

**Dear customer,**

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

All HOUNÖ products are subjected to intensive product development, which ensures that the products always offer the latest technology and the most up-to-date and energy-saving methods of preparation. Moreover, the HOUNÖ products are entirely up-to-date with the latest developments/technology in terms of

- ? ERGONOMICS AND SAFETY
- ? SIMPLE AND LOGICAL OPERATION
- ? ELEGANT AND FUNCTIONAL 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.

Before you start using the oven and its many automatic functions, we recommend that you study the manual thoroughly so as to ensure optimum cooking results. By going through the manual, you will obtain a better understanding of the advanced technology and feel safer while using the oven in your daily work.

Furthermore, we call your attention to the wide variety of optional extras:

- ? 10 preset programs each with 3 process steps
- ? Preheating at 300°C
- ? Timer start function
- ? Handshower
- ? Additional cassette rack, trolley for rack, booster pump, extraction hood with steam condenser
- ? Automatic cleaning system, CombiClean (cannot be retrofitted)

**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.

If you utilise all the technological facilities of this oven, you are guaranteed perfect results with only a minimum of resources.

For further information on the HOUNÖ range of products, please visit [www.houno.com](http://www.houno.com).

Yours sincerely,

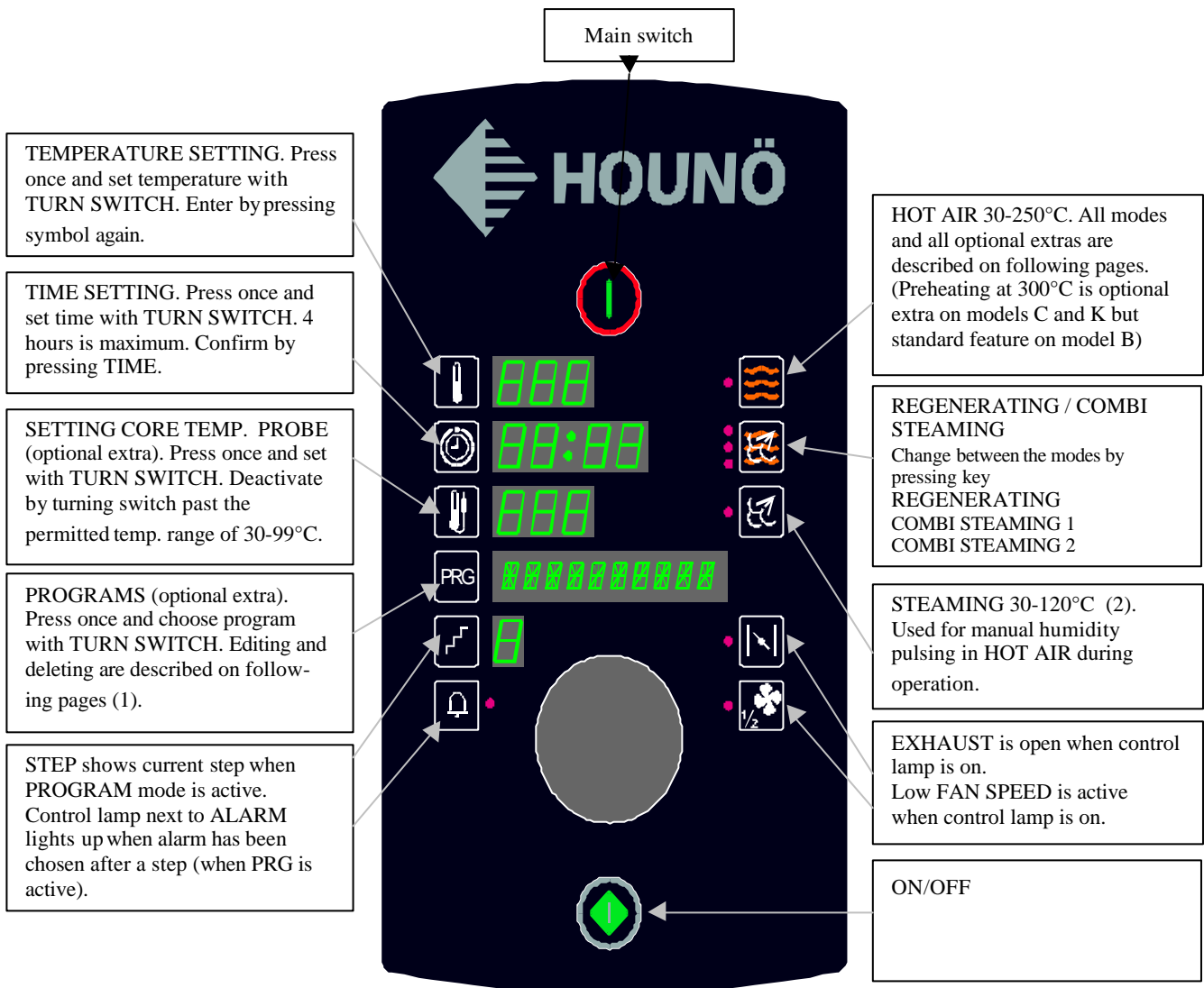
**HOUNÖ A/S**

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For further information on the functions and user interface of the oven, see Service & Installation Manual.

## Settings



- (1) If the oven does not incorporate COMBICLEAN, the manually operated cleaning system can be activated by pressing the PRG key and turning the turn switch until CLEANING appears in the display.
- (2) The C model has no steam generator, but this mode makes it possible to boil in the oven anyway. At temperatures between 65 and 100°C, you can boil all kinds of vegetables, rice, pasta, meat and fish.

## Description of modes

### Setting of temperature

Press TEMPERATURE key once and set temperature with turn switch.

### Setting of time

Press TIME key.

Time flashes.

Choose desired time (hours and minutes) with turn switch.

If switch is turned all the way down to 0, "-:--" (continuous operation) appears in the display.

Max. time setting is 4 hours.

### Setting of core temperature (optional extra)

Press CORE TEMPERATURE key.

If the display is off, the core temperature appears as 75°C.

Set core temperature between 30 and 99°C with turn switch.

Core temperature is deactivated by turning switch past 30.

When core temperature is chosen, time changes to "-:--".

The core temperature probe has several measuring points from the tip of the sensor and upwards. The computer calculates an average temperature thus ensuring that the core temperature is 100% correct.

If the probe is inserted incorrectly, the advanced technology notifies you at once.

The probe is inserted vertically in the thickest part of the product.

When preparing products of very different sizes, you get a uniform quality by inserting the sensor in the smallest product and then moving it to a larger product when the core temperature alarm sounds.

### Programs (optional extra)

10 programs that can hold 3 process steps each. It is possible to write 10 characters and entering alarm after steps 1 and 2.

Press PRG and turn the switch. The first five programs are preset by the factory.

Start the program by pressing the ON/OFF key.

To leave PROGRAM, turn the switch beyond "P O".

To delete an entire program, press core temperature key and alarm key simultaneously for 2 seconds.

When the keys or the turn switch is idle for 20 seconds, the oven returns to manual operation.

### Entering and changing text

To enter or change text, press PRG for 3 seconds.

The first digit or the relevant letter/"\_" flashes alternately. Change the flashing character with the turn switch. You can choose between all the letters of the alphabet and the digits 0 – 9.

The space sign is next to the letter A.

Move on to the next digit by pressing PRG briefly.

Store text by pressing PRG until "STORED" appears in the display.

To leave text editing without storing, press ALARM. The original text reappears.

To delete the entire text, press PRG and ALARM simultaneously for 2 seconds.  
When a key or the turn switch is idle for 20 seconds, the oven returns to *select program*.

### **Entering and changing data in steps**

By pressing STEP when PROGRAM is active, the step display is turned on and shows "1". The data of the first step can now be entered.

To move on to the next step (1-3) and read and change settings, press STEP again.  
Choose and change temperature, time, core temperature, exhaust and fan as in manual operation.

Stop between steps: To turn the alarm between steps on and off, press ALARM. If the control lamp is on, the program ends with the current step and a beep is heard. The oven does not proceed to the next step until the oven door is opened and closed or you press ALARM.

To store a change made in the step mode, press PRG for 2 seconds.

Leave STEP by choosing another program with the turn switch.

Delete current step by pressing STEP and ALARM simultaneously for 2 seconds.

When the program has started, you can still change time, temperature, core temperature and the settings of fan and exhaust. These changes will then only be active in the current run. Note that the display shows the total time remaining after start and that it will show the time remaining in the current step when you press TIME.

### **Hot air**

30-250°C

The hot air operating mode can be used for roasting, grilling, baking and gratinating. We recommend that you keep the exhaust open when roasting products at very high temperatures. It is possible to roast breaded products such as breaded fish and breaded pork chops. For maximum effect, use enameled cast iron trays / silicone-coated baking sheets and one of the special browning fats available in the shops.

### **Combi steaming 1-2**

30-250°C

COMBI STEAMING 1 is recommended for the roasting of whole pieces of meat. The pores of the meat close quickly, which prevents the juice from leaving the meat.

When using long-time roasting/low-temperature roasting at 80 – 130°C, COMBI STEAMING 1 will help reduce shrinkage.

COMBI STEAMING 2 is recommended for roasts that need to be well-done, and if you want to use the juice in the container for gravy. At temperatures higher than 170°C, the crust of the meat becomes nice and brown. A great deal of humidity is added to the oven chamber and the amount of liquid in the tray is increased during the preparation.

### **Regenerating/reheating**

110 – 160°C

Regenerating is a very gentle process. Use a core temperature probe to reach the perfect end temperature. For the reheating of sous-vide products, etc., follow the recommendations of the producer as to reheating. The products should not be covered up as this impedes quick reheating.

### **Manual humidity pulsing**

Adding humidity to the oven chamber.

When HOT AIR is active, the key for steaming can also be used for manual humidity pulsing.

### **Steaming**

30-120°C

Can be used for boiling all types of vegetables, pasta, rice, meat, eggs and the like. If the oven chamber is 100% loaded with frozen products, hard root vegetables or meat, it will take a little longer until the oven chamber is completely filled with humidity, and the preparation time will be longer than if the oven chamber was only half full.

### **Exhaust**

The exhaust is usually closed in all operating modes. When the control lamp is on, the exhaust is open.

### **Fan speed**

It is possible to change between high and low fan speed. When the control lamp is on, the fan is running at low speed. High fan speed offers maximum distribution of heat in the oven chamber and is therefore recommended for all kinds of ordinary roasting, braising and grilling of meat, vegetables and fish.

Low fan speed is recommended for low-temperature and long-time roasting and for all kinds of bread, pastry and deserts.

### **Hours, date and setting of timer**

Shows the exact time and date when the oven is off. For setting of clock and timer, see USER MENU below.

### **Fully automatic cleaning system, CombiClean (cannot be retrofitted, should be ordered together with oven)**

The cleaning system should be used every day. You choose between levels 1, 2, 3 and 4 and possibly additional detergent, depending on how soiled the oven chamber is. The last thing you do before turning off the light in the evening is activating CombiClean. When CombiClean is finished, the computer automatically switches to an energy-saving standby function.

Cool down the oven chamber to 60°C.

Remove strainer from the bottom of the oven chamber. Insert wash arm where the strainer was removed and at the top. Fit strainer on wash arm (after use, the strainer must be put back in place, as otherwise the oven cannot start).

Check the level of detergent and rinse aid.

Press PRG and turn the switch until *CombiClean* appears in the display.

Press STEP to choose cleaning level: 0 is 2 minutes' rinsing with water – 1 is light cleaning and 4 is very thorough cleaning. Press ALARM for additional detergent.

Close oven door and press ON.

### **Semi-automatic cleaning**

Cool down oven chamber to 60°C.

Press PRG and *cleaning* appears in the display. Press ON.

When the alarm sounds and *add soap* appears in the display, open oven door and spray detergent into oven chamber. Close oven door and the program continues.

When the program is over, *rinse oven* appears in the display. Rinse oven chamber.

If the oven is very soiled, use combi steaming 2 at 80°C for 30 minutes before starting cleaning program.

## Programs

Program/recipe	Mode	Temp./time/misc.	Remarks
0 Fillet of beef, 4 kg, trimmed, medium	Hot air / pre- heating Alarm Combi steam 1 Combi steam 1	200/5  180/20 60/20	Last step is "holding time" which ensures that the meat is medium done. May be omitted.
1 Braised pork, 3-4 kg, well-done	Combi steam 2 Combi steam 1	165/60 80/45	Last step is "holding time" which ensures perfectly roasted meat.
2 Neck of pork with lard, 3- 4 kg, well-done	Steaming Combi steam 1 Hot air	120/35 165/40 190/20/exhaust open	
3 Low-temperature steaming for 5 hours, Medium (max. 5 kg)	Combi steam 1 Combi steam 1 Hot air	80/105 60/180/low fan speed 200/15/exhaust open	Can be used for all kinds of lean pieces of veal and beef.
4 Duck roast, 3000 g	Hot air / pre- heating Alarm Combi steam 2 Combi steam 1	200/5  145/80 170/30	
5 - 9 vacant			



## Indicative core temperatures for beef, veal, pork and lamb

Pieces of saddle, tenderloin and ham, lean	60-65°C
Roast of saddle, ham	65°C
Pieces of meat containing a great deal of connective tissue, such as neck, brisket and shoulder	80°C
Paté	75°C
Terrine	60°C
Foie gras terrine	45°C
A rare roast is achieved at a core temperature of	60-62°C
A medium-rare roast is achieved at a core temperature of	65-67°C
A roast well-done is achieved at a core temperature of (Meat with a great deal of connective tissue	70°C 80°C)

The more connective tissue the meat contains, the more important is the holding time after the core temperature has been reached.

Tender meat such as sirloin steak and trimmed fillet reaches maximum tenderness at 65°C. The meat becomes tougher between 75 and 80°C but becomes increasingly tender again as the temperature rises above that.

Meat containing a great deal of connective tissue, such as shoulder, brisket and neck, needs to be heated for a long time before it is sufficiently tender – for instance, a holding time of 30 – 90 minutes at a core temperature of 65-75°C (then it is "low-temperature tenderising" – see "Low-temperature roasting").

For meat prepared for a buffet or for display on a sales counter, the indicative core temperature is above 75°C. The meat should be removed after 3 hours or when the core temperature falls to below 65°C. See recommendations from the Ministry of Health.

### Indicative core temperatures for fish

Fish without bones	55°C
Fish with bones	60°C
Fish pâté	65°C

The steaming of fish will succeed at a temperature of 65 – 80°C. The fish does not coagulate and shrinkage is reduced to a minimum.

## **Low-temperature and long-time roasting Indicative bactericidal holding times**

### **Long-time roasting**

Roasting at a temperature between 110 and 150°C. Slow heating produces meat that is uniformly cooked.

### **Low-temperature roasting**

Can be described as roasting below 100°C, the core temperature of the roast and the oven temperature being almost the same. The advantage of this method of preparation is that the roast is uniformly cooked. Furthermore, the slow preparation/heating process may result in the meat becoming more tender. Can be used for all types of meat and is particularly suitable for the preparation of meat with a great deal of connective tissue. With holding time at a core temperature of 65°C, it is possible to achieve additional tenderising of particularly "tough" pieces of meat (at temperatures above 60°C, the meat starts to dehydrate).

### **Shrinkage during low-temperature roasting**

Depending on the meat, the following indicative temperatures can be used for pieces of meat that should be medium-rare or well-done:

5 hours	approx. 25-30% shrinkage
10 hours	approx. 35-40% shrinkage
20 hours	approx. 45% shrinkage

### **Keeping qualities and indicative legal requirements from the Danish Ministry of Health**

The keeping qualities of heated meat vary a great deal according to the way the meat is packed while stored – from a few days for small pieces of meat to several weeks for sous-vide products.

The Danish legal requirements governing food hygiene state:

When heated, the food product should have an overall temperature of at least 75°C, with the following exceptions:

- ? Whole pieces of meat
- ? Meat which the consumer does not want well-done, served in portions
- ? Hens' eggs served one at a time
- ? Other kinds of food which, because of their nature, cannot be heated to at least 75°C. Heating up food should not, however, cause any hygienic problems.

Food that has been heated should either be eaten within 3 hours, kept hot at a temperature of 65°C, or cooled down to max. 5°C in the course of no more than 3 hours.

## User menu

When in the manual mode, enter the user menu by pressing ALARM for one second.

The display briefly shows "USER MENU". The core temperature display shows "b" and the number of the value to be set (see below).

You leave the user menu by turning the turn switch beyond "0".

1	Store pre-setting	Time and temperature can be changed in HOT AIR, COMBI STEAMING and STEAM BOILING and saved by pressing ALARM. The alarm control lamp flashes when data are ready to be saved.
2	Timer	Press STEP to change the various settings of the timer. 1) DATE. The date is shown in the temperature display. To set the date, press temperature key and turn switch. Press again when date has been set. 2) HOUR. See 1). 3) MINUTE. See 1). 4) MODE. Choose a mode by pressing one of the four mode keys. 5) TEMPERATURE. See 1). 6) TIME (duration of program). See 1). Press ALARM to activate timer (control lamp in display is on). Deactivate by pressing ALARM. The oven can now be turned off with the main switch or it can be kept standby. The oven starts automatically but only in HOT AIR, COMBI STEAMING or PREHEATING.
3	Volume low	Press STEP and adjust the volume of the alarm during operation from 0 to 9.
4	Volume high	Press STEP and adjust the volume of the alarm at the end of a program/mode from 1 to 9.
5	Sound frequency	Press STEP and adjust from 1 to 9.
6	Interior light	Press STEP: 0 = continuously on / 5 = off after 5 min. / 1 (B model) = continuously on but off when door open / 6 = off after 5 min. but off while door open.
7	Current temperature	0 = desired temperature / 1 = current temperature. Adjust by pressing STEP.
8	Extraction	Applicable only if oven has condensing extraction hood. 0 = extraction hood running independently of oven / 1 = extraction hood stops 10 minutes after oven has stopped.
9	Time graphics	Shown in text display during operation. Change by pressing STEP. 0 = Display shows mode chosen 1 = Display alternately shows mode chosen and time remaining.
10	Minutes	Minutes are shown in temperature display. Change by pressing temperature key and turning switch. Store by pressing temperature key again.
11	Hour	Hour is shown in temperature display. See 10.
12	Day	Day of month, 1-31. See 10.
13	Month	Month. See 10.
14	Year	The year 2005 is indicated by "5". See 10.

15	CombiClean	For ovens with the automatic cleaning system, CombiClean: If problems occur with respect to some of the CombiClean error messages, the program can be deactivated. 0 is shown in step display. Then activate the semiautomatic cleaning program by pressing START (no wash arm required) and follow the instructions in the display.
16	Regenerating/reheating	Setting of humidity pulsing. Press temperature key and turn switch to change setting. The value indicates the number of seconds between each injection into the oven chamber. If the value is increased, less humidity is added to the oven chamber, if the value is reduced, more humidity is added.
17	Injection interval 1	Combi steaming 1: See 16
18	Injection interval 2	Combi steaming 2: See 16
19	Store all	Press ALARM to make a backup of all settings in all modes and programs.
20	Retrieve all	Press ALARM to retrieve all settings saved in all modes and programs.
21	Retrieve original menu	Press ALARM and retrieve all programs preset by the manufacturer. In step display, choose which program (0 – 4) to retrieve and press ALARM.
22	Interval screen	Interval of seconds before interval screen becomes active. 0 = 0 sec. / 1 = 10 sec. / 2 = 30 sec. / 3 = 60 sec./ 4 = 180 sec. / 5 = 600 sec. Change by pressing STEP.
23	Language	Change by pressing STEP (1 – 4).
24	SW update	Updating of software. Special memory key required. Contact your local distributor.

## 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 therefore find the easy-to-use handshower, which is located behind the front panel, very suitable for interior cleaning.

The door sealing is easy to remove, which ensures quick and efficient cleaning under and around it.

Furthermore, the flat front panel makes exterior cleaning simple and efficient.

To give the oven an extra shine, we recommend HOUNÖ steel oil which is available from your oven supplier (0.5 litre: part No. 045650 – 5 litres: part No. 045654).

### **Oven chamber**

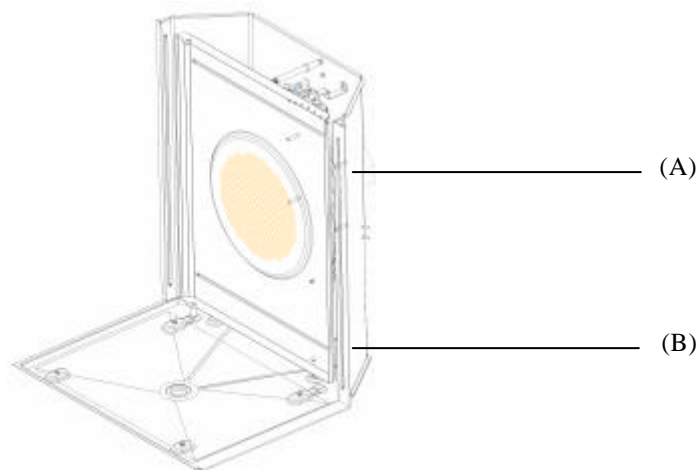
Use CombiClean, level 1-4, with or without additional detergent (note that CombiClean should be ordered as optional extra together with the oven as it cannot be retrofitted) or the semi-automatic cleaning program (see *Description of modes*), or do as follows:

- A.** Always clean in a cold oven or cool the oven chamber down to below 60°C.
- B.** Let the oven run in COMBI STEAMING 3 at 60°C for 15 minutes.
- C.** Apply HOUNÖ oven detergent to the sides of the oven chamber, racks, etc. (according to requirement) using a soft brush or a spray pistol. Protect your face and hands as the detergent may cause strong irritation should it come into contact with your skin.
- D.** Let the detergent work for 10 minutes.
- E.** Let the oven run in COMBI STEAMING 3 at 60°C for 15 minutes.
- F.** Rinse the oven chamber with water (using a soft brush or the handshower).
- G.** If the oven is not connected to a soft-water plant, we recommend that you use HOUNÖ rinse aid and wipe the oven chamber with a dry cloth.

### **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 dismantled entirely by lifting it upwards till it is clear of the pin at the bottom and then tipping it.

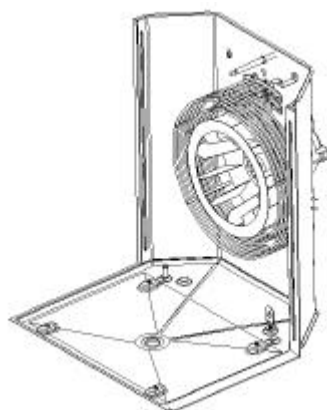


### **Cleaning of jet heads**

The jet head should be dismantled and cleaned regularly according to how often the combi steaming and ClimaOptima modes are used. The easiest way to clean the jet head is to let it soak in scale remover. All ovens are supplied with an additional jet head.

If the oven is equipped with the automatic cleaning system, CombiClean, there will be two jet heads. The additional jet head will be located to the right of or above the first one. This jet head should also be checked/cleaned regularly.

Please note the position of the jet heads. The jet head for combi steaming/ClimaOptima should be located horizontally with the notch facing upwards. The jet head for CombiClean should be located horizontally with the notch facing downwards.



### **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). The steel oil is available from your oven supplier (0.5 litre: part No. 045650 – 5 litres: part No. 045654) and is only for external use.

**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.

### **Cleaning of exhaust valve**

The exhaust valve (steel plug that opens and closes the damper) 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.



## Recommended Programs

<p><b>The following recipes are for ovens equipped with the modes ClimaOptima and Steaming. To the right is a conversion table which enables you to use the recipes in all HOUNÖ ovens.</b></p> <p>For further inspiration, see the recipes on our website: <a href="http://www.houno.com">www.houno.com</a></p>	ClimaOptima 0 %	Hot air with exhaust open
	ClimaOptima 30 – 60%	Combi 1
	ClimaOptima 70 – 90%	Combi 2
	ClimaOptima 100%	Combi 3
	Steaming	Combi 3

**Note:** Most programs have a PREHEATING OR PRESTEAMING mode followed by STOP. This means that the products should not be loaded into the oven until this step is completed. **Find program – press start – wait for alarm signal – open door – load oven – insert multipoint core temperature probe, if any – close door. The program continues automatically.**

Veal & Beef	Mode	%	°C	Min.	CT	Remarks
Tournedos, medium	1 Preheating		250	1		Apply special browning fat to meat and tray. Use baking sheets, grilling sheets, enameled iron sheets
	2 Stop					
	3 Hot air / exhaust open		250		57	
Fillet with flank, 4-6 kg, medium	1 Preheating		160	2		
	2 Stop					
	3 ClimaOptima	60	135	20		
	4 ClimaOptima	20	150		57	
	5 Hot air		185		62	
Tenderloin, roasted whole, 1½-3 kg, medium	1 Preheating		210	2		Salting 5-10 g per kg, 6-24 hrs before roastig reduces shrinkage by an additional 2-3%
	2 Stop					
	3 ClimaOptima	30	185		60	
Roasted pieces of meat, medium	1 Preheating		250	1		Salting 5-10 g per kg, 6-24 hrs before roastig reduces shrinkage by an additional 2-3%
	2 Stop					
	3 Hot air / exhaust open		250		59	
Braising, 3-6 kg, well-done	1 Preheating		160	2		
	2 Stop					
	3 ClimaOptima	70	135		65	
	4 ClimaOptima	40	165		75	
Joint of beef or veal, 3-6 kg, with lard, well-done	1 Preheating		140	2		
	2 Stop					
	3 ClimaOptima	80	110	20		
	4 ClimaOptima	40	135		50	
	5 ClimaOptima	20	165		70	
	6 Hot air / exhaust open		195	15		
Braised knuckle of veal	1 Preheating		180	2		
	2 Stop					
	3 ClimaOptima	60	165		60	
	4 ClimaOptima	20	100		70	
Roastbeef, 2-5 kg, medium	1 Preheating		160	2		Salting 5-10 g per kg, 6-24 hrs before roastig reduces shrinkage by an additional 2-3%.
	2 Stop					
	3 ClimaOptima	30	135		57	
Sirloin in puff pastry	1 Preheating		180	2		
	2 Stop					
	3 Hot air		150		50	
	4 Hot air / exhaust open		180		60	
Steamed brisket of veal and beef, 1-4 kg, well-done	1 Steaming		100	8		
	2 Stop					
	3 Steaming		100		80	
	4 Steaming		80	45		



Lasagne	1	ClimaOptima	30	145		85	
	2	ClimaOptima	0	185	10		
Minced meat dishes	1	ClimaOptima	40	165		80	
	2	ClimaOptima	0	185	10		
Pâté in tins of 1000 g each	1	ClimaOptima	30	80		75	
	2	ClimaOptima	0	100	10		
<b>Pork</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min.</b>	<b>CT</b>	<b>Remarks</b>
Neck of pork and rib roast with lard, 2-5 kg, well-done	1	ClimaOptima	100	100	30		
	2	ClimaOptima	60	165		78	
	3	Hot air / exhaust open		195	20		
Roasted saddle of pork, 2-5 kg	1	Preheating		175	2		
	2	Stop					
	3	ClimaOptima	30	165		75	
Neck of pork without lard, 2-4 kg, well-done	1	Preheating		195	2		
	2	Stop					
	3	ClimaOptima	30	165		78	
	4	ClimaOptima	20	70	45		
Ham with knuckle, 8-10 kg, well-done	1	Steaming		100	8		
	2	Stop					
	3	Steaming		100	120		
	4	ClimaOptima	60	135		75	
	5	ClimaOptima	20	185	20		
Ham roast without lard, 2-3 kg, well-done	1	Preheating		185	2		
	2	Stop					
	3	ClimaOptima	60	165		85	
Roasting of pork chops, 140-200 g	1	Preheating		250	1		Add special browning fat to meat and tray. Use silicone-coated baking sheets, enameled cast iron trays or specially designed grilling trays.
	2	Stop					
	3	Hot air		225		16	
Spareribs, basic preparation	1	Steaming		100	8		Spice/marinate
	2	Stop					
	3	Steaming		100	45		
Spareribs, finishing (presteamed, marinated)	1	Preheating		200	2		
	2	Stop					
	3	ClimaOptima	65	170	30		
Braising, 2-3 kg, well-done	1	Preheating		160	2		
	2	Stop					
	3	ClimaOptima	60	135		65	
	4	ClimaOptima	70	165		80	
Suckling pig roasted whole, 20-23 kg, well-done	1	ClimaOptima	60	100	240		Use HOUNÖ rack for suckling pig which is available for model sizes 1.16 and 1.20.
	2	ClimaOptima	20	70	210		
	3	Hot air / exhaust open		250	30		

<b>Delta-T roasting</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min</b>	<b>CT</b>	<b>Remarks</b>
Delta-T, medium	1	Preheating		210	2		For whole roasts. Perfect program for production during the night. The meat is kept hot indefinitely at the last stage (Co&Ho). Recommended time of preparation before last stage is 60/90 minutes (medium/well done). Optimum tenderness of the meat is achieved. Shrinkage is reduced by approx. 10-15 % as compared to traditional roasting methods. The meat can be taken directly from the oven.
	2	Stop					
	3	ClimaOptima	20	185	10		
	4	Cooling		40			
	5	ClimaOptima Delta-T	30			62	
	6	Hot air / low fan speed / Cook & Hold				60	
Delta-T, well-done	1	Preheating		210	2		For whole roasts. Perfect program for production during the night. The meat is kept hot indefinitely at the last stage (Co&Ho). Recommended time of preparation before last stage is 60/90 minutes (medium/well done). Optimum tenderness of the meat is achieved. Shrinkage is reduced by approx. 10-15 % as compared to traditional roasting methods. The meat can be taken directly from the oven.
	2	Stop					
	3	ClimaOptima	20	185	10		
	4	Cooling		40			
	5	ClimaOptima Delta-T	30			80	
	6	Hot air / low fan speed / Cook & Hold				60	
<b>Poultry</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min.</b>	<b>CT</b>	<b>Remarks</b>
Chicken, 1000 g	1	Preheating		210	2		
	2	Stop					
	3	ClimaOptima	60	180	10		
	4	ClimaOptima	40	190	15		
	5	ClimaOptima	0	205	7		
Chicken, 1400 g	1	Preheating		190	2		
	2	Stop					
	3	ClimaOptima	60	165	30		
	4	Hot air / exhaust open	0	190	10		
Chicken, 1700 g	1	Preheating		190	2		
	2	Stop					
	3	ClimaOptima	60	165	30		
	4	ClimaOptima	0	190	10		
Foie gras terrine	1	Cooling		55			
	2	Stop					
	3	Hot air / low fan speed		65		45	
Chicken pie, 1000 g, in tin	1	Preheating		180	2		
	2	Stop					
	3	ClimaOptima	60	160		75	
Duck roast, 3000 g	1	Preheating		185	2		
	2	Stop					
	3	ClimaOptima	50	145	80		
	4	ClimaOptima	25	170	30		
<b>Fish</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min.</b>	<b>CT</b>	<b>Remarks</b>
Steamed fish, 60-130 g	1	Steaming		70	8		Use perforated containers
	2	Stop					
	3	Steaming		70		60	
Fish terrine	1	Preheating		100	2		
	2	Stop					
	3	ClimaOptima	60	120		65	

Roasted plaice, breaded	1	Preheating		250	2		Apply special browning fat to fish/tray. Use silicone-coated baking sheets, enameled cast iron trays or specially designed grilling trays.
	2	Stop					
	3	ClimaOptima	0	225	16		
Steamed salmon, whole fillet, 1-3 kg	1	Steaming		70	8		Use flat trays and baking paper. Place fish on skin side. After steaming, remove skin and carefully remove dark fat from the back of the fish with a spoon.
	2	Stop					
	3	Steaming		70		60	
Grilled fish, 80 g	1	Preheating		250	2		
	2	Stop					
	3	Hot air / exhaust open		225	7		
<b>Vegetables</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min.</b>	<b>CT</b>	<b>Remarks</b>
Steamed potatoes, 70-120 g	1	Steaming		100	8		Max. 8-9 kg, perforated container
	2	Stop					
	3	Steaming		100	40	98	
Baked potatoes	1	ClimaOptima	60	165		98	
Cream potatoes	1	Preheating		180	2		
	3	ClimaOptima	50	150	65		
French fries, Farmfrites Superfarm Service+ (9x9 mm)	1	Preheating		250	2		Use special GN wire basket. Tip: Shake the basket 1 time during the preparation process.
	2	Stop					
	3	ClimaOptima	20	230	7		
French fries, Farmfrites Superfarm Service+ (7x7 mm)	1	Preheating		250	2		
	2	Stop					
	3	ClimaOptima	20	230	5		
Steamed rice (parboiled)	1	Steaming		100	8		Use deep GN container and flat GN container as cover.
	2	Stop					
	3	Steaming		100	25		
Danish rice porridge	1	Steaming		100	8		Add sugar, salt and perhaps other spices and stir before adding milk. Use flat GN container as cover. 2 kg rice per 90 mm GN.
	2	Stop					
	3	Steaming		100	105		
<b>Bread &amp; Pastry</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min.</b>	<b>CT</b>	<b>Remarks</b>
Danish pastry, 85-100 g, bake-off	1	Preheating		210	2		The distance between the sheets should be 130 mm equalling the distance between every other runner.
	2	Stop					
	3	Hot air		175	13		
	4	Hot air / exhaust open		180	5		
Danish pastry, mini, 40-75 g, bake-off	1	Preheating		180	2		The distance between the sheets should be 130 mm equalling the distance between every other runner.
	2	Stop					
	3	Hot air / exhaust open		170	18		
Prebaked bread, 500-700 g, bake-off	1	Preheating		220	2		
	2	Stop					
	3	Hot air / exhaust open		180	11		
Baquettes, 250 g, bake-off	1	Preheating		230	2		
	2	Stop					
	3	Hot air		180	9		

Prebaked rye bread, 1100 g, bake-off	1	Preheating		190	2		
	2	Stop					
	3	Hot air / exhaust open		160	25		
Bread 5-600 g, semi-automatic bread program	1	Proving		32	45		
	2	Hot air / low fan speed		185	24		
	3	Hot air / exhaust open		185	10		
Bread, 60 g	1	Preheating		240	2		
	2	Stop					
	3	Hot air / low fan speed		180	10		
	4	Hot air / exhaust open		180	5		
Bread, 4-600 g	1	Preheating		230	2		
	2	Stop					
	3	Hot air		180	24		
	4	Hot air / exhaust open		200	4		
Puff pastry	1	Preheating		190	2		
	2	Stop					
	3	Hot air / exhaust open and low fan speed		160	20		
<b>Desserts</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min.</b>	<b>CT</b>	<b>Remarks</b>
Crème brûlée, in portions of 1½ dl	1	Cooling		75			
	2	Stop					
	3	Hot air / low fan speed		75	80		
Meringue	1	Preheating		100	2		
	2	Stop					
	3	Hot air / exhaust open and low fan speed		95	80		
Genoise	1	Preheating		220	2		
	2	Stop					
	3	Hot air / low fan speed / exhaust open					
<b>Shellfish</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min.</b>	<b>CT</b>	<b>Remarks</b>
Lobster, steamed	1	Steaming		100	8		
	2	Stop					
	3	Steaming		100	15		
Mussels, steamed	1	Steaming		100	8		
	2	Stop					
	3	Steaming		100	15		
Prawns, steamed	1	Steaming		100	8		
	2	Stop					
	3	Steaming		100	10		

<b>Game</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min.</b>	<b>CT</b>	<b>Remarks</b>
Fillet of venison, trimmed, 1-2 kg, medium	1	Preheating		190	2		
	2	Stop					
	3	ClimaOptima	20	180		59	
Saddle of venison, larded, 3-5 kg, medium	1	Preheating		190	2		
	2	Stop					
	3	ClimaOptima	40	160	10		
	4	ClimaOptima	60	165		57	
Haunch of venison	1	Preheating		190	2		
	2	Stop					
	3	ClimaOptima	60	165		57	
<b>Lamb</b>		<b>Mode</b>	<b>%</b>	<b>°C</b>	<b>Min.</b>	<b>CT</b>	<b>Remarks</b>
Leg of lamb, boneless, medium	1	Preheating		190	2		
	2	Stop					
	3	ClimaOptima		60	165	57	
Stuffed venison of lamb (boneless), medium	1	Preheating		180	2		
	2	Stop					
	3	ClimaOptima		60	150	55	
	4	ClimaOptima	0	185		60	
Fillet of lamb, trimmed, medium	1	Preheating		180	2		
	2	Stop					
	3	ClimaOptima	20	180		59	

## Baking

Recommended values (from the HOUNÖ library of recipes 1985 – 2002)

Product	Operating mode	Processing time in minutes	Temperature °C	Remarks and tips
Rolls*	Hot air	15-20	170-180	Manual humidity for the first 10 sec., 40-50 g/ea.
Loaves*	Hot air	25-35	160-180	Manual humidity for the first 10 sec., 650 g/ea.
Buns*	Hot air	15-20	160-170	Manual humidity for the first 15 sec., 40 g/ea.
Baguettes, prebaked	Hot air, possibly exhaust open	10-12 / 2-4	170-180	No humidity pulsing
French loaves/ baguettes	Hot air, possibly exhaust open	15-20 / 2-5	170-180	Manual humidity for the first 10-20 sec.
Danish pastry**	Hot air, possibly exhaust open	10-50 / 5-7	170-180	Different sizes
Marble cake	Hot air	50-70	160-170	In a baking tin
Madeira cake	Hot air	50-80	150-160	In a baking tin
Vanilla biscuits	Hot air	7-10	160-170	
Puff pastry	Hot air	20-25	160-180	½ fan speed
Chou (cream puff)	Hot air	20-30	160-180	½ fan speed
Almond cake	Hot air	8-12	170	
Meringue	Hot air, possibly exhaust open	120-140	80	½ fan speed
	*) Dough products that are not prisen/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

Recommended values (from the HOUNÖ library of recipes 1985 – 2002)

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

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

## Meat Courses

Recommended values (from the HOUNÖ library of recipes 1985 – 2002)

Products	Operating mode	Processing time in minutes	Temperature °C	Remarks and tips
<b>Beef tenderloin</b>	Hot air + Combi 1 or ClimaOptima 20-40%	5 / 15	200 / 140	Fresh, whole fillet of beef. Add spices before cooking
<b>Roastbeef</b>	Hot air + Combi or ClimaOptima 40%	20 / 25	180 / 140	Add spices before cooking
<b>Joint of beef</b>	Steaming + Combi 2 + Hot air or ClimaOptima 100% + ClimaOptima 50%	15-20 / 70-90 / 20-25	100 / 140-150	Well-hung
<b>Roast veal</b>	Steaming + Combi 2 + Hot air Or ClimaOptima 100% + ClimaOptima 50%	10-15 / 60-70 / 15-20	160-190	Add spices and lard before cooking
<b>Roast pork</b>	Steaming + Combi 2 + Hot air or ClimaOptima 100% + ClimaOptima 30%	10 / 60 / 25	100 / 180 / 190	Neck with lard. Add spices before cooking
<b>Pork chops</b>	Hot air + exhaust open	15	225	Fresh
<b>Schnitzel</b>	Hot air + exhaust open	15	225	Fresh
<b>Meat balls</b>	Combi 1 / ClimaOptima 50%	15	165	Pre-fried in pan, 75 g
<b>Minced-meat dishes</b>	Steaming + Combi 1 + Combi 1 or ClimaOptima 60% in all steps	10 / 45 / 20	100 / 160 / 175	Approx. 2 kg in aluminium tin
<b>Liver pâté</b>	Hot air + exhaust open	45	170	250 g and 500 g aluminium tins placed in water bath
<b>Cured saddle of pork</b>	Combi 1 or ClimaOptima 60%	50-60	180	
<b>Smoked ham</b>	Combi 1 or ClimaOptima 60%	80	175	Apply mustard + clayed sugar
<b>Ham in puff pastry</b>	Hot air or ClimaOptima 20%	15 / 90	160 / 180	Exhaust open or closed
<b>Pickled neck</b>	Steaming / Combi 3 / ClimaOptima 100%	60	100	Fresh, without bones
<b>Liver</b>	Hot air or ClimaOptima 20%	6 / 6	235	Fresh, sliced - add oil
<b>Gratin</b>	Combi 1-2 or ClimaOptima 60%	45	185	
<b>Frankfurter</b>	Steaming / Combi 3 / 100% / ClimaOptima	18	80	
<b>Veal fricassée</b>	Hot air	30	170	Fresh
<b>Omelette</b>	Hot air + exhaust open	30		Apply fat to container



## Poultry, Fish and Game

Recommended values (from the HOUNÖ library of recipes 1985 – 2002)

Product	Operation mode	Processing time in minutes	Temperature °C	Remarks and tips
<b>Chicken</b>	Combi 1 + Hot air w. exhaust open or ClimaOptima 60% + ClimaOptima 0%	20-25 / 10-15	160 / 185	Fresh, thawed, 1000 g
<b>Chicken</b>	Combi 1 + Hot air w. exhaust open or ClimaOptima 60% + ClimaOptima 0%	35-45 / 10-15	180 / 220	Frozen, 800 g
<b>Chicken legs</b>	Combi 1 + Hot air w. exhaust open or ClimaOptima 60% + ClimaOptima 0%	15 / 5	160 / 185	Fresh, thawed
<b>Duck</b>	Combi 1 + Hot air w. exhaust open or ClimaOptima 60% + ClimaOptima 0%	50-60 / 50-60	170-180	Fresh or thawed, 3000 g
<b>Goose</b>	Combi 1 + Hot air w. exhaust open or ClimaOptima 60% + ClimaOptima 0%	90-120 / 15-20	160-185	Fresh or thawed
<b>Turkey</b>	Combi 1 + Hot air w. exhaust open or ClimaOptima 60% + ClimaOptima 0%	80-100 / 10-20	160-185	4000 g, perhaps covered with lard
<b>Flatfish</b>	Hot air	12-18	175-185	Fresh, cover with oil
<b>Greenland Halibut</b>	Steaming / Combi 3 / ClimaOptima 100%	10-20	70-75	Fresh
<b>Trout</b>	Steaming / Combi 3 / ClimaOptima 100%	10-15	70-75	Fresh
<b>Turbot</b>	Steaming / Combi 3 / ClimaOptima 100%	8-12	70-75	Fresh
<b>Cod</b>	Steaming / Combi 3 / ClimaOptima 100%	12-18	70-75	Fresh
<b>Mussels</b>	Steaming / Combi 3 / ClimaOptima 100%	15-20	75-80	Fresh
<b>Saddle of venison</b>	Combi 1 or ClimaOptima 50%	25-23	180-200	Fresh, possibly covered with lard or oil
<b>Haunch of venison</b>	Steaming + Hot air + Combi 1 or ClimaOptima 100% + ClimaOptima 50%	15 / 20 / 30-40	170-180	Fresh, possibly covered with lard or oil
<b>Leg of lamb</b>	Steaming + Combi 1 + Hot air or ClimaOptima 100% + ClimaOptima 50%	20 / 25 / 30-40	170-180 / 140-160 / 160	Without bones, add spices
<b>Meat loaf</b>	Combi 1 or ClimaOptima 60%	15-20	220	Fresh, add spices
<b>Vacuum-packed meat/poultry</b>	Steaming / Combi 3 / ClimaOptima 100%	10-15	70-85	Without bones