Dear customer,

Congratulations on the purchase of your new HOUNÖ oven.
You are now the owner of one of the leading oven products on the market.

All HOUNÖ products are currently subjected to intensive product development, which ensures that the products always contain the latest technology and the most up-to-date and energy-saving methods of preparation.

Furthermore, the HOUNÖ products are entirely up-to-date with the latest developments/technology in terms of

- ERGONOMICS AND SAFETY
- SIMPLE AND LOGICAL OPERATION
- USER FRIENDLY DESIGN
- RELIABILITY AND SERVICE

To ensure that our customers get an optimum and reliable product, all HOUNÖ units are passed through an extensive test programme in which all functions are subjected to a continuous and extreme load.

For optimum results – read your user's manual
Before you start using the oven and in order for you to be able to fully utilise its many facilities and advanced technology, it is important that you are familiar with its operating modes and range of applications. We therefore recommend that you study the manual thoroughly, because if you do, you are sure to achieve optimum cooking results through appropriate and safe operation. By going through the manual, you will save time and avoid unnecessary problems[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.

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 compartment 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, lamp glass and incandescent lamps, 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's manual.

We hope that you will be satisfied with your new oven.

Yours sincerely,

HOUNÖ A/S

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[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

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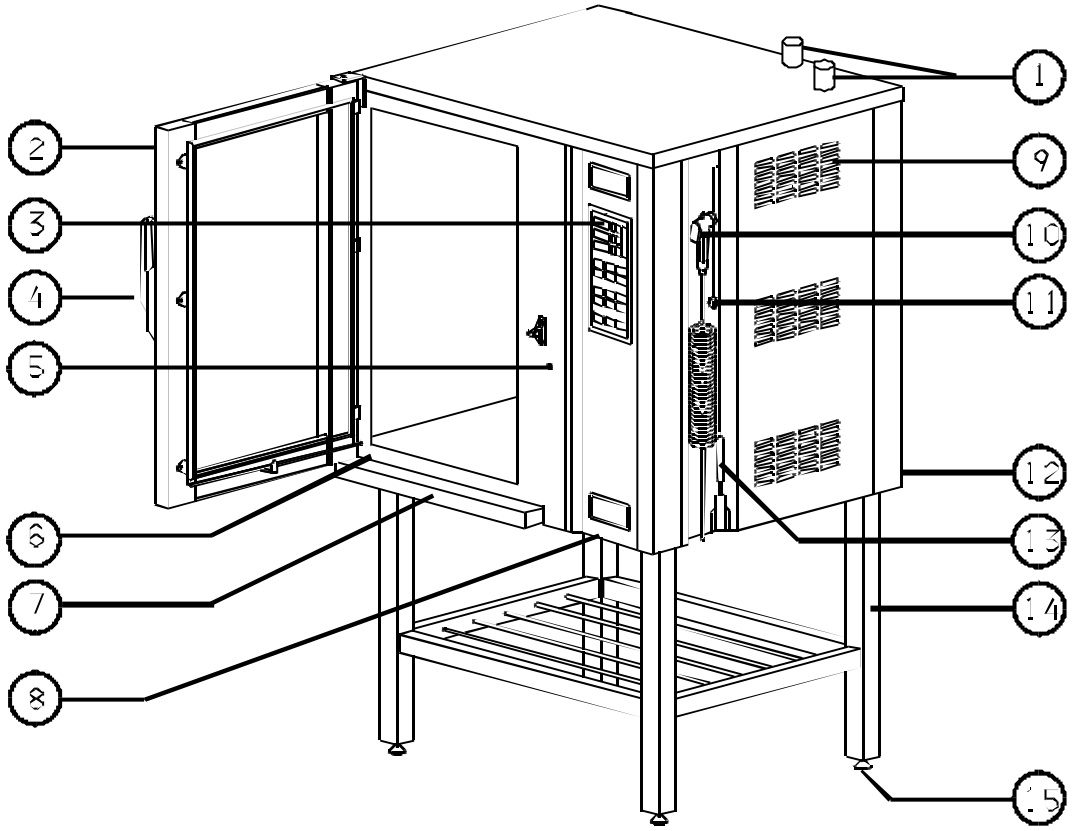
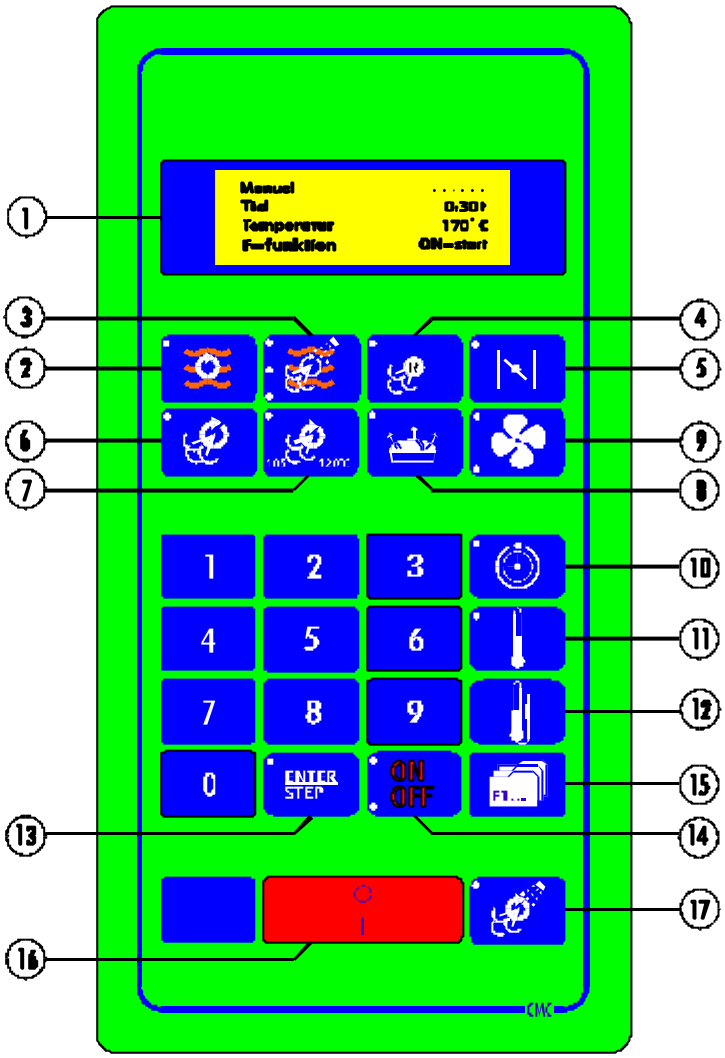
OVEN DESCRIPTION

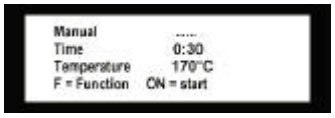


(1) **Exhaust**
(2) **Oven door**
(3) **Operation panel**
(4) **2-step safety handle**
(5) **Socket for core temperature probe**
(6) **Approval plate**
(*7)* **Drip tray**
(8) **Stop valve for handshower**
(9) **Cover for electric parts and steam generator**
(10) **Handshower**
(11) **Blind socket for core temperature**
(12) **Drain**
(13) **Core temperature probe**
(14) **Stand**
(15) **Adjusting screws**

DESCRIPTION OF OPERATION PANEL



(1) Display
(2) HOT AIR
(3) COMBI STEAMING
(4) REHEATING/GENERATING
(5) Exhaust
(6) Steaming
(7) Forced steaming
(8) Proving
(9) Fan speed/timer
(10) Function key: Time
(11) Function key: Oven temperature
(12) Function key: Core temperature
(13) Storing key
(14) Operating mode ON/OFF
(15) Function key: Programming
(16) Steamer ON/OFF
(17) Manual humidity pulsing

(1) Display 

4-line display; 2 lines are used for menu headings.

The total amount of time remaining is shown in the time display (incl. program steps) while the program is running.

The display always shows how many steps (max. 6) are contained in a menu and which step is being performed at the moment.

If any operational defects occur, an error code appears in the time display (see list of error codes, page 29).

(2) HOT AIR 

Activate the HOT AIR operating mode by pressing (2).

The combi steamer is automatically set to the pre-selected value. For changing the pre-setting, see (15).

Start the steamer by pressing 

(14)

Use

The HOT AIR operating mode can be used for

- Roasting
- Grilling
- Baking
- Gratinating
- Roasting of breaded products

Advantages of circulating hot air:-

- **Shorter roasting time**
- **Lower temperature**
- **Even temperature in the entire oven chamber**

The circulating hot air gives a faster and more efficient supply of heat and reduces the roasting/baking time considerably as compared to traditional roasting and baking ovens.

The larger the roast, the lower the temperature.) If you apply these two rules of
The longer the cooking time, the lesser the shrinkage) thumb, the roast becomes juicier.

In general, all individual products (pieces of chicken, steak, etc.) require preheating at a higher temperature and roasting (baking) with the exhaust open.

- **Direct exhaust**  **(5)**
  The direct exhaust removes surplus humidity from the oven chamber and gives crispier products. Open the exhaust during the second half of the baking/roasting time.

- **2 fan speeds (9)**
  The steamer has two different fan speeds. Usually, high fan speed is used for maximum circulation of air. Low fan speed is used to minimise the effect of the air during the proving and baking of light products.

(3) COMBI STEAMING 

Activate the COMBI STEAMING operating mode by pressing key (3).

This program contains three different levels of humidity/steam pulsing: 1) low, 2) medium, 3) high. Choose between the levels by pressing (3). The three control lamps show which level has been chosen (one control lamp = low, etc.).

The combi steamer is automatically set to the pre-selected setting. For instructions on how to change the pre-settings, see (15).

Start the steamer by pressing 

(14).

Use

COMBI STEAMING is used for

- Roasting
- Steaming
- Baking
- Glazing
- Gratinating
- Reheating (for instance, ‘cook & chill’)

Which humidity to choose depends very much on the type, quality and level of preparation of the product. The best results are achieved by trial and error. This allows you to leave your mark on the preparation.

For the most common tasks, for instance baking of liver paste and roasting of large roasts, haunches, fillets and saddles, use low or middle humidity pulsing. For braising, use high humidity pulsing.

Economy steaming program

High humidity pulsing is very suitable as an economy steaming program for the steaming of small portions of, for instance, vegetables and potatoes requiring considerably less energy than STEAMING. Use a temperature of 98°C and high humidity pulsing.

Advantages of COMBI STEAMING

- If the roast is steamed with injection steam at the start, the pores will close immediately preventing the meat juice from disappearing.

- In COMBI STEAMING, the shrinkage is reduced by up to 30 – 35%.

- Ideal for long-term roasting

•Deep-frozen, ready-prepared dishes can be reheated in COMBI STEAMING at approx. 130°C using medium humidity/steam pulsing. This reduces the heating time considerably as compared to reheating in the HOT AIR mode. No crust forms on the products, as the preparation is done with steam.

(4) REHEATING 

Activate REHEATING by pressing key (4).

The combi steamer is automatically set to the pre-selected setting. The pre-setting can be changed as you please. For instructions on how to change the pre-settings, see (15).

Start the oven by pressing 

(14).

Use

The reheating program can be used for gentle reheating of pre-prepared food on plates, dishes or in bowls, without condensed water forming on the plate.

At banquets, for instance, the various products can be prepared and arranged well in advance of the serving without compromising the quality.

Advantages

•Quick, efficient and flexible serving of hot courses – also at large banquets.

•By using this working method, the workload in the kitchen will be reduced.

Many factors may influence the end result, for instance:-

•The type and quality of the products

•The number of plates, bowls, etc. in the oven

•The height of the food on the plates and dishes and in the bowls

It is therefore important that you proceed by trial and error with each individual product/dish. In practice, measuring the core temperature with the core temperature probe can be a great help.

•The reheating time will typically be between 5 and 8 minutes and the temperature between 130 and 140°C.

•The larger the products, the longer the reheating time.

•Similar courses on all plates produce the best result.

•Do not place plates and bowls too close to each other in the oven. There should be some space between the products to allow the air to circulate freely around the products.

•It is best to reheat containers filled with for instance gravy, porridge or rice in step 3, at high humidity and 120°C.

(5) Exhaust 

Open the exhaust by pressing key (5).
Control lamp on = open / control lamp off = closed.

The exhaust can be opened and closed any time during the cooking process.

The exhaust is used to remove humidity and steam from the oven chamber leaving a dry heat which can be used for the browning and grilling of roasts, omelettes, etc.

The exhaust is also used to give a crispy surface to baked products. We recommend that dough products be baked with the exhaust open during the last part of the baking process.

(6) STEAMING 

Activate the STEAMING operating mode by pressing key (6).

In principle, this operating mode consists of two modes: normal steaming (approx. 100°C) and low-temperature steaming (20 – 99°C).

The steamer is automatically set to the pre-selected setting. The pre-setting can be changed as you please, see (15).

Start the steamer by pressing 

(14).

Note! When a cold oven is preheated, water will automatically be drained from the oven. Therefore, preheating for at least 8 – 10 min. is required.

Use

STEAMING can be used for:

- Steaming/boiling
- Low-temperature steaming
- Blanching
- Poaching
- Defrosting
- Heating
- Keeping warm
- Preservation
- Preparation of vacuum-packed products (sous-vide)

Advantages of STEAMING and LOW-TEMPERATURE STEAMING in general

- Shorter cooking time as compared to cooking in a pot.

- With steaming, the flavour, aroma and structure of the products are maintained to a far greater extent than if they were prepared in a pot.

- The important vitamins and nutrients of the products are preserved and, consequently, the unique taste is retained.

•The consistency/structure of the products are preserved. Vegetables retain their appetising and fresh colour.

•Different products can be prepared simultaneously, for instance fish and vegetables, as flavour is not transferred from one product to the other.

•Fish should ALWAYS be steamed at a temperature below 80°C, to prevent the albumen from coagulating and the fish from “shrinking”.

•Gentle steaming process during which even delicate products retain their consistency and colour.

•Suitable for the preparation of fish and minced meat.

•Possibility of a more accurate temperature control as compared to cooking in a pot.

•Very little shrinkage, especially in fatty foods.

• In LOW-TEMPERATURE STEAMING, vegetables can be kept warm at approx. 70°C for a long time without turning into a mash.

Note! ‘Green’ vegetables should be steamed at at least 85°C, as, otherwise, they will lose their colour.

•When possible, use perforated containers.

•Deep-frozen vegetables can be steamed directly from the freezer.

•For certain ‘delicate’ products such as fish, shellfish, sausages, pâtés, poultry and desserts, new variations of taste can be developed. Furthermore, good results are achieved with diet food.

•Vegetables should only be steamed until they are almost done, as the steaming process continues for a short while after they have come out of the oven.

Vacuum / sous-vide preparation

LOW-TEMPERATURE STEAMING is ideal for the preparation of sous-vide products. The slightly prepared products are ‘welded’ into plastic bags and then further prepared at the required gentle and low temperatures. Very rapid cooling down to approx. +2°C is necessary.

At the end of the preparation process, the vacuum-packed products are placed on grills and “heated” by low-temperature steaming at 75 - 90°C depending on the type and size of the food product.

(7) FORCED STEAMING 

Activate the FORCED STEAMING operating mode by pressing key (7).

The oven is automatically set to the pre-selected setting. The pre-setting can be changed as you please (see (15)).

Start the oven by pressing key 

(14).

Note! When a cold oven is preheated, water will automatically be drained from the oven. Therefore, at least 8 – 10 min. preheating is required.

Use

FORCED STEAMING is used for quick steaming of sturdy vegetables such as potatoes, carrots celery, leeks, turnip cabbage, etc.

Advantages

•The steaming time is reduced by up to 25% owing to the additional heat.

•Spices can be added to raw as well as frozen products. Dry spices should be mixed well and sprinkled evenly over the vegetables.

•Ideal if the products are to be pulped.

(8) PROVING 

Choose PROVING by pressing key (8).

The steamer is automatically set to the pre-selected setting. The pre-settings can be changed as you like (see (15)).

Then start the oven by pressing key (14).

(9) Fan speed 

The HOUNÖ steamers offer the choice of two fan speeds:-

- HIGH (the upper control lamp turns red)
- LOW (the lower control lamp turns red)

Just press the key.

The fan speed is usually high, it can, however, be changed any time.

In most cooking processes, air and steam should circulate at the highest possible speed. In some cooking processes, however, a slower circulation of air produces a better result. In the HOUNÖ steamers, it is possible to change manually between high and low fan speed.

As a rule of thumb, **HIGH** fan speed should be used in the HOT AIR, COMBI STEAMING, STEAMING and FORCED STEAMING operating modes.

When baking light products, for instance meringue and cream puff and when preparing an omelette or a soufflé, you can use low fan speed to prevent the light products from “blowing off” the baking sheet or the omelette or soufflé from becoming uneven.

As a rule of thumb, **LOW** fan speed should be used in the REGENERATING AND PROVING modes as these are very sensitive preparation processes.

It is possible to change between high and low fan speed at any point in the cooking process (does not apply to PROVING).

Note that the 2/3 models have only one fan speed.

(10) Time 

The time can be set from 1 min. to 23 hours and 59 min.

When the time has run out, the steamer automatically stops and an alarm sounds.

The pre-set time can also be changed while the program is running.

(11) Oven chamber temperature 

The temperature range depends on the operating mode chosen:-

•HOT AIR	20 - 250°C
•COMBI STEAMING	20 - 250°C
•REGENERATING	110 - 160°C
•PROVING	20 - 40°C

The temperature can be changed any time during the program.

(12) Core temperature 

The core temperature can be set between 20 and 99°C.

(13) Storing key (memory) 

This key has two functions:

A) **ENTER: Time, temperature, core temperature. Storing changes to pre-selected settings for the operating modes.**

B) **STEP: Programming up to six steps. The display will show which step you are in. (See 15).**

(14)ON/OFF operating mode

Turn the operating modes on and off by pressing key (14).

(15) Programming 

Use the manual function.

1. Choose any of the desired functions (2, 3, 4, 6, 7, 8).

2. Adjust time, temperature and perhaps exhaust, core temperature and fan speed.

If further steps are needed, press ENTER-STEP.

3. Choose any of the desired functions (2, 3, 4, 6, 7, 8).

4. Adjust time, temperature and perhaps exhaust, core temperature and fan speed.

If further steps are needed, press ENTER-STEP and repeat steps 3 and 4.

Press F1 twice and press 1 to store manual program. The first vacant menu number appears, but choose any number you like, for instance 100 and above (menu numbers 1 – 98 have been pre-programmed by the computer manufacturer). Conclude by pressing ENTER-STEP.

Menu numbers can be retrieved either by pressing the number directly via the F1 key or by "rolling" forwards or backwards in the menus with the arrow keys (2 and 8).

Menu text:

Visualise a cylinder with letters and figures which can be rolled forwards and backwards by pressing keys  (forwards) and  (backwards).

Press  to jump to the next letter. Press  to go backwards.

You can change between capital letters and small letters using key 7.

You can delete a character using key 0.

Conclude with ENTER-STEP.

The display will guide you through the whole procedure.

The functions of F1

With the function key F1, 10 functions are available.

Press F1 once	* *(1) Retrieve menu number* * *(2) Store changed menu* * *(3) Correct menu text*
Press F1 twice	* *(1) Store manual program* * *(2) Find vacant menu* * *(3) Delete menu/step*
Press F1 3 times	* *(1) Retrieve original menu* * *(2) Contrast adjustment* * *(3) Change pre-settings* * *(4) Serial port*

Retrieve menu number:
This function retrieves an existing menu number.

Store changed menu:
This function is used to store any changes that may have been made in one of the menus 1 - 199. A program menu can be changed before, during or after its performance without affecting the original menu.
If you wish to store a change permanently, use the function **"Store changed menu"** as follows: Press F1 once, press 2 and conclude with ENTER-STEP.

Correct menu text:
This function offers the possibility of **constructing** or **changing** a menu heading.

Press F1 once, press 3 and by means of the keys 2, 4, 6 and 8, you can "write" in the display.

Visualise a cylinder with letters and figures which can be rolled forwards and backwards by pressing keys 2 (forwards) and 8 (backwards).

With keys 4 and 6, the cursor can be moved to the right and to the left.

With key 7, you can change between capital letters and small letters.

With key 0, you can delete a character.

Conclude with ENTER-STEP.

Store manual program:
This function is used to set up a new menu.

Find vacant menu:
This function finds the first vacant menu. Press F1 twice, press 2 and the display shows a vacant menu number. Conclude by pressing ENTER-STEP.

Delete menu/step:
With this function, you delete either the last step or the entire menu. Push F1 twice, press 3 and conclude by pressing ENTER-STEP.
Retrieve original menu:

With this function, you retrieve one of the menus 1 - 199 programmed in the control. Press F1 three times, press 1, and conclude by pressing ENTER-STEP.

Contrast adjustment:
Adjusting background light and contrast in the display.
Press F1 three times, press 2 and the adjustment is made with keys 2 (lighter) and 8 (darker).

The background light is adjustable with keys 1 (lighter) and 7 (darker).

Conclude by pressing F1.

Change pre-settings:
Every time one of the six operating modes (HOT AIR, COMBI, etc.) are selected, each will appear with pre-selected values for temperature, time, maybe core temperature, fan, and exhaust.

These pre-settings can be changed:

Select "Change pre-selected values" by pressing F1 three times and pressing 3. Enter the new/changed values and conclude by pressing ENTER-STEP.

Serial port:
A HACCP printer can be connected by pressing 1. At the end of the program, you will be asked whether you require a printout.

Disconnect the printer by pressing 0.

The HACCP printer is an optional extra which can be ordered from the combi-steamer manufacturer.

(16) Combi steamer ON/OFF  **- main power supply**

Switch the steamer on and off by pressing key (16). Before the steamer starts, all functions are automatically tested, and, consequently, all displays and control lamps light up for approx. 2 seconds.

The steamer always starts in the manual and HOT AIR modes.

(17) Manual humidity pulsing 

By activating key (17), humidity/steam is added to the oven chamber. The humidity pulsing continues as long as the key is activated.

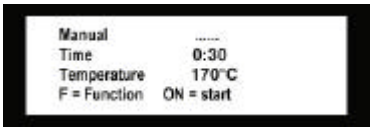
Manual humidity pulsing is used to add steam to the oven chamber at the beginning of a program. Humidity pulsing can be used in all operating modes.

When baking, for instance, dough products in the HOT AIR mode, we recommend that you add humidity during the first 10 or 15 seconds of the baking process to ensure that the products have a crisp and golden surface.

When roasting, manual steam injection is a very efficient way of closing the pores of the meat thus ensuring that the meat retains its moisture and stays juicy.

How to operate the CMC computer control

Starting up: The oven always starts in the manual menu with the HOT AIR mode automatically selected.



MANUAL OPERATION
This function is activated by pressing ON/OFF. The pilot lamps change from red to green to indicate that the function is active.

Changing operating mode, time, etc.
If another operating mode than HOT AIR  is required, this **must** be selected **before** selecting time, temperature, etc. If not, these settings will be deleted by the settings of the new operating mode.

Before starting or **during** program performance, you can change the time, temperature, core temperature, exhaust and fan speed as you please.

Time, temperature and core temperature is selected by pressing the function key in question, and the text in the display will flash. Changes can now be made by pressing the keys. Confirm with ENTER-STEP 

.

The exhaust is open when the pilot lamp is on  . High fan speed is indicated by the upper pilot lamp, low fan speed by the lower pilot lamp  .

Timer
The oven has a timer function that can be used to count down the time when you preheat the oven or for automatically starting a program. When the time runs out, an alarm will sound and the oven will continue in the next step.
Activate the timer function in a manual operation mode by pressing the key for fan speed. The display shows “Timer function” and you can set the time. Press ENTER-STEP and start programming the desired functions as described under “Extending a program”, and press ON/OFF.

Extending a program
To extend a program by another step, press ENTER-STEP and the vacant step is ready for programming.

In short:-

1. Choose one of the six operating modes as step 1.

2. Adjust the values for time, temperature and core temperature, if necessary. Perhaps, change the settings for fan and exhaust.

3. Proceed to the next step or start the oven program.

CORE TEMPERATURE

Operation

1. Select the desired operating mode and set the time/manual time control, temperature, etc. When set to manual time control, the steamer will automatically stop when the desired core temperature is reached. If the time has been set at the same time as the core temperature, the steamer will stop at whichever setting is reached first – time or core temperature.

2. Insert the core temperature probe in the outlet on the front panel.

3. Place the point of the core temperature probe in the middle of the product. Close the door, the sealing will fit tightly round the wire.

4. Switch on the core temperature control by pressing the core temperature key (12). The display will flash and the desired core temperature is set with the keys. To accept the core temperature setting, press ENTER-STEP (13). The combi steamer stops automatically when the desired core temperature is reached.

Application

It is advantageous to use core temperature control for the following modes of preparation:-

- Roasting, incl. long-term roasting
- Regenerating/reheating
- Steaming
- Forced steaming
- Preparation of sous-vide/vacuum-packed products

Advantages of core temperature control

- As a special feature, the core temperature control of HOUNÖ steamers contains a keeping-warm function. When the core temperature is reached, the heating elements are automatically disconnected. The keeping-warm function will then maintain the core temperature in the product by activating the heating elements when the core temperature drops to 2°C below the core temperature set. When the original core temperature is restored, the heating elements are disconnected. In this way, the desired core temperature can be maintained as long as needed.

- Optimum core temperature in the products.

- Uniform products every time – even for different sizes of product.

- Shrinkage is considerably reduced as every degree below the optimum core temperature means that the product loses weight.

- Reduced energy consumption.

Long-term roasting

Long-term roasting in a HOUNÖ steamer is a particularly gentle roasting process during which the roasting temperatures are often reduced by more than 50% as compared to normal roasting. Because of the lower temperature and prolonged roasting time, the meat becomes particularly tender and juicy, and shrinkage is considerably reduced.
During long-term roasting – below 100°C, for instance – it is often unnecessary to add steam/ humidity, as evaporation is already reduced to a minimum.

Long-term roasting / core temperature control

To be able to control/check and subsequently maintain the desired core temperature, it is of great advantage to use core temperature control during long-term roasting. This will produce by far the best result every time.

Suggested settings for core temperature control

Product	Level of Preparation	Core Temperature
Pork		
Ham	Well-done	75°C
Ham	Rare	65 - 68°C
Ham, boiled	Juicy	64 - 68°C
Cured saddle of pork		65 - 70°C
Cured saddle of pork, cold		55 - 60°C
Loin	Rare	65 - 70°C
Loin	Well-done	70 - 75°C
Shank	Well-done	80 - 85°C
Shoulder of pork	Well-done	75°C
Rib	Well-done	65°C
Ham in puff paste	Well-done	65 - 70°C
Roast pork	Well-done	75 - 80°C
Beef		
Fillet	Medium	55 - 60°C
Roast beef	Medium	55 - 60°C
Joint of beef	Well-done	85 - 90°C
Boiled beef	Well-done	80 - 85°C
Veal		
Saddle of veal	Rare	65 - 70°C
Leg of veal	Well-done	75 - 80°C
Shoulder of veal	Well-done	75 - 80°C
Brisket of veal	Well-done	75 - 78°C
Mutton		
Saddle of lamb	Rare	70 - 85°C
Saddle of lamb	Well-done	80°C
Lamb		

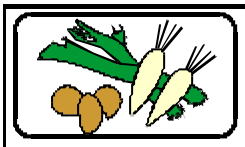
Lamb	Well-done	79 - 85°C
Poultry		
Chicken		85°C
Goose		75 - 80°C
Goose		90 - 92°C
Turkey, duck		80 - 85°C
Paste, pâté, etc.		
Paste		72 - 74°C
Terrine		60 - 70°C
Foie gras (pâté de foie gras)		45°C
Fish		
Salmon		55°C
Pike		60°C
Fish paté		65°C

Baking

Product	Operating mode	Processing time in minutes	Temperature °C	Remarks and tips
Rolls*		15-20	170-180	Manual humidity for the first 10 sec. 40-50 g/ea.
Loaves*		25-35	160-180	Manual humidity for the first 10 sec. 650 g/ea.
Buns*		15-20	160-170	Manual humidity for the first 15 sec. 40 g/ea.
Baguettes, prebaked	Closed/open exhaust	10-12 / 2-4	170-180	No humidity pulsing
French loaves/ baguettes	Closed/open exhaust	15-20 / 2-5	170-180	Manual humidity for the first 10-20 sec.
Danish pastry**	Closed/open exhaust	10-50 / 5-7	170-180	Different sizes
Marble cake		50-70	160-170	In a baking tin
Madeira cake		50-80	150-160	In a baking tin
Vanilla biscuits		7-10	160-170	
Puff pastry		20-25	160-180	½ fan speed
Chou (cream puff)		20-30	160-180	½ fan speed
Almond cake		8-12	170	
Meringue	Open exhaust	120-140	80	½ fan speed

*)Dough products that are not prerisen/prebaked by the manufacturer should prove/rise for approx. 15 - 40 min. depending on the product. Frozen products should be defrosted to +5°C before proving.

**) Danish pastry products based on bread dough should prove for 15-20 min., whereas certain bake-off products can be baked directly from the freezer. Frozen dough products should defrost longer.



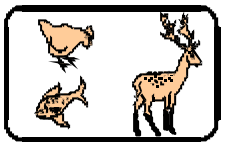
Vegetables

Product	Operating mode	Processing time in minutes	Temperature °C	Remarks and tips
Potatoes		30-40	100	Fresh. Different sorts of potatoes require different steaming times.
Potatoes	+ exhaust open	15	100	Pre-boiled
Fried potatoes		15	230	Pre-boiled and sliced - add oil
Baked potatoes	1	60	185	
Carrots		25	100	Fresh, whole, medium-sized
Small carrots		18	100	Deep-frozen, add spices while frozen
Cauliflower		20	100	Stalks, fresh
Broccoli		15	100	Fresh
Broccoli		18	100	Deep-frozen
Broccoli		2-3	100	Blanching
Beans		10	100	Deep-frozen
Brussels sprouts		20	100	Frozen
Spinach		8	100	Fresh
Celery		20	100	Deep-frozen, add spices while frozen
Leeks		15	100	Fresh
Rice		30	100	Parboiled. 1 part of rice to 1½ part of cold water
Pasta		25	100	Put pasta into cold water. 1 part of paste to 1½ part of water*
Eggs		8	100	Soft-boiled, perhaps stacked in egg trays
Eggs		12	100	Hard-boiled, perhaps stacked in egg trays

* The steaming time is reduced if preheated water is used.

Meat courses

Products	Operating mode	Processing time in minutes	Temperature °C	Remarks and tips
Beef tenderloin		5 / 15	200 / 140	Fresh, whole fillet of beef. Add spices before cooking
Roastbeef		20 / 25	180 / 140	Add spices before cooking
Joint of beef		15-20 / 70-90 / 20-25	100 / 140-150	Well-hung
Roast veal		10-15 / 60-70 / 15-20	160-190	Add spices and lard before cooking
Roast pork		10 / 60 / 25	100 / 180 / 190	Neck with lard. Add spices before cooking
Pork chops		15	225	Fresh
Schnitzel		15	225	Fresh
Meat balls		15	165	Pre-fried in pan, 75 g
Minced-meat dishes		10 / 45 / 20	100 / 160 / 175	Approx. 2 kg in aluminium tin
Liver pâté		45	170	250 g and 500 g aluminium tins placed in water bath
Cured saddle of pork		50-60	180	
Smoked ham		80	175	Apply mustard + clayed sugar
Ham in puff pastry		15 / 90	160 / 180	Exhaust open or closed
Pickled neck		60	100	Fresh, without bones
Liver		6 / 6	235	Fresh, sliced - add oil
Gratin		45	185	
Frankfurter		18	80	
Veal fricassée		30	170	Fresh
Omelette		30		Apply fat to canteen



Poultry, Fish and Game

Product	Operation mode	Processing time in minutes	Temperature °C	Remarks and tips
Chicken	+ open exhaust	20-25 / 10-15	160 / 185	Fresh, thawed, 1000 g
Chicken	+ open exhaust	35-45 / 10-15	180 / 220	Frozen, 800 g
Chicken legs	+ open exhaust	15 / 5	160 / 185	Fresh, thawed
Duck	+ open exhaust	50-60 / 50-60	170-180	Fresh or thawed, 3000 g
Goose	+ open exhaust	90-120 / 15-20	160-185	Fresh or thawed
Turkey	+ open exhaust	80-100 / 10-20	160-185	4000 g, perhaps covered with lard
Flatfish		12-18	175-185	Fresh, cover with oil
Greenland Halibut		10-20	70-75	Fresh
Trout		10-15	70-75	Fresh
Turbot		8-12	70-75	Fresh
Cod		12-18	70-75	Fresh
Mussels		15-20	75-80	Fresh
Saddle of venison		25-23	180-200	Fresh, possibly covered with lard or oil
Haunch of venison		15 / 20 / 30-40	170-180	Fresh, possibly covered with lard or oil
Leg of lamb		20 / 25 / 30-40	170-180 / 140-160 / 160	Without bones, add spices
Meat loaf		15-20	220	Fresh, add spices
Vacuum-packed meat/poultry		10-15	70-85	Without bones

CLEANING

Daily cleaning of the oven is recommended for hygienic reasons and to avoid interruptions of operation.

The design of the HOUNÖ ovens allows quick and easy cleaning. The oven chamber is made of all-welded stainless steel, which makes it splash-proof.

You will find the easy-to-use hand shower with flexible hose very suitable for interior cleaning.

The door sealing is easy to remove for cleaning.

The flat front panel makes exterior cleaning quick and efficient.

1. Interior cleaning

A. Always clean the steamer when it is cold or cool the oven chamber down to below 60°C.

B. With the COMBI STEAMING mode at high humidity (6), the oven is set to steam for 10 – 15 min. at 60°C.

C. Apply HOUNÖ mild detergent or CombiClean detergent (according to requirement) to the sides of the oven chamber, rack, etc. using a soft brush or a spray pistol. Protect your face and hands, as the detergent may have a strongly irritating effect on your eyes/skin.

D. Leave the oven detergent to work for approx. 5-10 min.

E. Repeat step B.

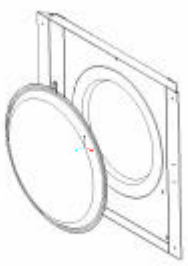
F. Flush the oven chamber with the hand shower.

G. Check that the water is able to pass freely through the drain.
The grating that comes with the oven should be placed over the drain hole inside the oven.

Never use a high-pressure cleaner. Never spray water on the heating elements behind the filter housing.

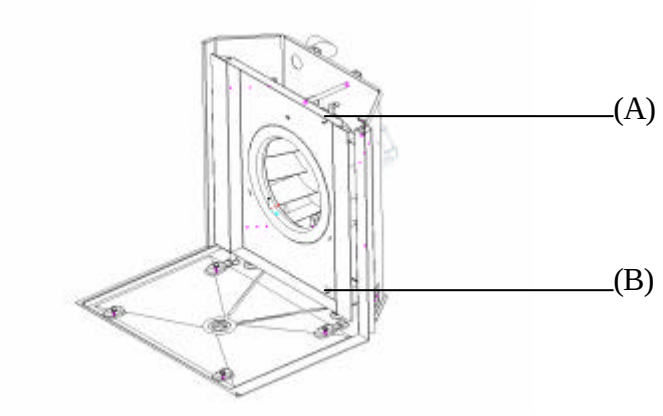
2. Cleaning of fat filter

The fat filter(s) should be cleaned daily for optimum baking results. It is made of stainless steel and can therefore be cleaned in a dishwasher without any risk of corrosion. Dismount the fat filter by lifting it up and pulling it out at the bottom.



3. Cleaning behind filter housing

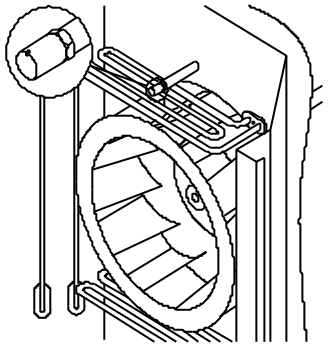
For thorough cleaning of the oven chamber, move the filter housing so that it becomes possible to clean round the fan and heating elements.
Loosen the 2 screws (A) and (B) on the filter housing, turn the filter housing and clean behind it. The filter housing can be dismounted entirely by lifting it upwards till it is clear of the pin at the bottom and then tipping it.



4. Cleaning of nozzle

The injection nozzle should be dismounted and cleaned according to requirement. The easiest way to clean the nozzle is to let it soak in scale remover for approx. 6-8 hours.

When remounting the nozzle, the small notch should turn upwards, see illus.



5. Exterior cleaning

Wash the oven cabinet on the outside with soapy water and dry with a soft and damp cloth.

After drying, apply HOUNÖ STEEL OIL (follow directions on the packaging).

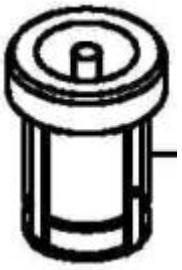
Clean the oven door glass with ordinary window cleaner.

Note! The exterior of the oven must never be flushed with a water hose or high-pressure cleaner as this may damage the electronic components.

6. Cleaning of exhaust valve

The exhaust valve should be checked once a week.

Remove the valve, clean thoroughly with a brush and detergent, rinse with water, dry, and fit again. It is very important to avoid the forming of a layer of fat on the valve, as the fat might affect the valve's ability to function.



Integrated cleaning program – introduced on 1st Feb. 2001

To make the cleaning of the combi steamer as quick and efficient as possible, the combi steamers are equipped with a pre-set automatic cleaning program.

Step A: Choose program No 199 and the display says "CLEANING". Press "START".

Step B: When the alarm sounds and the display says "APPLY DETERGENT", apply oven detergent with a soft brush or a sprayer. Close the oven door.

Step C: When the alarm sounds again, the display says "RINSE OVEN WITH HAND SHOWER". Do so.

Make sure that there are no scraps of soap left in the oven chamber after rinsing as these will cake when the oven is heated the next time.

The total consumption of time from start of program is 20 minutes.

Max. water consumption: 12 l + rinsing.

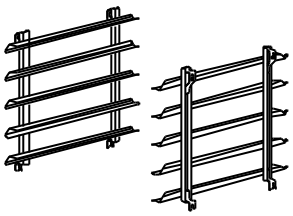
The cleaning program is locked and, therefore, cannot be altered. If the oven chamber is extremely dirty, repeat the program.

AUXILIARY EQUIPMENT

In order for you to get maximum benefit from your oven, HOUNÖ offers a number of optional extras and auxiliary equipment, which makes it possible to tailor ovens to the needs of any kitchen.

A. Racks

The HOUNÖ ovens are equipped with removable racks. To achieve a more rational workflow in the kitchen and optimum utilisation of the capacity of the oven, it is possible to use racks with different spacing between the runners, if required.



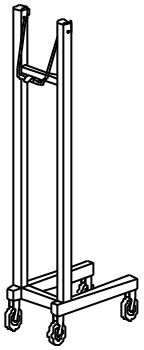
TYPE 1.06 - 1.08 - 1.10 - 1.12

TYPE 1.16 - 2.10 - 2.14 - 1.20 (standard)

The racks are available with 65, 85 and 130 mm spacing between the runners. The number of runners depends on the size of the oven.

B. Trolley for racks

Trolleys for racks are used for transporting racks and for quick loading and unloading of the oven.

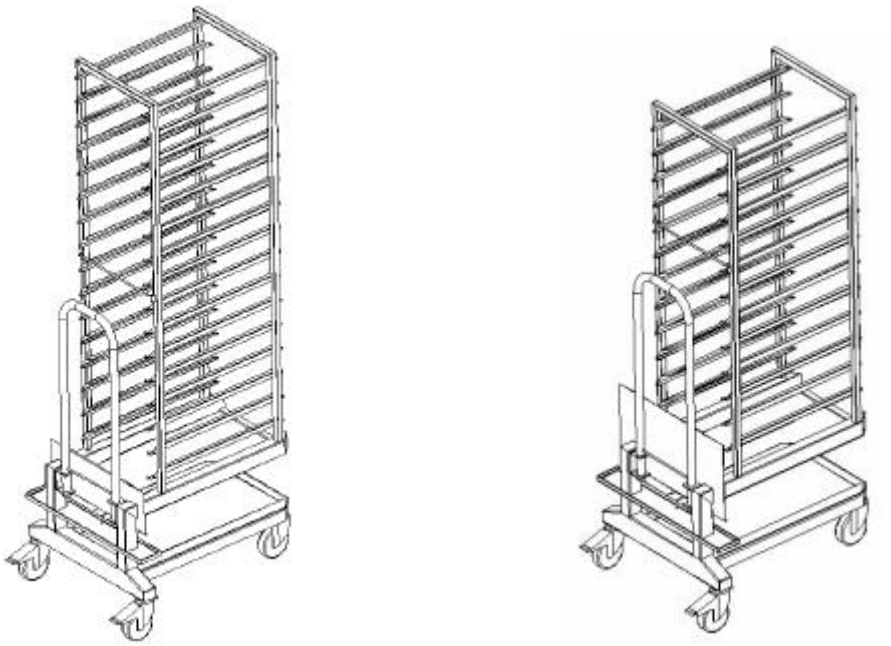


As the HOUNÖ ovens are all part of a modular system, HOUNÖ offers only 2 different sizes of trolley for the 8 different sizes of oven. The 1/1-GN trolley for racks is used for 1.06, 1.08, 1.10, 1.12, 1.16 and 1.20 models and the 2/1-GN trolley for 2.10 and 2.14 models.
In this way, the same trolley for rack can be used for several different ovens.

For a stacking arrangement of e.g. oven and steamer or bake-off oven and proving cabinet (COMBI-PLUS System), a special trolley for rack is available.

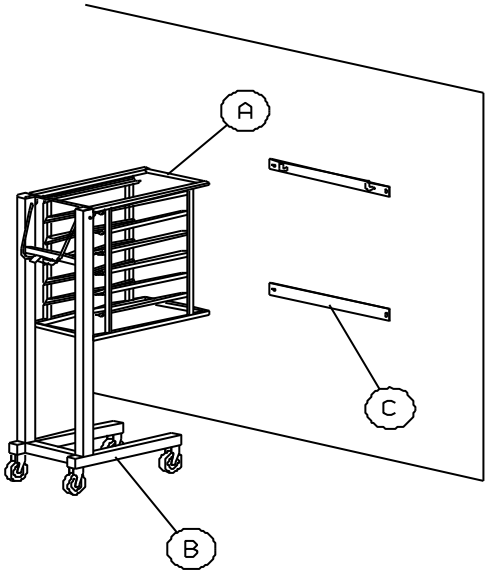
Model 1.20 and 1.16 roll-in

Several trolleys can be used for the 1.20 model in order to fully utilise the capacity of this size of oven.



C. Wall brackets

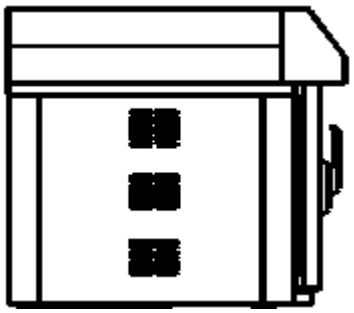
To complete the system of extra racks and trolley, a wall bracket for racks is available.
Racks can thus be loaded and unloaded simultaneously with the oven preheating or producing other products.



D. Extraction hood

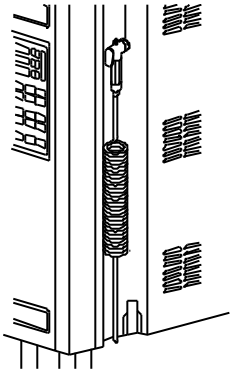
As the ovens use hot air and combi steam, steam will inevitably escape from the oven chamber when the oven door is opened.

To catch the steam, the oven can be equipped with a specially designed integrated extraction hood. The extraction hood is available for 1/1-GN and 2/1-GN ovens.



E. Handshower

To facilitate work, increase safety, and make cleaning more efficient, most HOUNÖ models are equipped with an integrated handshower.

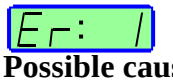


ERROR CODES

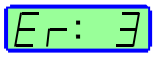
The HOUNÖ ovens have an automatic error detecting system. In the event of malfunctioning of the oven or faulty connection, error codes appear in the display. This means that any defects are specified immediately and can be remedied quickly and efficiently, which again means fewer interruptions of operation and thus fewer service calls. The following list of error codes provides you with a brief description of each error code and an indication as to how the fault can be remedied.

On computer models (CMC/CVC), a message appears at the bottom of the display and an alarm is heard.

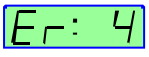
At the present time, error codes 2 and 12 are not in use.



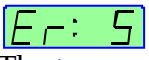
: Program switch defective
Possible cause: The program switch has been turned beyond stop position.
Remedy: Replace computer.



: Faulty connection
Remedy: Reconnect terminals 2 and 21 in plug S2.

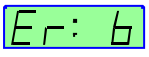


: Oven chamber above 305°C
Possible cause: The temperature circuit breaker for the oven compartment has gone. The oven cannot be operated until the defect has been remedied.
Remedy: Reconnect the thermostat which is located in a hollow under the oven on the left-hand side of the front panel, by pressing the red button gently. Note that the thermostat may be disconnected during transport.

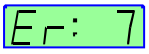


: **Fan is hot**
The temperature circuit breaker in the fan motor has gone.
Possible cause:
- Breaking of phase / fuses
- Fan blocked by incorrectly fitted filter housing
- Fan rotating in the wrong direction

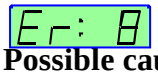
The oven cannot be operated until the defect has been remedied.
Remedy: Check fuses in switchboard. Check that the filter housing has been correctly fitted on the pins. Let the oven cool for approx. 20-30 min., then restart it.
Check that the direction of rotation of the fan is counter-clockwise (looking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



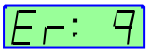
: **Drain temperature above 75 °C**
The drain temperature is normally kept below 60°C by means of the built-in condensation nozzle. If the drain temperature exceeds 75 °C for more than 5 min., error code 6 will appear for a short moment at the beginning and at the end of the operating mode.
Possible cause: Dirt in solenoid valve, nozzle or dirt filter, hot water connected or defective sensor for condensation. 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.

 **: Oven sensor defective**

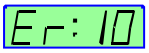
Possible cause: The temperature sensor in the oven chamber is defective.
The oven cannot be operated until the defect has been remedied.
Remedy: Replace sensor.

 **: Core temperature probe defective or wrongly fitted**

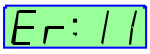
Possible cause: Probe is not fitted in socket. Probe defective, socket for probe defective or short-circuited (due to water or fat).
The program cannot be used until the defect has been remedied.
Remedy: Check that the probe is correctly fitted or clean the socket.

 **: Temperature sensor in steam generator defective**

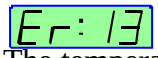
The program cannot be used until the defect has been remedied. However, programs that do not require the use of the steam generator can still be used.
Remedy: Replace heating element with sensor.

 **: Condensation sensor defective**

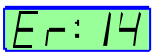
The oven can still be operated even if the defect is not remedied. However, the temperature in the drain will exceed 60°C and the defect should therefore be remedied as soon as possible.
Remedy: Replace sensor.

 **: Water shortage in steam generator**

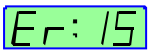
The maximum water level in the steam generator has not been reached after 2 minutes of filling.
Possible cause: Solenoid valve or dirt filter clogged, water supply blocked or water pressure too low (min. 1.5 bar). The program cannot be used until the defect has been remedied.
Remedy: Clean solenoid valve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

 **: Temperature in steam generator above 130 °C**

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.

 **: Breaking of phase**

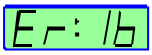
Possible cause: One or more phases in the power transmission to the oven is lacking, possibly due to a defective fuse. The program cannot be used until the defect has been remedied.
Remedy: Check switchboard. Replace defective fuses, if any.

 **: Incorrect phase sequence**

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).

 **: Wiring defect at door switch**

Possible cause: Wire for door switch short-circuited or interrupted. Cancel the message by pressing any key - reappears when the oven is restarted.

The oven can be operated even if the defect is not remedied.

Remedy: Replace door switch.

HOW TO ACHIEVE PERFECT BAKING AND ROASTING RESULTS

A HOUNÖ oven gives you optimum possibilities of achieving good baking/roasting results. Below are a few pieces of advice on baking and roasting in your HOUNÖ oven.

If your baking/roasting results leave something to be desired, for instance, ‘uneven’ baking/ roasting occurs, follow these directions:-

PREHEATING
It is important always to preheat the oven. The first time you heat the oven after the oven has been turned off for more than 4 hours, it must be preheated at **250°C for 20 minutes**. It is also important that the products to be cooked all have the same temperature when they are placed in the oven. When baking frozen products, the oven should be preheated for an extra long period of time. It might be a good idea to leave the products at room temperature for 5 - 10 minutes before they are placed in the oven.

TIP
Before cooking a full oven load, you can preheat the oven for 5 minutes at the above temperature. The oven should be preheated again after a break in the cooking process.

FAN SPEED
It is recommended always to use **high fan speed**. The program is set to high fan speed as this ensures the best and most even distribution of heat in the oven. Only in the case of light products can the use of low fan speed sometimes be recommended.

OVEN TEMPERATURE
The oven door should not be opened during the baking/roasting process (only to remove food that needs no more cooking), partly to keep the temperature as high as possible, partly to save energy.

FILTER/GRILLE
To achieve optimum heat distribution, it is important that the filter/grille in front of the fan is clean (if not, the heat distribution may become uneven).

LOADING OF THE OVEN
1. It is recommended that containers and baking sheets be placed in the rack as follows: the first one in the middle, the second one above the first one, the third one below the first one, the fourth one above the second one, etc.

2. The products on the sheets should all have the same height. A loaf next to a cake may result in uneven baking. **Different types of bread should be placed on different sheets**. The sheets should not be overloaded; the air must be able to circulate freely around the products.