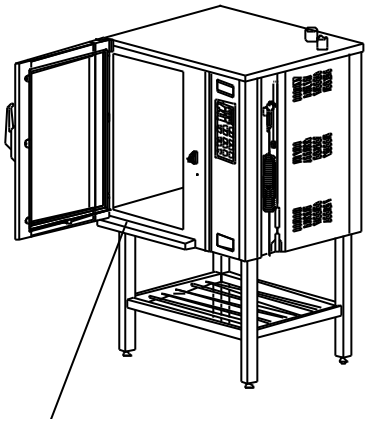
HOUNÖ A/S

[1] We would also like to call your attention to our website www.houno.com from which you can download and print out further copies of our user manuals or seek further information on the functions and characteristics of our ovens.
Please feel free to send us your comments regarding problems, suggestions for improvements, etc. on fax No. +45 87 11 47 10 or send us an e-mail on houno@houno.com.

Serial plate

When communicating with HOUNÖ, we recommend that you inform us of the specifications stated on the serial plate of the oven. The serial plate is located on the oven cabinet, behind the oven door, as shown below.

Our Technical Support dept. whose experience and expert knowledge are at your disposal can be contacted at tel. No. +45 87 11 47 11 and fax No. +45 87 11 47 12.



HOUNÖ	HOUNÖ A/S 8900 Randers	
Tlf. 87 11 47 11	Fax: 87 11 47 10	
Serie nr.: 01 05 22521 B	Type ....: CM 1.06	
Strøm: 400V 3N ~ 50/60 Hz 15 kW		
Diagram: 027.401		

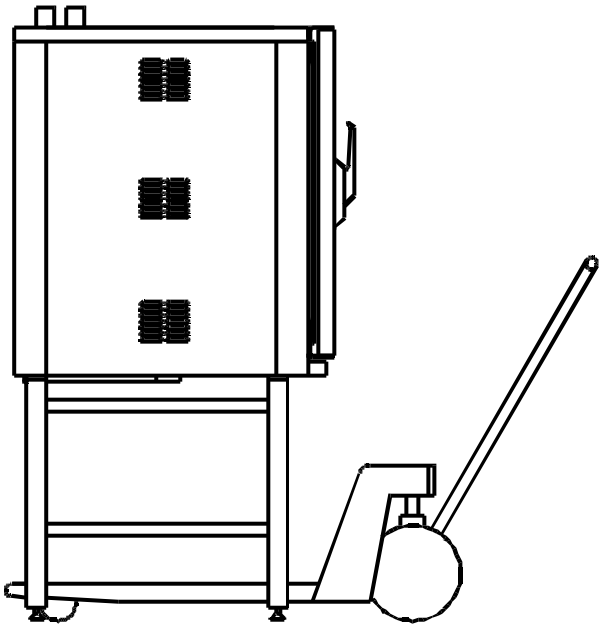
INSTALLATION

Unpacking the Oven

The oven is best handled while it is still in its wrapping. Wherever possible, use a lifting trolley.

Introduce the lifting trolley under the lower cross tube of the stand and place a couple of wooden blocks between the cross tube and the lifting trolley.

To achieve the best possible balance, introduce the lifting trolley from the front of the oven or from the motor side. Note that the oven can be lifted off the stand.



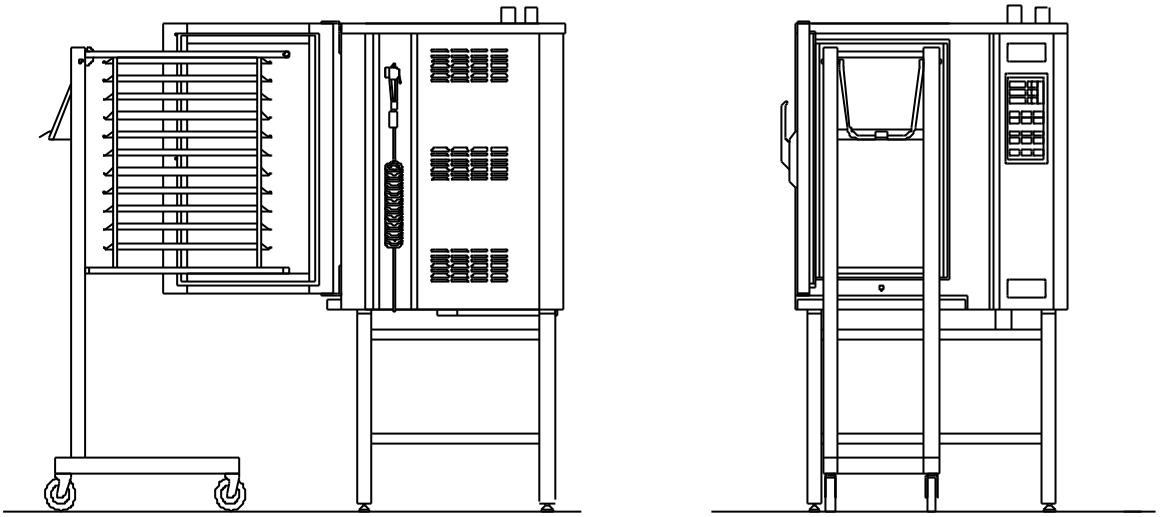
Remove the original packaging from the oven. Do not remove the foil that covers the surfaces until the oven has been installed, as the surfaces are vulnerable to sharp objects such as tools, once the foil has been removed.

Remove all protecting parts that secure the racks in the oven chamber.

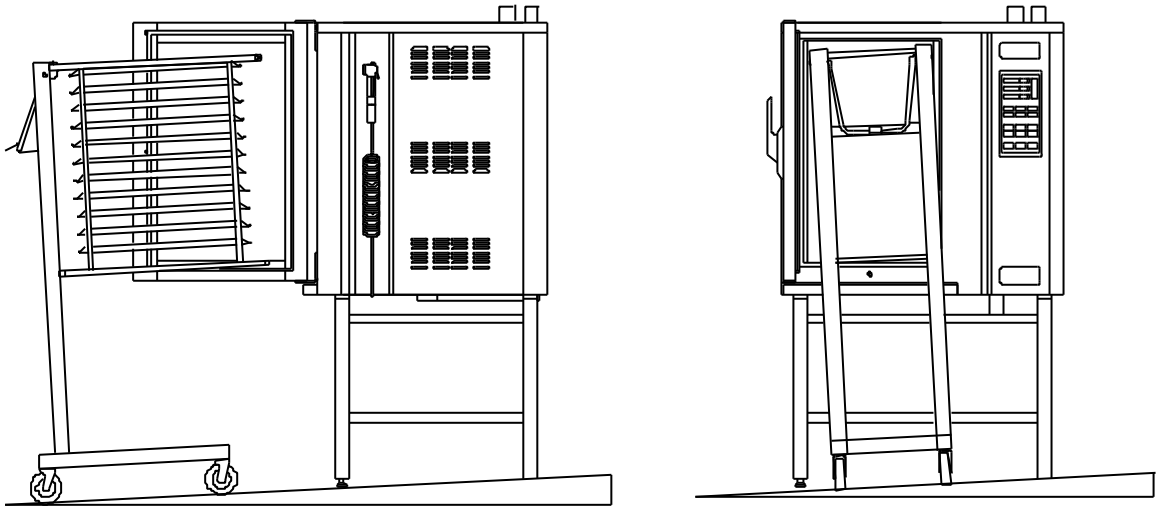
The packaging must be destroyed in accordance with the rules and regulations covering the disposal of rubbish in your country. Information on the composition of the packaging material can be obtained from Technical Support.

Installing the oven

To ensure that the oven functions correctly when installed, it should be placed upright and level (horizontally). This is measured at the front edge and side edge of the roof, and adjustment is made by means of the adjusting screws on the stand or on the legs of table models. The height of the oven can also be adjusted to fit the trolley for racks.



Right



Wrong

The oven should be placed 5 cm from the rear wall and the distance between the sides of the oven and the nearest wall or piece of furniture, etc. should be at least 10 cm. This is to ensure the necessary flow of cooling air to the oven. Strong sources of heat such as hotplates, frying pans, deep fat fryers, etc. should not be placed near the oven, especially not on its right side, otherwise the warranty may cease to apply.

Water Connection

As standard, the HOUNÖ ovens have one water connection.

To facilitate cleaning and service, the oven should be connected with an approved flexible ½" hose and the permanent installations should be fitted with a stop-tap and a non-return valve.

Before connecting the oven to water, flush the tubes thoroughly. Then fit the dirt filter and connect the oven.

Hardness of the water:	max. 3 dH
Conductivity of the water:	min. 75 microsiemens
Water pressure:	min. 1.5 bar (150 kP), max. 6 bar (600 kP)
Water pressure Combi Clean:	min. 2.5 bar dynamic pressure (CombiClean activated)
Water temperature:	max. 20°C
Chloride concentration:	max. 100 mg/litre

If the feeder is connected to the water distribution system with a flexible hose, this hose should be VA approved.

Ovens with a steam generator must not be connected to a **reversed osmosis plant or a mixbed filter**, as this may cause problems with the reading of the water level in the steam generator.

The water connection **must** be carried out by an authorised plumber in accordance with existing rules and regulations.

Clogged up water filters and dirt in the solenoid valves are not covered by the warranty.

Alternatively, the oven can be supplied with two water connections (optional extra):

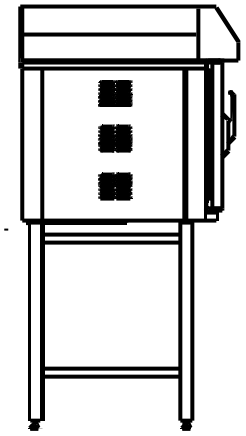
1) for raw water for the condensation nozzle (cold water).
2) for the jet in the oven chamber and the steam generator. Must meet the requirements on water for water connection; however, hot water with a temperature not exceeding 60°C can be used.

Exhaust

The HOUNÖ ovens are equipped with an open/direct exhaust system that removes surplus humidity from the oven chamber. The exhaust system has electrically or manually operated air exhaust.

The exhaust pipe can be connected to a ventilating system. In that case, a special extraction funnel is fitted to avoid suction directly from the oven chamber. This extraction funnel can be ordered from HOUNÖ.

The product range also includes a specially made extraction hood, as illustrated below.



If an extraction hood is installed in the ceiling above the oven, it should project 50 cm over the front of the oven. The suction effect should be 400 – 800 m^3/h.

The ventilation motor can be controlled directly from the oven. This means that the ventilation starts when a program is started and runs for 10 minutes after the program is completed.

Electrical Connection

The electrical connection **must** be carried out by an authorised electrician in accordance with existing rules and regulations.

The wiring diagram is located in the motor compartment next to the computer.

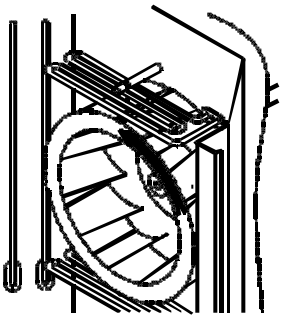
The terminal for the electrical connection is located behind the right-hand side sheet.

An approved plug outlet or a safety cutout must be located close to the oven so that the oven can be disconnected during installation and repair. The safety cutout must be able to cut off all poles with a total distance of break of at least 3 mm. Each of the two ovens in a stacked arrangement (Combi-Plus) must have its own plug outlet or safety cut-out.

To facilitate cleaning and service, use an approved flexible connection cable of the type HO7RN-F.

The oven may leak 1 mA current per kW.

The connection completed, check that the fan runs in the right direction, i.e. COUNTER-CLOCKWISE.



If the fan runs in the wrong direction, the oven does not operate correctly, which may cause damage to the motor.

The warranty does not cover incorrect connection.

Supply lines - survey
(All cross sections in mm²)

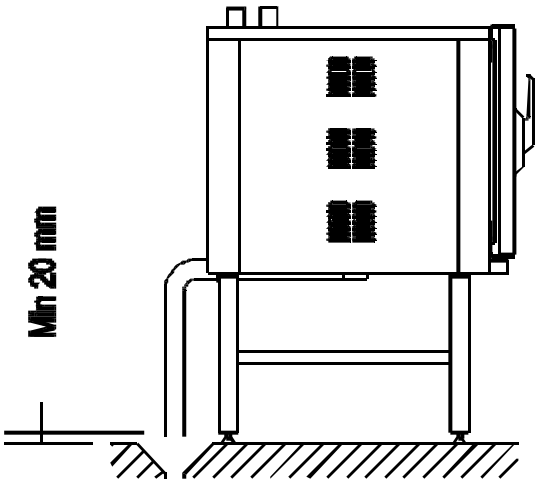
	2/3	1.06	1.08 - 1.10 - 1.12 -	1.16	1.16 ST	1.20	1.20 ST	1.20 M	2.10 - 2.14	2.10 ST 2.14 ST
	4 kW	**9 kW**	**15 kW**	**20 kW**	**18 kW**	**36 kW**	**24 kW**	**30 kW**	**25 kW**	**24 kW**
400V 3N ~ 50/60 Hz	5x1,5	5x1,5	5x4	5x6	5x4	5x16	5x6	5x10	5x10	5x6
400V 3 ~ 50/60 Hz	4x1,5	4x1,5	4x4	4x6	4x4	4x16	4x6	4x10	4x10	4x6
415V 3N ~ 50/60 Hz	5x1,5	5x1,5	5x2,5	5x4	5x4	5x10	5x6	5x10	5x6	5x6
440V 3 ~ 50/60 Hz	4x1,5	4x1,5	4x2,5	4x4	4x4	4x10	4x6	4x10	4x6	4x6
200V 3 ~ 50/60 Hz	4x1,5	4x4	4x10	4x16	4x16	4x35	4x25	4x25	4x25	4x25
230V 3 ~ 50/60 Hz	4x1,5	4x4	4x10	4x16	4x10	4x35	4x16	4x25	4x16	4x16
230V 1 ~ 50/60 Hz	3x2,5	3x10	3x16	3x25	3x25	3x70	3x35	3x50	3x50	3x35
480V 3 ~ 50/60 Hz	4x1,5	4x1,5	4x2,5	4x4	4x4	4x10	4x6	4x10	4x6	4x6
208V 3 ~ 50/60 Hz	4x1,5	4x4	4x10	4x16	4x10	4x35	4x25	4x25	4x25	4x25

2/3 models are equipped with a supply line when they leave factory. As this oven model has a type Y connection, the supply line may only be exchanged by an authorised electrician.

Drain Connection

From the factory, the HOUNÖ ovens are equipped with a drain system that removes surplus water from the oven chamber. This water may be condensed water from the products, or it may occur when the oven chamber is cooled down with cold water, or when the oven chamber is cleaned.

Connection **must** be carried out by an authorised plumber, to an open drain, and it must end at least 20 mm above the outlet grating or funnel.



The drain must never end directly under the oven.

The drain tube must be of **stainless steel**, have a diameter of at least 50 mm and a fall of at least 3° or 5%.

Never connect directly to a water seal so as to avoid obnoxious smells and bacteria.

SETTING UP COMPUTER - MODELS CM, CV, ST & BM

Computer type I is used in all CM, CV, ST and B models. It holds ten individual programs and a cleaning program with four steps. The displays of the four models differ from each other as illustrated below.

Start-up window

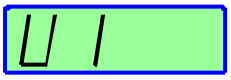
When the computer is switched on, it checks all control lamps and segments to make sure that they work. Figures appear in the displays:

The time display shows how U1 is set.
The temperature display shows the current EPROM version.
The display for core temperature shows whether the computer includes CombiClean (0 = without CC, 1= with CC).

Note that there is an engineering function for CombiClean (test mode) in which it is possible to start CombiClean at any step while the computer shows you which step is active.
See service & installation manual for CombiClean.

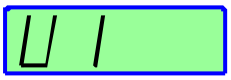
Setting up computer type I for models CV, CM, ST and BM from EPROM version 2.66

Select the set-up mode by pressing  and  simultaneously for 5 sec.

 appears in the time display.

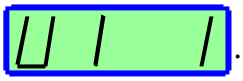
Shift to the next setting (max. U5) by pressing  .

The set-up mode can be interrupted/closed any time by pressing  .



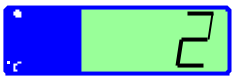
SELECTING AUTOMATIC RESTART, OVEN MODEL, STEAM GENERATOR TYPE AND VOLTAGE

Automatic restart

1 or 0 is shown in the time display  .

0 = The oven will not restart a program that has been interrupted because of power cut.
1 = The oven will restart a program that has been interrupted because of power cut.
Shift by pressing  .

Steam generator type (CM and ST only)

0, 1 or 2 is shown in the temperature display  .

1 = Steam generator with level measuring in drain hose or sensor located in level tube on the side of the steam generator (one sensor)
2 = Steam generator with level measuring inside tank (2 sensors)

Shift by pressing the temperature key  .

The CV and BM models have no steam generator, consequently, 0 is shown in the display.

Voltage

1 or 2 is shown in the core temperature display  .

1 = Voltage with 0
2 = Voltage without 0

Shift by pressing the core temperature key  .

Oven model

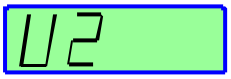
A digit between 1 and 4 is shown in the program display 
1 = CM, 2 = CV, 3 = BM, 4 = ST, 5 = S, 6 = VS

Shift by pressing  .

For model ST, you choose between high and low fan speed by pressing 

The control lamps shine red or green.
Red = low
Green = high

For ST sizes 1.06 – 1.08, choose low fan speed (red).
For ST sizes 1.10, 1.12, 1.16, 2.10 and 2.14, choose high fan speed (green).



ADJUSTING WATER LEVEL SENSOR IN STEAM GENERATOR (CM & ST) AND SELECTING INTERIOR LIGHT

Adjusting water level sensor in steam generator

The adjustment that is made will only influence the sensitivity of the level sensors and not the water level in the steam generator. Before starting the adjustment, make sure that there is water round the level sensor. This can be done by starting the steaming program and letting it run until the contactors are activated or by entering the test mode and activate *filling* ”dd7” and *emptying* ”dd8”. Alternatively, you can check the water level in the water gauge on the outside of the steam generator.

The current value for the water level sensor is shown in the time display:
This applies to a generator with one level sensor.  *

If there are two sensors, the value of the upper sensor is shown.

The fixed value of the sensor is shown in the temperature display:  *

The ”set point” is shown in the core temperature display:  *

* The values shown are examples.

Adjust the set point to the value right between the value for ”water” (value in time display) and ”no water” (value in temperature display) (standard = 70). The measured values drop when the sensors are surrounded by water.

The set point is adjusted upwards and downwards with  and  .

Selecting interior light

When the program display shows  , the interior light is automatically switched off after 5 min.

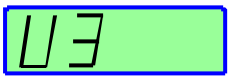
When the program display shows  , the interior light will shine continuously.

When the program display shows  , the interior light is automatically switched off after 5 min. In addition, the light in the oven door is switched off after 3 sec. when the door is opened.

When the program display shows  , the oven light will shine continuously. In addition, the light in the oven door is turned off after 3 sec. when the door is opened.

Settings 1 and 6 are very useful on ovens with oven light in the door in order to avoid blinding while the door is open.

Shift by pressing  .



ADJUSTING TEMPERATURE SENSORS (PT-100)

The digit of the sensor in use is shown in the program display 

.

1 = oven chamber, 2 = probe, 3 = steam generator, 4 = condensation

Change the digit by pressing the program key.

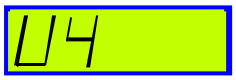
The current temperature is shown in the temperature display: 

The set point is shown in the core temperature display: 

Standard set point = 100, which can be adjusted downwards to 80 and upwards to 120 with the arrow keys.

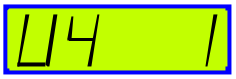
Each temperature sensor can be adjusted/corrected by approx. +/-10°C, i.e. the temperature changes in steps of 0.5°C.

The core temperature display holds only 2 digits, consequently 80 = 80, 00 = 100 and 20 = 120.



SELECTING PRE-SET/CURRENT TEMPERATURE, COMBICLEAN, ADDITIONAL DETERGENT, SHOWDISPLAY AND PRINTER

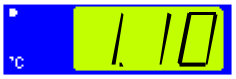
Pre-set/current temperature

1 or 0 is shown in the time display  .

0 = Pre-set temperature (standard)
1 = Current temperature during operation

Shift by pressing  .

CombiClean

The oven size is shown in the temperature display  .

You change between oven sizes by pressing the temperature key  .

Additional Detergent

If the oven chamber is not properly clean when the cleaning program is completed, it is possible to add additional detergent.

Press the key for manual humidity  until the control lamp is turned on. ”Additional detergent” is now active.

Note that the programs are prolonged by 5 minutes + the detergent phase.

If the control lamp is off, this function is off.

<u>Demo mode</u>

It is possible to select a demo mode in which the oven rinses only.

Press the exhaust key  until the control lamp is turned on.

<u>Showdisplay</u>

Press  until the display shows 1.

The control lamps in  and  flash to indicate that the keys are active.

By pressing  , you reserve memory in the showdisplay for the 16 programs.

With  , you enter a start text for each program. However, this is usually not necessary, as the showdisplay is ready for use on delivery.

If you have deleted or ruined a program, press  and select the program you have just ruined and then  to enter the start text again.

Note that there should be at least 20 characters in the program on the showdisplay in order for the start text to be transferred.

For further information on the operation of the showdisplay, see separate installation & service manual.

Note! When the showdisplay is active, the printer cannot be used.

Printer

Press 

, until the display shows 0. The printer output is thus activated.

Press  to enter the start-up menu.

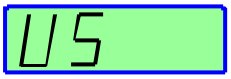
Press  for 5 seconds. The time display now shows PR*nt, “Yes” in the temperature display and “No” in the display for core temperature probe.

Press  .

The printer output is now activated.

To switch off the printer output, press  .

Note! When the showdisplay is active, the printer cannot be used.



SELECTING PHASE SEQUENCE TEST AND REVERSING

Phase sequence test

Phase sequence test is usually always active.

This alarm can be deactivated in the case of installation for demonstration purposes in order to avoid error code 15 (see “Error Codes”).

The temperature display shows either ON or OFF. ON and OFF are selected by pressing  .

Reversing

In the reversing function, it is possible to set the time before reversing as well as the time of the interval.

Change between 0, 1 and 2 by pressing 

.

0 = “Reversing” is switched off and the time is not shown (standard)
1 = “Reversing” is switched on and error code 5 “Fan too hot” works reversely because the thermo-switch of the motor used is open and closes when the temperature is too high.
2 = “Reversing” is switched off and error code 5 “Fan too hot” works as usual, i.e. the thermo-switch is closed and opens when the temperature is too high.

The time during which the fan is running is shown in the time display 

and is set between 10 and 99 with the arrow keys  and  . Each step corresponds to 2 seconds, it is therefore possible to set the time of the intervals between 20 and 198 seconds (standard is 50 = 100 seconds).

The time of the interval is shown in the core temperature display 

and is set with the core temperature key  and the core temperature ON/OFF key 

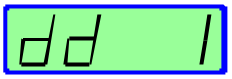
.

The time can be set between 1 and 30 seconds (standard = 10 seconds).

ACCESS TO TEST FUNCTIONS

It is possible to test all outputs and inputs via the control.

Shift to test functions by pressing  and  simultaneously for 5 sec.

The time display shows  .

Change between outputs and inputs by pressing  and  .

The test functions can be interrupted/switched off any time by pressing 

The output can be switched on and off constantly by pressing  , or

you can switch the output on and off by pressing  .
(Does not apply to fan activation in type 1 control.)

The control ensures that the oven heat cannot be turned on if the fan is off or the temperature in the oven chamber is above 250°C.

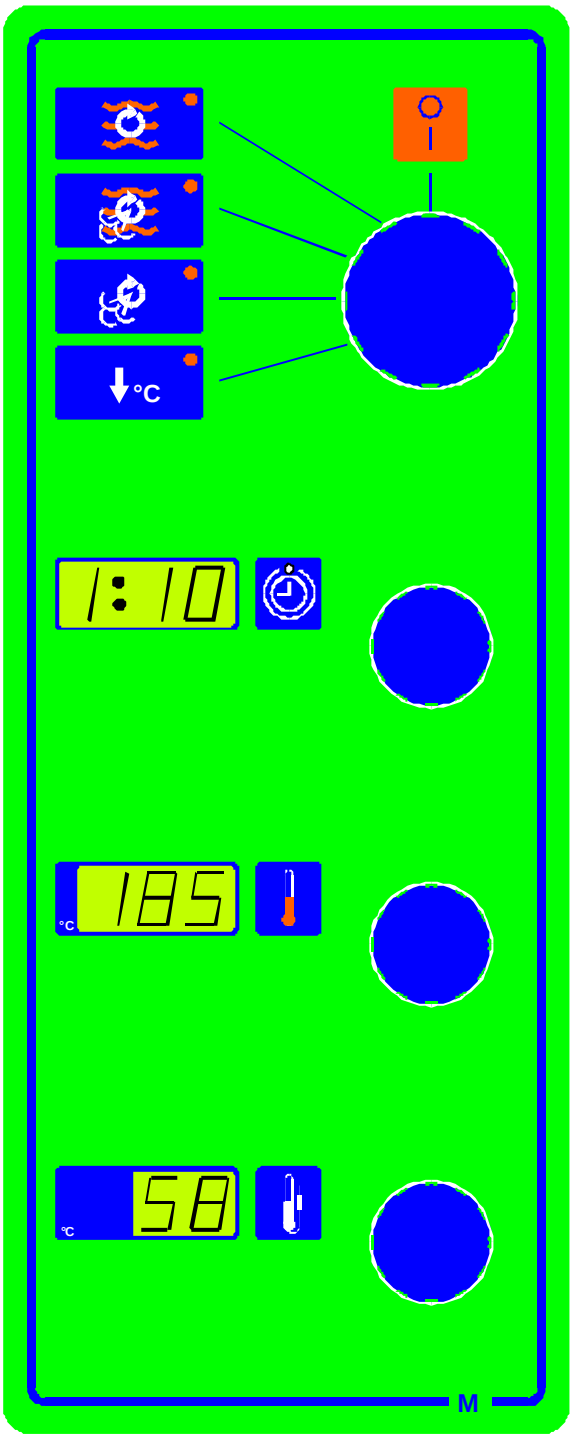
Furthermore, the control ensures that the steam generator cannot be turned on if there is no water in it.

High/low fan speed and *motor brake* can only be activated one at a time.

Notes:

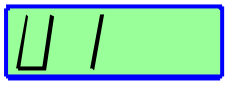
SETTING UP COMPUTER - MODEL M

Computer III is used for all M models.



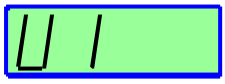
Setting up computer for model M from EPROM version 2.08

Select the set-up mode by turning the function knob to COMBI STEAMING, then set the temperature at 77°C and the time at 2 hours and 40 minutes. The time display shows:



Shift to the next setting (max. U3) by turning the function knob to HOT AIR and then back to COMBI STEAMING.

The set-up mode can be interrupted/closed any time by turning the function knob to 0.



AUTOMATIC RESTART AFTER POWER CUT AND ADJUSTING HUMIDITY IN COMBI STEAMING MODE

Automatic restart

1 or 0 is shown in the temperature display.

0 = The oven will not restart a program that has been interrupted because of a power cut.
1 = The oven will restart a program that has been interrupted because of a power cut.

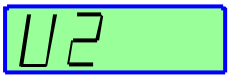
Shift by turning the temperature knob.

Adjusting humidity in combi steaming mode

A digit between 1 and 5 is shown in the core temperature display.

5 = a small amount of humidity, 1 = a large amount of humidity.

Turn the core temperature knob to adjust the amount of humidity.



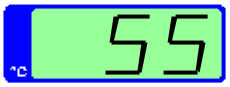
ADJUSTING WATER LEVEL SENSOR IN STEAM GENERATOR

The adjustment that is made will only influence the sensitivity of the level sensors and not the water level in the steam generator. Before starting the adjustment, make sure that there is water round the level sensor. This can be done by starting the steaming program and letting it run until the contactors are activated or by checking the water level in the water gauge on the outside of the steam generator.

The current set point for the water level sensor is shown in the time display:

*

The current value is shown in the temperature display:



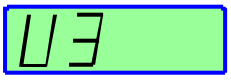
*

* The values shown are examples.

Adjust the set point to the value right between 85 and the current value (standard = 70).

The measured value drops when the sensors are surrounded by water.

The set point is adjusted upwards and downwards by turning the knob for time setting.

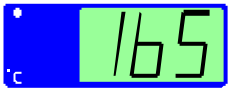


ADJUSTING TEMPERATURE SENSORS (PT-100)

The digit of the sensor in use is shown in the core temperature display.
1 = oven chamber, 2 = probe, 3 = steam generator, 4 = condensation

Change between the digits by turning the core temperature knob. At every turn, a beep sounds.

The current temperature is shown in the temperature display:



The last two digits in the time display indicate the set point:

Standard set point = 100, which can be adjusted downwards to 80 and upwards to 120 with the time knob.

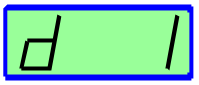
Each temperature sensor can be adjusted/corrected by approx. +/-10°C, i.e. the temperature changes in steps of 0.5°C.

The core temperature display holds only 2 digits, consequently 80 = 80, 00 = 100 and 20 = 120.

ACCESS TO TEST FUNCTIONS

It is possible to test all inputs and outputs via the control.

Shift to test functions by setting the function knob at COMBI STEAMING. Then set the temperature at 79°C and the time for 2 hours and 40 min.

The time display shows  .

Change between inputs and outputs by turning the time knob.

The test functions can be interrupted/switched off any time by setting the function knob at 0.

The output can be switched on and off by turning the function knob to HOT AIR and COMBI STEAM, respectively.

If you want more than one function activated at the same time, turn the time knob to another function, while the function knob is set at HOT AIR.

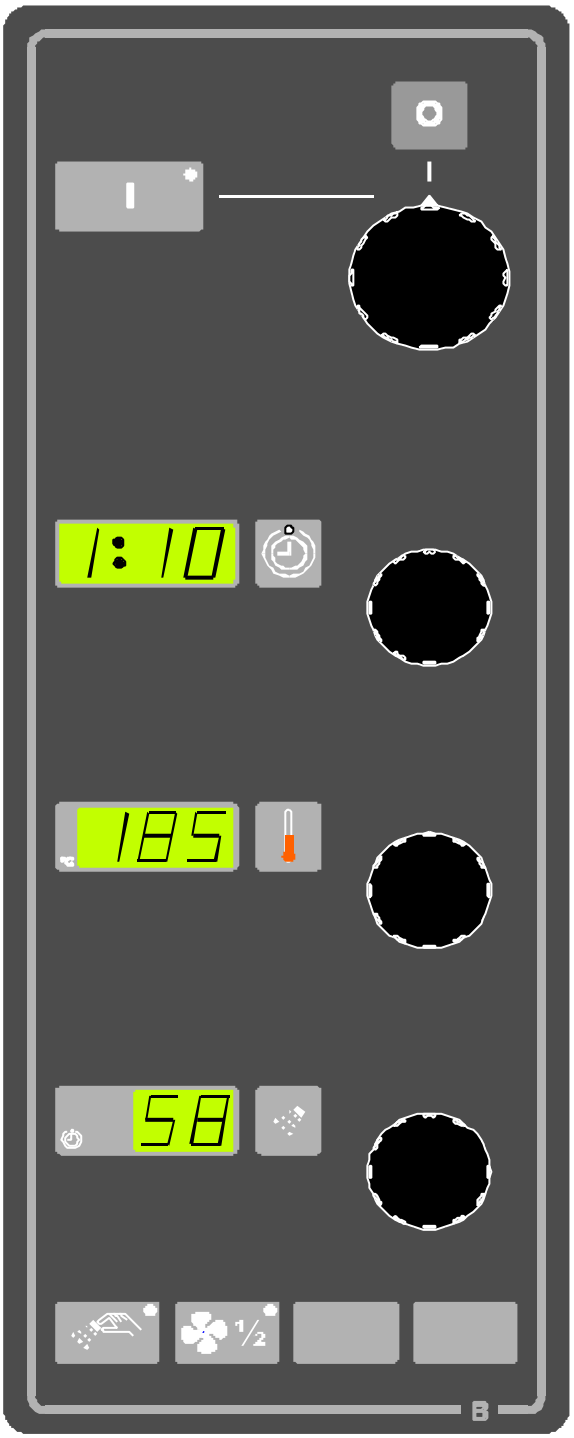
The control lamps next to the HOT AIR and COMBI STEAM symbols indicate the status of the outputs irrespective of the position of the function knob.

The control ensures that the heat cannot be turned on if the fan is off or the temperature in the oven chamber is above 250°C.
Furthermore, the control ensures that the steam generator cannot be turned on if there is no water in it.

See survey on page 31.

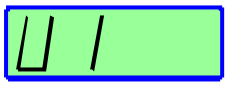
SETTING UP COMPUTER - MODEL B

Computer type IV is used for all B models.



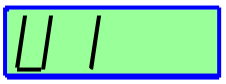
Setting up computer type IV for model B from EPROM version 1.01

Select the set-up mode by turning the main turn knob to I, then set the temperature at 77°C and the time at 2 hours and 40 minutes. The time display shows:



Shift to the next setting (max. U3) by pressing the key for manual injection steam.

The set-up mode can be interrupted/closed any time by turning the knob to 0.



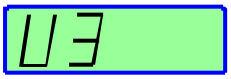
AUTOMATIC RESTART

Automatic restart

1 or 0 is shown in the temperature display  .

0 = The oven will not restart a program that has been interrupted.
1 = The oven will restart a program that has been interrupted.

Shift by turning the temperature knob.



ADJUSTING TEMPERATURE SENSORS (PT-100)

The digit of the sensor in use is shown in the core temperature display.
1 = oven chamber

Change between the digits by turning the core temperature knob. At every turn, a beep sounds.

The current temperature is shown in the temperature display: 

The last two digits in the time display indicate the set point: 

Standard set point = 100, which can be adjusted downwards to 80 and upwards to 120 with the time knob.

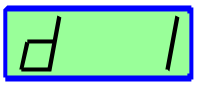
Each temperature sensor can be adjusted/corrected by approx. +/-10°C, i.e. the temperature changes in steps of 0.5°C.

The core temperature display holds only 2 digits, consequently 80 = 80, 00 = 100 and 20 = 120.

ACCESS TO TEST FUNCTIONS

It is possible to test all inputs and outputs via the control.

Shift to test functions by turning the main turn knob to I. Then set the temperature at 79°C and the time for 2 hours and 40 min.

The time display shows  .

Change between the test functions by turning the time knob.

The test functions can be interrupted/switched off any time by pressing the key for fan speed.

Activate the output by pressing the key for manual steam injection. To activate the output for a longer period of time, hold the key down while turning the knob for time setting. The control lamp next to I indicates whether the output is activated.

The control ensures that the oven heat cannot be turned on if the fan is off or the temperature in the oven chamber is above 250°C.

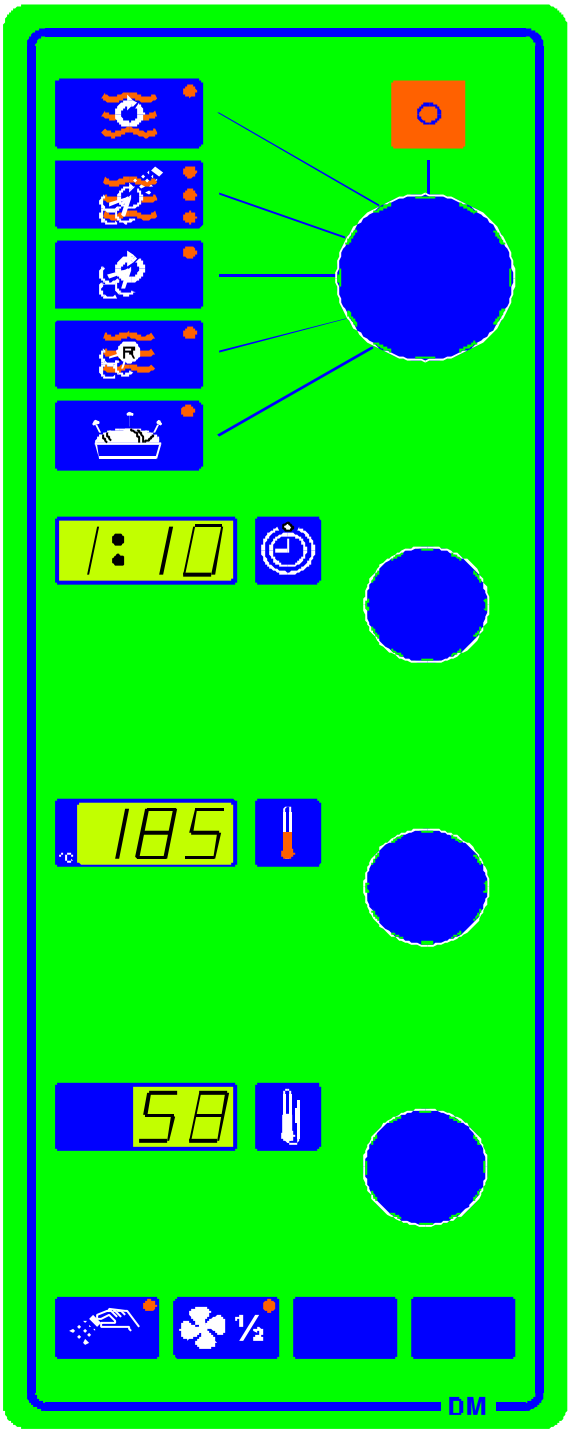
High/low fan speed and *motor brake* can only be activated one at a time.

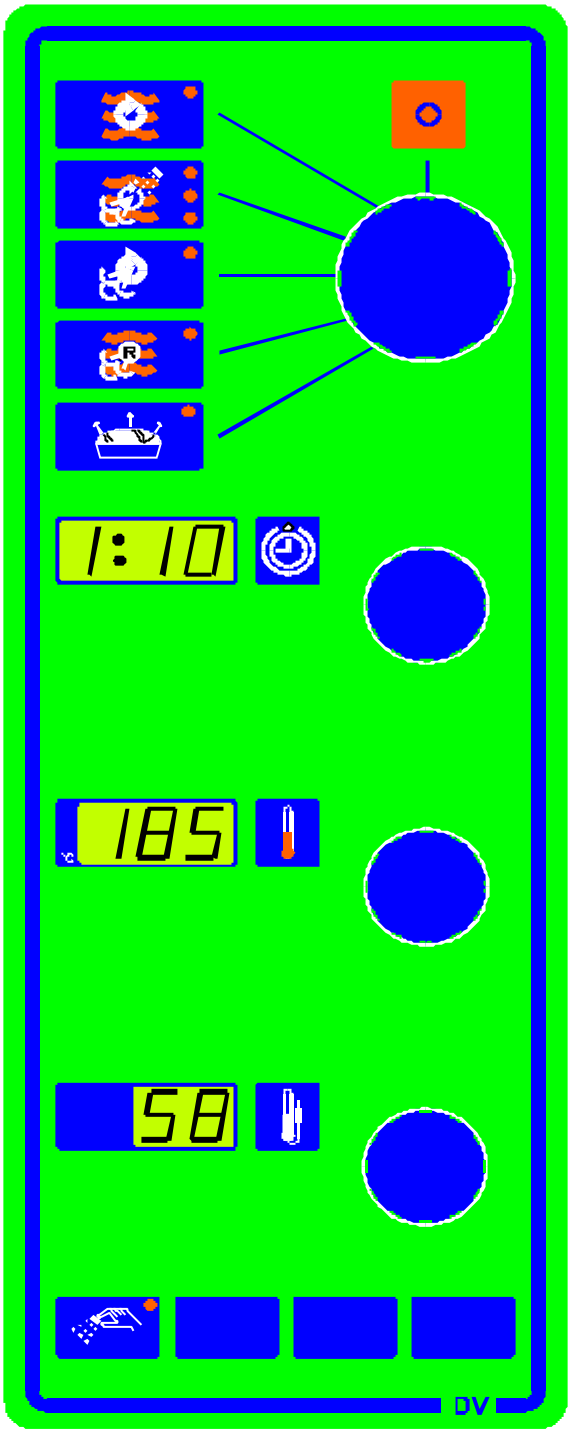
See survey on page 31.

Notes:

SETTING UP COMPUTER - MODELS DM & DV

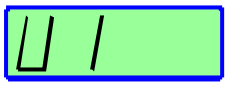
Computer type IV is used for all DM and DV models.





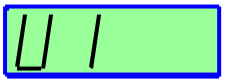
Setting up computer type IV for models DM & DV from EPROM version 2.10

Select the set-up mode by turning the function knob to COMBI STEAMING, then set the temperature at 77°C and the time at 2 hours and 40 minutes. The time display shows:



Shift to the next setting (max. U4) by pressing COMBI STEAM.

The set-up mode can be interrupted/closed any time by turning the function knob to 0.



SELECTING OVEN MODEL

Oven model

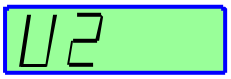
1 or 2 appears in the time display.
1 = DM, 2 = DV
Shift by turning the knob for time setting.

Automatic restart

1 or 0 is shown in the temperature display.

0 = The oven will not restart a program that has been interrupted because of a power cut.
1 = The oven will restart a program that has been interrupted because of a power cut.

Shift by turning the temperature knob.



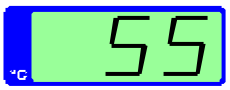
ADJUSTING WATER LEVEL SENSOR IN STEAM GENERATOR (DM)

The adjustment that is made will only influence the sensitivity of the level sensors and not the water level in the steam generator. Before starting the adjustment, make sure that there is water round the level sensor. This can be done by starting the steaming program and letting it run until the contactors are activated or by checking the water level in the water gauge on the outside of the steam generator.

The current set point for the water level sensor is shown in the time display:

*

The current value is shown in the temperature display:



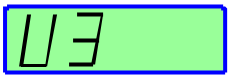
*

* The values shown are examples.

Adjust the set point to the value right between 85 and the current value (standard = 70).

The measured value drops when the sensors are surrounded by water.

You adjust the set point upwards and downwards by turning the time knob.



ADJUSTING TEMPERATURE SENSORS (PT-100)

The digit of the sensor in use is shown in the core temperature display.
1 = oven chamber, 2 = probe, 3 = steam generator, 4 = condensation, 5 = not in use

Change between the digits by turning the core temperature knob. At every turn, a beep sounds.

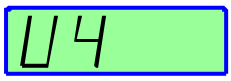
The current temperature is shown in the temperature display: 

The last two digits in the time display indicate the set point: 

Standard set point = 100, which can be adjusted downwards to 80 and upwards to 120 with the time knob.

Each temperature sensor can be adjusted/corrected by approx. +/-10°C, i.e. the temperature changes in steps of 0.5°C.

As the core temperature display holds only 2 digits, 80 = 80, 00 = 100 and 20 = 120.



ADJUSTING NOZZLE PULSES IN PROVING FUNCTION

The pulsing time is shown in the temperature display, e.g. 

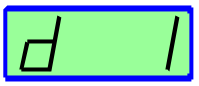
The pulsing time is shown in 1/10 sec., i.e. 10 = 1.0 sec., etc.

This time can be set between 0.1 and 9.9 sec.
The interval between the pulses is always 20 sec.

ACCESS TO TEST FUNCTIONS

It is possible to test all inputs and outputs via the control.

Shift to test functions by turning the function knob to COMBI STEAMING. Then set the temperature at 79°C and the time for 2 hours and 40 min.

The time display shows  .

Change between inputs and outputs by turning the time knob.

The test functions can be interrupted/switched off any time by setting the function knob at 0.

The output can be switched on and off by turning the function knob to HOT AIR and COMBI STEAMING, respectively.

Activate the output by pressing the key for manual steam injection. To activate the outlet for a longer period of time, hold the key down while turning the knob for time setting. The control light next to I indicates whether the output is activated.

The control ensures that the oven heat cannot be turned on if the fan is off or the temperature in the oven chamber is above 250°C.

High/low fan speed and *motor brake* can only be activated one at a time.

See survey on page 31.

Notes:

Survey of test functions

Number	Description	Models without this feature	Comments
d d : 1	Oven heat	ST	Can only be active when the fan is on
d d : 2	Steam generator heat	CV, B, BM, DV	Can only be activated if there is water in the generator
d d : 3	Fan low	M	
d d : 4	Fan high		
d d : 5	Motor brake / *not active	M	**To be active for max. 5 sec. only** ***ovens with reversing fan only**
d d : 6	Injection valve	M, ST	
d d : 7	Flooding valve	CV, B, BM, DV	
d d : 8	Drain pump	CV, B, BM, DV	
d d : 9	Condensation valve	B, BM	
d d : 10	Damper motor	M, B, DM, DV	
d d : 11	Exhaust	M,B,DV,DM	Works only if an external unit has been connected
d d : 12	0 = forwards 1 = backwards		Ovens with reversing fan only
d d : 13	Buzzer		Loud continuous sound when ON/OFF is activated
d d : 14	Interior light		
d d : 15	Oven sensor		Shows °C or Err if a defect occurs
d d : 16	Core temperature sensor	B, BM	Shows °C or Err if a defect occurs (core temperature probe missing)
d d : 17	Steam generator sensor	CV, B, BM, DV	Shows °C if Err if a defect occurs
d d : 18	Condensation sensor	BM, B	Shows °C or Err if defect occurs
d d : 19			Not in use
d d : 20	Oven door		Shows a symbol for door open or closed and Err if a defect occurs. Can be initialised by pressing exhaust key if door is closed and oven sensor normal
d d : 21	Water level in steam generator	CV, B, BM, DV	Shows water level below min. and max. Temperature key: water in) CM and Core temperature key: water out) ST
d d : 22	Thermal cutout, 305°C	ST	ON appears if OK, OFF if interrupted or a wiring defect has occurred
d d : 23	Thermal cutout, fan motor		ON appears if OK, OFF if interrupted or a wiring defect has occurred
d d : 24	Contacts in damper motor	M, B, DM, DV	ON appears when the contacts are connected and OFF if interrupted

Number	Description	Models without this feature	Comments
d d : 25	Rotation, right	Type III/IV computer	
d d : 26	Rotation, left	Type III/IV computer	
d d : 27	Pump for detergent	Type III/IV computer	
d d : 28	Pump for rinsing agent	Type III/IV computer	
d d : 29	Solenoid valve water CC	Type III/IV computer	
d d : 30			Vacant outlet
d d : 31			Not used
d d : 32	Drain sieve fitted	Type III/IV computer	
d d : 33	Cleaning rod fitted	Type III/IV computer	
d d : 34	Pressure sensor 2 bar	Type III/IV computer	
d d : 35			Vacant inlet

ERROR CODES

At the present time, error codes 2 and 12 are not in use.

Er: 1 : Function knob defective (computer type III/IV)
Possible cause: The function knob may have been turned beyond stop position.
The function knob was not set at 0 position when it was fitted.
Remedy: Replace computer.

Er: 3 : Faulty connection (computer type III/IV only)
Possible cause: No connections between terminals 2 and 21 in the 37-pole plug.
Remedy: Reconnect terminals 2 and 21 in 37-pole plug.

Er: 4 : Oven chamber above 305°C (not ST)
Possible cause: The thermo-switch for the oven chamber has gone. The oven cannot be operated until the defect has been remedied.
Remedy: Reconnect the thermostat which is located in a hollow under the oven on the left-hand side of the front panel, by pressing the red button until a click is heard. Note that the thermostat may be disconnected during transport.

Er: 5 : Fan too hot
The thermo-switch in the fan motor has gone.
Possible cause:
- Breaking of phase / fuses
- Fan blocked by incorrectly fitted filter housing
- Fan rotating in the wrong direction

The oven cannot be operated until the defect has been remedied.
Remedy: Check fuses in switchboard. Check that the filter housing has been correctly fitted on the pins. Let the oven cool for approx. 20-30 min., then restart it.
Check that the direction of rotation of the fan is counter-clockwise (looking at the fan from inside the oven chamber).

Er: 6 : Drain temperature above 75 °C (not B & BM)
The drain temperature is normally kept below 60°C by means of the built-in condensation nozzle. If the drain temperature exceeds 75°C for more than 5 min., error code 6 will appear for a short moment at the beginning and at the end of the operating mode.
Possible cause: Dirt in solenoid valve, nozzle or dirt filter, hot water connected or sensor for condensation defective. The oven can be operated even if the defect is not remedied.
Remedy: Check that the oven is connected to cold water. Clean solenoid valve, nozzle or filter.

Er: 7 : Oven sensor defective (not ST)
Possible cause: The temperature sensor in the oven chamber is defective.
The oven cannot be operated until the defect has been remedied.
Remedy: Replace sensor.

Er : 8 : Core temperature probe defective or wrongly fitted (not B & BM)

Possible cause: Probe is not fitted in socket. Probe defective, socket for probe defective or short-circuited (due to water or fat).
Programs requiring the use of the core temperature probe cannot be used until the defect has been remedied.
Remedy: Check that the probe is correctly fitted or clean the socket.

Er : 9 : Temperature sensor in steam generator defective (not CV, B, DM & DV)

The program cannot be used until the defect has been remedied. However, programs that do not require the use of the steam generator can still be used.
Remedy: Replace heating element + sensor.

Er : 10 : Condensation sensor in drain defective (not B & BM)

The oven can still be operated even if the defect is not remedied. However, the temperature in the drain will exceed 60°C and the defect should therefore be remedied as soon as possible.
Remedy: Replace sensor.

Er : 11 : Water shortage in steam generator (not CV, B, BM & DV)

The maximum water level in the steam generator has not been reached after 2 minutes of filling.
Possible cause: Solenoid valve or dirt filter clogged, water supply stopped or water pressure too low (min. 1.5 bar). The program cannot be used until the defect has been remedied.
Remedy: Clean solenoid valve or dirt filter. Check the water supply to the oven. Check that the water pressure is min.1.5 bar.

Er : 13 : Temperature in steam generator above 130°C (not CV, B, BM & DV)

The temperature of the upper heating element in the steam generator is above 130°C.
Possible cause: Water shortage in steam generator or scale on heating elements.
The program cannot be used until the defect has been remedied.
Remedy: Stop the oven for approx. 5 min., then resume the program that was interrupted.
Descale steam generator. Check water level measuring.

Er : 14 : Not in use

Er : 15 : Incorrect phase sequence (not computer types III & IV)

Possible cause:
- Fan rotates in the wrong direction.
- 2 phases in the electric installation have been exchanged by mistake.

The oven cannot be operated until the defect has been remedied.
Remedy: Change about the 2 phases in the electric installation. Let the oven cool for 20-30 min., then restart it. Check that the direction of rotation of the fan is counter-clockwise (looking at the fan from inside the oven chamber).

E r : 16 **: Wiring defect at door switch**
Possible cause: Wire for door switch short-circuited or disconnected. Cancel the message by pressing any key – appears at the start, but the oven starts after approx. 5 sec. Note that the oven does not stop when the door is opened.
The oven can be operated even if the defect is not remedied.
Remedy: Replace door switch. Can be initiated in dd 20.

E r : 17 **: Gas shortage, or thermo-switch in exhaust disconnected (gas ovens only)**
Possible cause: The gas supply for the oven has failed/thermo-switch disconnected.
Remedy: Restore gas supply/connect thermo switch.

The following error codes are only active if the oven is equipped with CombiClean

E r : 30 **: Drain sieve not inserted during normal operation**
Possible cause: Sensor defective, or the sieve has not been reinserted in the drain hole in the middle of the oven.
Remedy: Insert sieve or deactivate CombiClean.

E r : 31 **: Drain sieve not removed before CombiClean is started**
Possible cause: Cleaning rod not inserted, or sensor defective.
Remedy: Insert cleaning rod.

E r : 32 **: Cleaning rod is not rotating**
Possible cause: Cleaning rod has not been inserted; driving belt, driving motor or sensor defective.
Remedy: Insert cleaning rod.

E r : 33 **: Cleaning rod removed during operation**
Possible cause: The cleaning rod has been removed after detergent has been sprayed into the oven chamber or after a power cut.
Remedy: Insert cleaning rod.

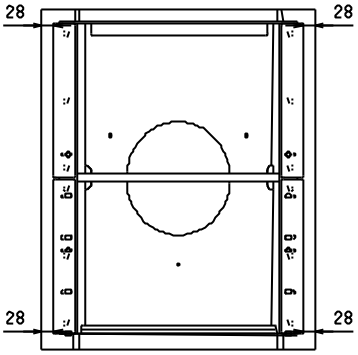
E r : 34 **: Water pressure too low (a warning only, CombiClean will continue)**
Possible cause: The water pressure is too low (below 2 bar) for CombiClean to function properly, or the pressure sensor is defective.
Remedy: Clean the dirt filter at the front of the oven. Check that the water has not been turned off. Replace pressure sensor.

E r : 35 **: Remove cleaning rod**
Possible cause: Cleaning rod inserted at the start of an oven program.
Remedy: Remove cleaning rod and insert sieve.

Adjusting Flaps

The flaps can be adjusted individually to achieve a uniform baking result. Experience shows, however, that the following basic setting produces the best result in the vast majority of cases.

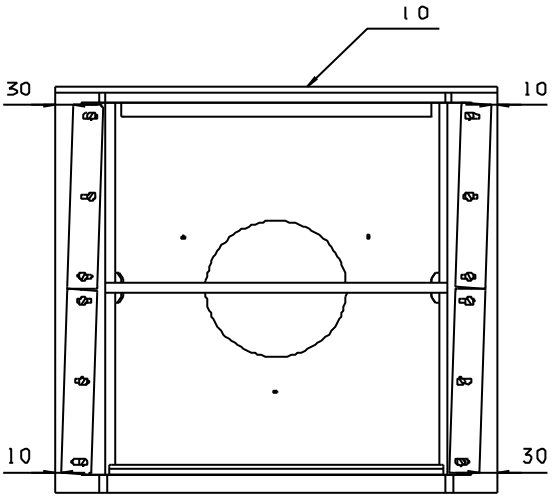
Air gap setting in mm:



Types 2/3, 1.06, 1.08, 1.10, 1.12, 1.16 and 1.20

On 2.10 and 2.14 ovens, a flap is fitted at the top (part No. 014.848).

Air gab setting in mm:



Types 2.10 and 2.14

Exchanging halogen bulbs in oven chamber

Models CV, CM, ST, M, DV & DM

Remove the lamp glass with a screwdriver and exchange the halogen bulbs.

Always use HOUNÖ special halogen bulbs (part No 065.012).

NB: Never touch the bulbs without first protecting your fingers with a piece of cloth or the like.

Exchanging halogen bulbs in oven door

Models B & BM

Open the interior glass of the oven door and exchange the halogen bulbs.

Always use HOUNÖ special halogen bulbs (part No 065.012).

NB: Never touch the bulbs without first protecting your fingers with a piece of cloth or the like.

Descaling of steam generator

HOUNÖ recommends the use of descaled/softened water for steam generators to avoid problems with maintenance, etc. If the hardness of the water is <3° dH, it is usually not necessary to descale the water.

On all models with a steam generator, the steam generator can be descaled without the use of tools. Add descaling agent through the tube under the exhaust valve and run the descaling program in the engineering menu.

Contact HOUNÖ Technical Support for detailed instructions on descaling.

Checking before Use

The oven should be checked before you start using it.

On the outside

- Check that the oven has not been damaged during transport (dents, scratches, etc.)
- Check/adjust the height and check that the oven is placed level (horizontally)

Connections

- Check for correct water connection
  - Turn on the water supply
  - Check for leaks
  - Turn off the water supply
  - Check and clean the dirt filter
  - Turn on the water supply again
  - Check handshower and stop tap (under the oven)
- Check for correct electrical connection
  - Check for correct mounting of drip tray
  - Check for correct fall of the hose from the drip tray, and examine for leaks
- Check for correct exhaust connection
- Clean the oven
- Apply the steel oil delivered with the oven

Oven chamber

- Check the direction of rotation of the fan
- Check that the filter housing is mounted correctly
- Check the interior light
- Clean the oven

Operating panel

- Check and adjust, if necessary, each of the pre-set values
- Heat up the oven to 250°C for approx. 5 min.

Annual Service Check

A service check-up should be performed at least once a year.

On the outside

- Oven door
  - Check that the hinges are firmly fixed and that the door is fitted straight in relation to the oven.
  - Check door sealing for cracks
  - Check/adjust 2-step door handle
  - Check/adjust inductive sensor/door switch

- Exhaust plug/vacuum valve
  - Check for leaks
  - Check for/remove scale deposits

Connections

- Water connection
  - Check for leaks
  - Check and clean dirt filter
  - Check handshower and stop tap (under the oven)

- Electrical connection
  - Check for irregularities

- Exhaust
  - Check/adjust exhaust plate/vacuum valve and motor

Oven chamber

- Check that the fan is correctly fixed and that it rotates freely

- Check/adjust filter housing and flaps

- Check interior light

- Check/adjust rack and trolley for rack to ensure that the height of the oven is correct

- Check nozzle for correct dispersion

- Heating elements
  - Check gaskets
  - Check/tighten heating elements
  - Start the oven, activate the mode HOT AIR for a couple of seconds, then turn off the oven and check that all heating elements are lukewarm

Under the oven

- Solenoid valves
  - Check hoses
  - Clean solenoid valves
  - Check that solenoid valves close

- Check/test drain pump

- Drain
  - Check for leaks in drain system
  - Check that drain system is not blocked

- Check condensation nozzle in drain tube

- Drip-tray system
  - Check/adjust drip-tray spring
  - Check discharge tray and hose from drip tray
  - Check correct fall of hose
  - Check passage in hose (clean out hose, if necessary)

In motor room

- Heating elements for oven chamber
  - Check insulation for leaks
  - Check for electric leakage
  - Check load distribution on phases

- Steam generator
  - Check insulation for leaks
  - Check for electric leakage in heating elements
  - Check load distribution (idling) on phases
  - Check rubber gaskets at heating elements
  - Check/tighten heating elements
  - Check/adjust level sensors
  - Descale steam generator

- Check/tighten copper tube connections
  Check that all components are firmly fixed

- Contactors
  - Check that there are no bad connections
  - Check that all components are firmly fixed

- Check/test motor for damper in air exhaust

- Fan motor
  - Check that the motor is firmly fixed
  - Check the direction of rotation
  - Check gasket at motor shaft

Operating panel

- Test each program for a short period of time

- Check temperature
  - Set the oven at HOT AIR, 170°C
  - Set the oven at STEAMING at 100°C
  - Check the oven temperature with an approved digital thermometer.

Notes: