

PROVING CABINET

CHEF 20

Installation and Operation Manual



S/N: 10810201090020 Rev.: 2.1

14.2.2002 Rev. 2.1

Dear Customer,

Congratulations on deciding to choose a Metos appliance for your kitchen activities. You made an excellent choice. We will do our best to make you a satisfied Metos customer like thousands of customers we have around the world.

Please read this manual carefully. You will learn correct, safe and efficient working methods in order to get the best possible benefit from the appliance. The instructions and hints in this manual will give you a quick and easy start, and you will soon note how nice it is to use the Metos equipment.

All rights are reserved for technical changes.

You will find the main technical data on the rating plate fixed to the equipment. When you need service or technical help, please let us know the serial number shown on the rating plate. This will make it easier to provide you with correct service.

For your convenience, space is provided below for you to record your local Metos service contact information.

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Metos service phone number:	•
Contact person:	





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14.2.2002 Rev. 2.1 General

1. General

Carefully read the instructions in this manual as they contain important information regarding proper, efficient and safe installation, use and maintenance of the appliance.

Keep this manual in a safe place for eventual use by other operators of the appliance.

The installation of this appliance must be carried out in accordance with the manufacturer's instructions and following local regulations. The connection of the appliance to the electric and water supply must be carried out by qualified persons only.

Persons using this appliance should be specifically trained in its operation.

Switch off the appliance in case of failure or malfunction. The periodical function checks requested in the manual must be carried out according to the instructions. Have the appliance serviced by a technically qualified person authorized by the manufacturer and using original spare parts.

Not complying with the above may put the safety of the appliance in danger.

1.1 Symbols used in the manual



This symbol informs about a situation where a safety risk might be at hand. Given instructions are mandatory in order to prevent injury.



This symbol informs about the right way to perform in order to prevent bad results, appliance damage or hazardous situations.



This symbol informs about recommendations and hints that help to get the best performance out of the appliance.

1.2 Symbols used on the appliance



This symbol on a part informs about electrical terminals behind the part. The removal of the part must be carried out by qualified persons only.

1.3 Checking the relationship of the appliance and the manual

The rating plate of the appliance indicates the serial number of the appliance. If the manuals are missing, it is possible to order new ones from the manufacturer or the local representative. When ordering new manuals it is essential to quote the serial number shown on the rating plate.



14.2.2002 Rev. 2.1 Safety

2. Safety

2.1 Safe use of the appliance



Do not leave the proving cabinet on completely unattended for long periods.

The water basin in front of the fan inside the proving cabinet must be kept in the proper position when the proving cabinet is in use.

2.2 Disposal of the appliance

Once the appliance has reached the end of its useful life, it must be disposed of in compliance with local rules and regulations. The appliance may contain substances/materials which potentially have an adverse impact on the environment as well as recyclable materials. The best way of dealing with such substances is to dispose of them through a proper waste company.



3. Functional description

3.1 Intended use of the appliance

The Metos Chef 20 is intended for proving bakery products.

3.1.1 Use for other purposes



Use of the appliance for any other purposes than that mentioned above is prohibited.

The manufacturer shall not be held liable for any situations which may arise from failure to comply with the warnings and instructions given in this manual.

3.2 Construction

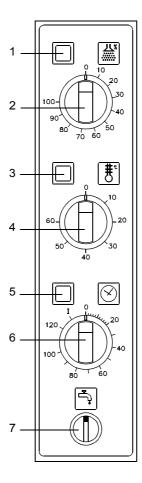
In addition to a single proving cabinet, two or three proving cabinets can be stacked on top of another on stands forming a proving station. One or two proving cabinets can also be replaced by a convection oven or a roasting-baking oven.

This manual covers the Chef 20 proving cabinet, while Chef 24 and Chef 22 have their own manuals.

3.3 Operating principle

In proving cabinets, proving takes place by hot moist air circulating around the food. Circulating air is fanned around the food from all sides to prove effectively and evenly. Moisture can also be used to further boost proving.

3.3.1 Control panel switches



Control panel switches

- 1. Moistening lamp. The yellow lamp is always on when the water basin's heating element is on. The lamp goes out when the temperature required by the humidity-% has been reached.
- 2. Moistening device. Moisture is continuously added when the desired moisture-% is selected by turning the switch knob clockwise.
- 3. Thermostat lamp. The yellow lamp is on when the heating element is on.
- 4. Thermostat switch. To set the temperature between +20°C and +60°C.
- 5. Proving cabinet on lamp. The green lamp is on when the proving cabinet is switched on.
- 6. Timer. Stepless control 0-120 minutes or continuous use I.
- 7. Water basin filling switch. Water flows into the water basin as long as the switch is turned in a clockwise direction. The basin capacity is approx. 1,2 l.

4. Operation instructions

4.1 Before using the appliance



There is a slight smell of metal and thermal insulation when the proving cabinet is heated for the first time. This is completely normal and disappears by heating the proving cabinet. Before using the cabinet for the first time, heat it to a temperature of +60°C until the smell disappears.

4.2 Operation procedures

4.2.1 Before proving

The proving cabinet must be preheated to desired temperature before actual proving begins. This is to heat the whole proving cabinet to the correct temperature so as to ensure the best possible proving result.

- Put the guide rails in place.
- Set the timer (see Figure "Control panel switches") at 20 minutes. First turn the timer past the desired setting value and then back to the desired value.
- Set the thermostat at the desired temperature (usually 40°C) and the moisturing device at the desired moisture-% (usually 60-90%).
- The proving cabinet is ready for use when the timer signals to tell you that time is up.
- When the door is closed, the proving cabinet will remain hot for a long time, even though it is not switched on.

4.2.2 How to select cooking temperature

Proving time and temperature depends on food quality and weight.

4.2.3 Using the proving cabinet



If the proving cabinet is used on board a ship, the proving cabinet guide rails must be positioned inside the proving cabinet so that the clip which prevents the baking sheets from sliding out of the guide is on the door side. Should the clip be against the rear wall inside the proving cabinet, remove the rails and swap them around.

Proving cabinet functions are operated from the control panel (see Figure "Control panel switches" in Chapter "Functional description/Operating principle").

4.2.4 Proving

- Carefully preheat the proving cabinet as instructed in "Before proving".
- Pull the handle to open the proving cabinet door. To close the door, push the handle until you hear a distinct click.
- Put the product in the proving cabinet.
- Set the timer (see Figure "Control panel switches") at the required proving time, the thermostat switch at the required proving temperature and the moistening device at the desired moisture-%.
- When the set proving time is over, the heating, the fan and the moisture function will switch off automatically.
- Switch the power off at the thermostat switch, whereupon the buzzer also stops sounding.
- Open the door.



In the event of longish interruptions in the electricity supply when the proving cabinet is in use, turn all switches to the 0 position to prevent the proving cabinet from coming on unexpectedly when the power cut has ended.

4.2.5 Use of the moisture function

Water used for generating moisture is led through a nozzle to the water basin. The water is vaporised by means of a heating element. The air flow distributes the steam evenly in the chamber.

Make sure before use that there is enough water in the basin. The basin capacity is about 1,2 l, so it takes about 1 minute to fill the basin. Avoid overfilling. Release the switch immediately if water begins to flow onto the chamber bottom.

Switch the moisture function on by turning the switch in a clockwise direction at the desired moisture-%, usually 60-90%.

Use of the moisture function will provide the best possible proving conditions.

4.3 After use

4.3.1 Cleaning



Use of a hose or pressure washer to clean the appliance is forbidden.

Proving cabinets are electrical appliances, which means that there are restrictions regarding cleaning them with water. Use of water is permitted when cleaning the proving cabinet inside. Clean the outside of the proving cabinet with a damp cloth only to avoid water getting into the air inlets. Depending on how dirty the proving cabinet is, use an alkaline substance which can be diluted in a spray bottle to loosen grease.

Daily cleaning

It is recommended to clean the water basin daily or as often as possible. The basin can be easily removed and conveniently washed in a dishwasher.



Weekly cleaning

Spray diluted detergent solution into the inside of the proving cabinet, and on the inside surface of the door. Heat the proving cabinet to about +50°C (not essential), switch off at the mains and let the detergent work for about 15 minutes. Use a brush or cleaning pad to scrub the burnt places. Avoid the use of steel wool and abrasive pads and use chemical cleaners instead of mechanical ones. Once a surface is scratched, dirt sticks to it much more easily.

Wipe the loosened dirt and detergent carefully with a damp cloth. After washing, dry the proving cabinet by heating at +60°C for 5 minutes.

After cleaning the inside of the proving cabinet, wipe the outside surfaces, knobs and handrail.

Cleaning the guide rails

When cleaning the proving cabinet thoroughly, loosen, soak and wash the guide rails. The rails can be easily removed and conveniently washed in a dishwasher.

To remove the guide rails:

- Lift the guide rails upwards.
- Pull the guide rails towards the centre of the inside of the proving cabinet.
- Lift the guide rails out of the proving cabinet.
- Replace the guide rails in the reverse order.

4.3.2 How to change the oven bulb

Should the proving cabinet lamp go out or fail to light up during use, replace the bulb as follows:

- Let the proving cabinet cool so that you can put your bare hand inside the oven without burning it.
- Ensure that the proving cabinet is switched off at the mains. All controls should be in the 0 position.
- Remove the protective glass cover of the lamp by unscrewing the four screws. Be careful not to damage the seal. In case the seal has become stiff or is otherwise damaged, also replace the seal.
- Carefully unscrew the bulb.
- Screw the replacement bulb into place. Lamp type: 15 W, 220-230 V, 300°C, E14. Spare part code: 3339313.
- Press the protective glass and seal back into place. Fasten the four screws.



Use of the appliance is strictly prohibited unless the protective glass of the lamp is properly in place.

4.3.3 Other service measures



This appliance does not contain parts which can be serviced by the user. Maintenance must be carried out by an authorised agent.



In the event of fault or malfunction, switch the appliance off at the mains. Use an agent authorised by the manufacturer and original spare parts.



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5. Installation

5.1 General

The installation of this appliance must be carried out in accordance with the manufacturer's instructions and in compliance with local rules and regulations. These instructions must be used together with the installation drawing.



This appliance may be connected to the mains electricity by qualified persons only.

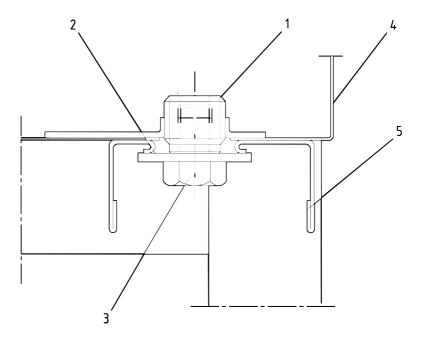
5.2 Transporting and unpacking the appliance

The appliance is best transported in its own package, which protects it from outside damage. Should it be necessary to remove the appliance from its package, the appliance, which is on a support base, must be moved by lifting by the intermediate bearers of the base. To prevent damage, the top of the appliance must not be used as a worktop during installation.

5.2.1 Fastening the appliance to the stand

Standard ovens/proving cabinets delivered separately are fastened to the stand with the help of the installation kit supplied with the appliance.

Prior to fastening the stand, remove the adjustment screws (4 pcs.) located on the appliance bottom. The screws come loose by turning by hand. Fasten the stand as shown in the illustration below, using the components 1, 2 and 3.



- 1. Fixing screw, 4 pcs
- 2. Washer, 4 pcs
- 3. Hexagon screw, 4 pcs
- 4. Chef oven/proving cabinet
- 5. Stand

5.3 Positioning the appliance

When installing the appliance, care should be given to ensure that there is a free passage of cooling air around the appliance and that there are no other sources of heat near the cooling vents.



It is important to install the appliance in a level, horizontal position. Tilting and unevenness, however slight, may have an adverse effect on the proving result.

The appliance must be placed on a flat surface and levelled into a horizontal position by using the adjustment screws on the legs. For the best result, check horizontality by the guide rails inside the proving cabinet.

To achieve a horizontal position, adjust the screws on the legs of the stand.





When the appliance is in the right place and in a horizontal position, fix it firmly to the floor. Models for use on land are fixed by the plates on the back legs and proving cabinets intended for use on ships by the plates on each leg.

5.4 Electrical connections



Should maintenance require the appliance to be tested before all the protective coverings are in place, please be particularly careful of the moving parts inside the casing as well as of live parts.

The appliance is equipped with a plug for electrical connection. The appliance must be earthed.

All information needed to connect the appliance is to be found on the name plate, the connection diagram and the installation drawing.

5.5 Water connections



Connection to the cold water supply must be made by a 12 mm thick pressure resistant hose fitted with an R3/4" connector. The water connection must be fitted with a shut-off valve and a non-return valve.

5.6 Test-run



Please read the safety and operation instructions as well as the functional description before testing the proving cabinet. As for other appliances possibly included in the baking station, see separate manuals.

Test the proving cabinet once it has been connected to the mains electricity.

Check that

- the guide rails and the water basin are in place
- the green proving cabinet on lamp lights up when the proving cabinet is switched on
- the yellow thermostat lamp lights up when the thermostat is turned in a clockwise direction
- the yellow thermostat lamp goes out once the proving cabinet has heated up and reached the temperature set
- water flows into the water basin when the water basin filling switch is turned in a clockwise direction
- the yellow moisture device lamp lights up when the moisture device switch is turned in a clockwise direction
- the fan wheel is rotating anticlockwise
- the door switch deactivates the fan and heating
- the drip tray is properly in place.

Fasten the side casing.



6. Troubleshooting

If the appliance fails to work, check to ensure that

- it has been used according to instructions
- all removable parts are in place
- the disconnection switch (usually on a wall or in the immediate vicinity of the oven) is in the ON position
- the fuses (overload protection) have not blown in the fuse box. Ask a qualified person to check overload protection.

Should the proving cabinet still not work, contact an authorised agent. Before phoning, make sure you have at hand the appliance type and serial number to be found on the name plate on the right front corner of the appliance.



This appliance does not contain parts which can be serviced by the user. Maintenance must be carried out by an authorised agent.



7. Spare parts

General parts	17
Heating, Moistening	21
Control unit	23

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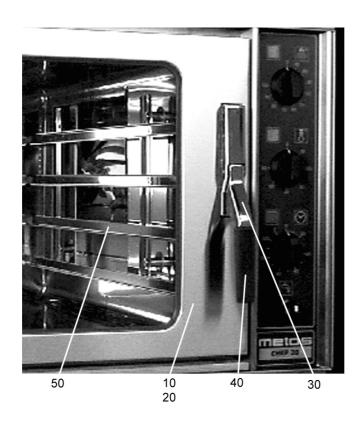


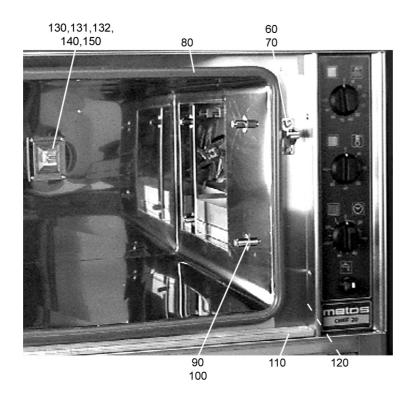
7.1 Voltage codes

Voltage code	Voltage
A	3/N/PE~400/230V 50Hz
В	~250V 16A 50Hz
С	3/N/PE~380/220V 50Hz
D	3/PE~200V 50-60Hz
F	2/PE 220–240V 50Hz
G	3/N/PE~415/240V 50Hz
Н	3/PE~230V 50Hz
Ι	3/PE~220V 60Hz
J	3/PE~380 50Hz
K	3/PE~400V 50Hz
L	3/PE~415V 50Hz
M	3/PE~440V 60Hz
N	3/PE~460V 60Hz
О	3/PE~480V 60Hz
P	1/N/PE~220-240V 50Hz
R	2/PE~220-230V 60Hz

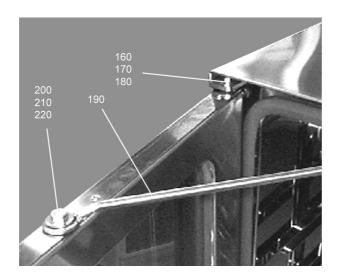
7.2 Product codes

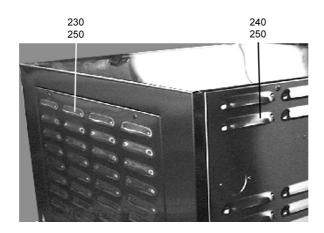
Product code	Full name	
Model codes		
20	CHEF 20	





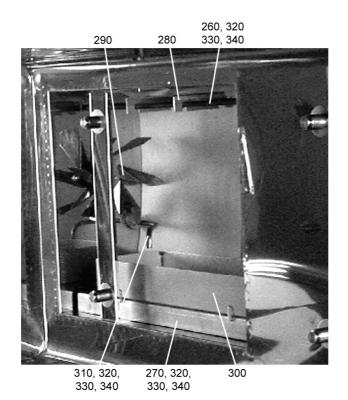
ID	Code	Model	Voltage	Description
MOD	ULE:Gener	al parts [20]		
10	3593077	20		Door
20	3433838	20		Glass
30	3592362	20		Latch
40	3593729	20		Handle insulation
50	3592813	20		4 guide rails
50	3595966	20		5 guide rails
60	3593736	20		Keeper
70	3029784	20		Screw
80	3323458	20		Seal
90	3440874	20		Fixing pin for guide rails
100	3444163	20		Washer
110	3590559	20		Drip collector
120	3440497	20		Foot screw
130	3439702	20		Oven light fitting, H4
131	3672120	20		Protective cover glass
132	3672119	20		Seal
140	3339313	20		Bulb, H4
150	3255945	20		Screw

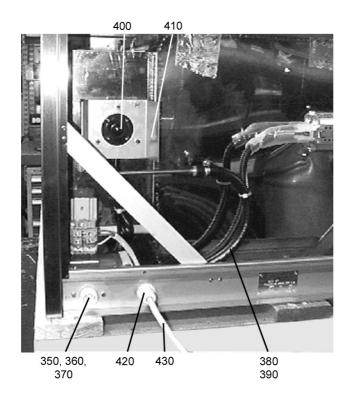




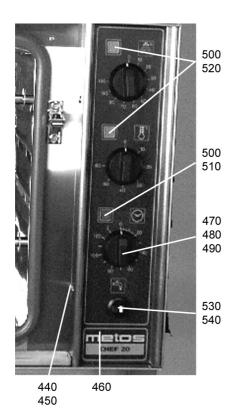
ID	Code	Model	Voltage	Description
160	3590301	20		Axle
170	3590277	20		Bush
180	3593165	20		Screw
190	3594948	20		Safety catch (Marine)
200	3594916	20		Sliding ring (Marine)
210	3536424	20		Washer (Marine)
220	3029784	20		Screw (Marine)
230	3591979	20		Sheating
240	3590492	20		Sheating
250	3255952	20		Screw

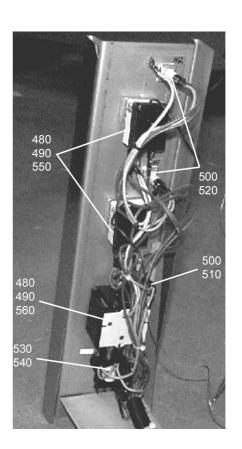
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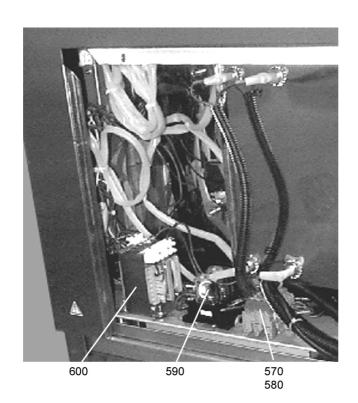




ID	Code	Model	Voltage	Description			
MOD	MODULE: Heating, Moistening [20]						
260	3591993	20	A,C,G,H,I,P	Heating element 400 W, E1			
260	3595934	20	J,K,L	Heating element 400 W, E1			
260	3646106	20	M	Heating element 400 W, E1			
270	3591418	20	A,C,G,H,I,P	Heating element/Moistening 400 W, E2			
270	3672016	20	J,K,L	Heating element/Moistening 400W,E2			
270	3672017	20	M	Heating element/Moistening 400W,E2			
280	3592718	20		Thermostat holder			
290	3445417	20		Fan wheel			
300	3591457	20		Water basin			
310	3591337	20		Water pipe			
320	3518471	20		Seal			
330	3493322	20		Washer			
340	3493347	20		Nut			
350	3095113	20		Solenoid valve, Y1			
360	3095145	20		Flow limiter, 1,2 l/min.			
370	3032466	20		Screw			
380	3593302	20		Hose, food industry type			
390	3127615	20		Hose clip			
400	3286485	20		Motor, M1			
410	3445488	20		Cooling plate			
420	K382520	20		Strain reliever			
430	3010504	20		Cable			







ID	Code	Model	Voltage	Description			
MOD	MODULE:Control unit [20]						
440	3593327	20		Control unit, holder			
450	3255945	20		Screw			
460	3591249	20		Control panel, blue			
470	3493234	20		Knob			
480	3033364	20		Screw			
490	3021947	20		Washer			
500	3441067	20		Holder for pilot light			
510	3442159	20		Pilot lamp, green H3			
520	3442141	20		Pilot lamp, yellow H1			
530	3488682	20		Switch, S2			
540	K321672	20		Contact block, S2			
550	3445142	20		Thermostat A1,A2			
560	3301574	20		Timer, S1			
570	3512575	20	A,C,H,I,P	Fuse terminal, F4			
580	3434278	20	A,C,H,I,P	Fuse 1A, ceramic F4			
570	3512575	20	J,K,L,M	Fuse terminal (Marine) F1-F3			
580	3434278	20	J,K,L,M	Fuse2A, ceramic F1-F3			
590	3488428	20	J,K,L,M	Contactor (Marine) K1,K2			

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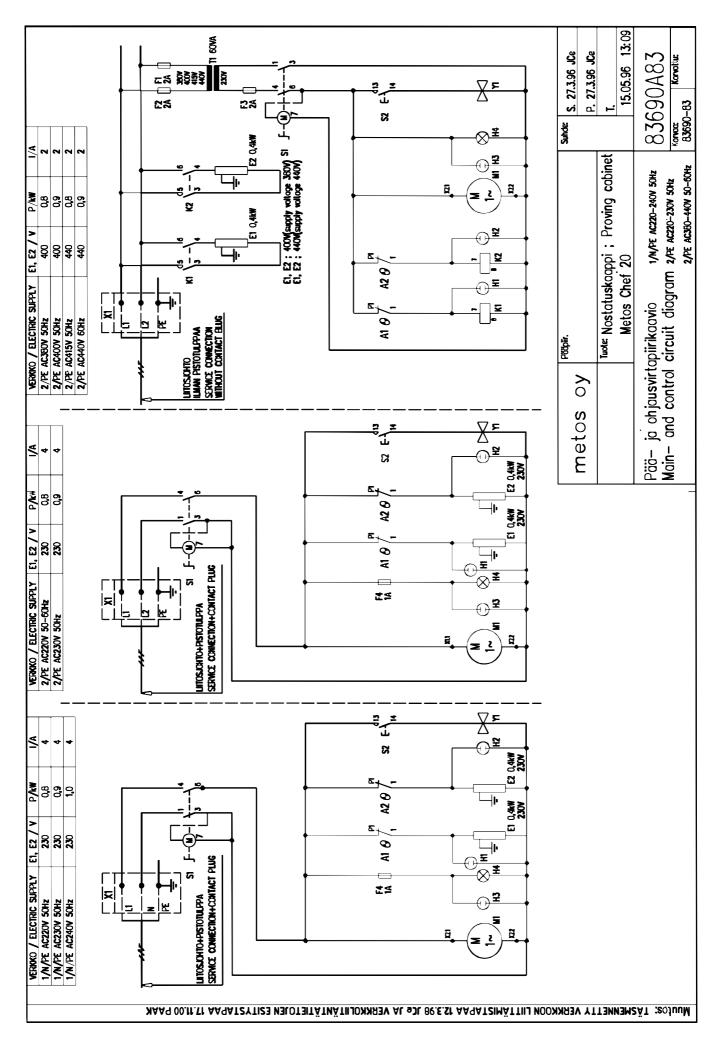
8. Technical specifications

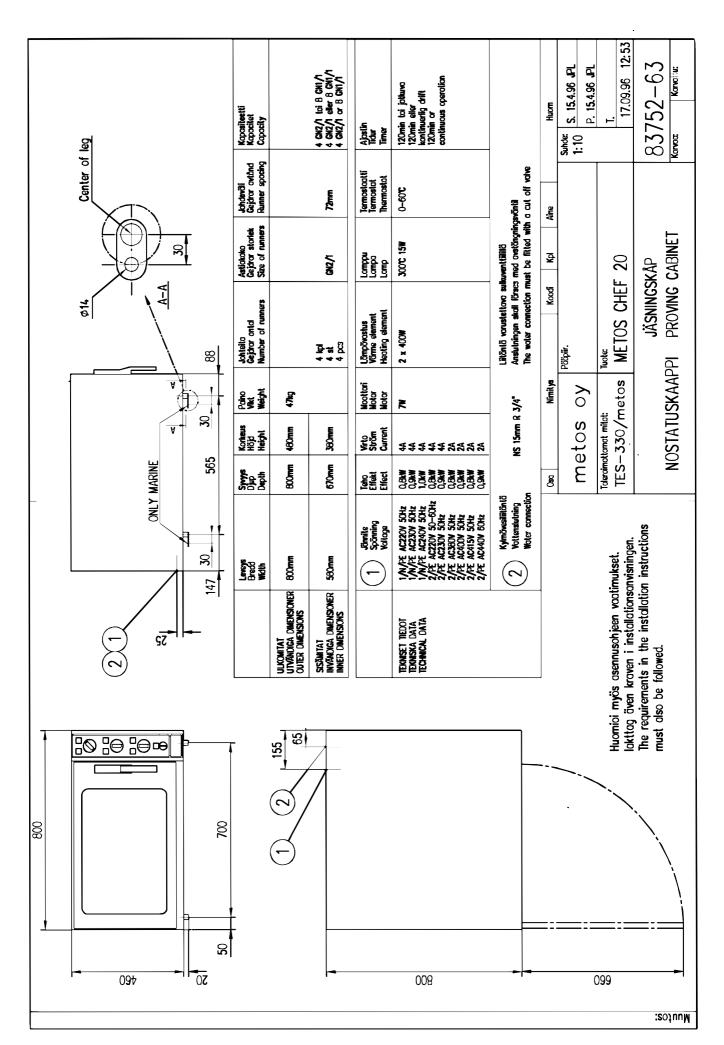
Main and control circuit 83690A83

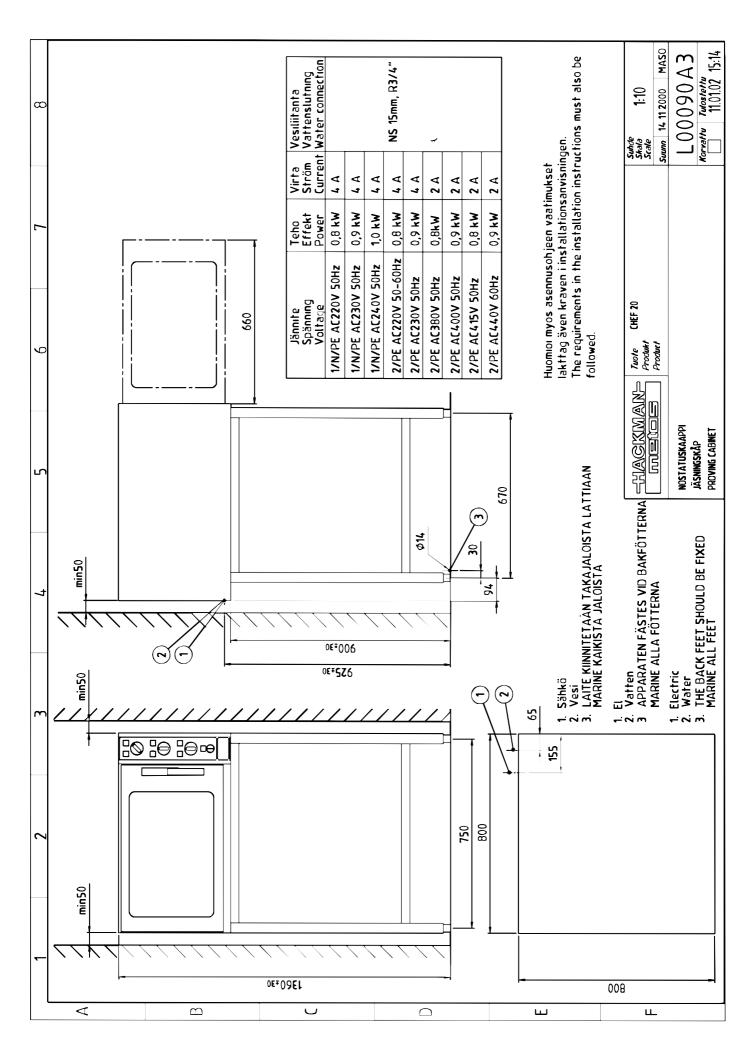
Installation drawing 83752-63

Installation drawing L00090A3

Technical specifications table







Item	Specification
External dimensions WxDxH, proving cabinet	800 x 800 x 460 mm
External dimensions WxDxH, oven stand	790 x 710 x 200,660,900 mm
Internal dimensions WxDxH	580 x 670 x 380 mm
Capacity, 4 guide rails	4 x GN2/1 or 8 x GN1/1
Capacity, 5 guide rails	5 pcs 450 x 600 bakery plate
Thermostat control range	+2060°C
Material	Stainless steel proving cabinet interior, door and external casing
Timer	0-120 min. or continuous
Pre-heating time (35°C)	20 min.
Moisture device	Water basin is filled with water and required moisture-% is set with the knob.
Weight, including packing, proving cabinet	abt 64 kg
Weight including packing, proving cabinet with stand	abt 83 kg
Weight excluding packing, proving cabinet	abt 47 kg
Weight excluding packing, proving cabinet with stand	abt 61 kg
Package dimensions WxDxH, proving cabinet	886 x 944 x 624 mm
Package dimensions WxDxH, oven with stand	886 x 994 x1545 mm
Electricity connection	See installation drawing
Conditions of use	Normal kitchen conditions, temperature above 0°C
Accessories	Stand: height 900 mm

HACKMAN METOS OY AB LOMAKE LT30024

VAATIMUSTENMUKAISUUSVAKUUTUS FÖRSÄKRAN OM ÖVERENSSTÄMMELSE DECLARATION OF CONFORMITY

5010W_.DOC

Rev. 3

28.12.1994

Päiväys / Datum / Date

23.06.1999

Me / Vi / We

Valmistajan nimi / Tillverkarens namn / Manufacturer's name

HACKMAN METOS OY AB / HACKMAN METOS LTD

Osoite / Adress / Adress

04**22**0 KERAVA FINLAND

vakuutamme yksinomaan omalla vastuullamme, että seuraava tuote:

försäkrar helt på eget ansvar att följande produkt:

declare under our sole responsibility that the product:

Nimi, tyyppi tai malli / Namn, typ eller modell / Name, type or model

METOS Chef 20-nostatuskaappi, myös paistotornien sekä liesien osana.

METOS Chef 20 jäsningskåp, även som enhet i stektorn och spisarna.

METOS Chef 20 proving cabinet, also in stacked units as well as in ranges.

johon tämä vakuutus liittyy, on (mikäli asiankuuluvaa) seuraavan standardin (seuraavien standardien) tai muun normatiivisen asiakirjan (muiden normatiivisten asiakirjojen) vaatimusten mukainen

till vilken denna försäkran hör, uppfyller (vid behov) kraven i följande standard (standarder) eller annat (andra) normativa dokument

to which this declaration relates is in conformity with (if necessary) the following standard(s) or other normative document(s)

Tunnus, vuosiluku tai julkaisupäivä / Beteckning, årtal eller publiceringsdatum / Designation or number, year or date of issue

EN-SFS 292-1:1991 ; EN-SFS 292-2:1991 EN-SFS 60204-1:1993 ; (osittain / delvis / partly) EN-SFS 60335-1:1990 ; EN-SFS 60335-2-49:1986

EN-SFS 50081-1:1992 EN-SFS 50082-2:1995

ja noudattaa (mikäli asiankuuluvaa) seuraavan direktiivin (seuraavien direktiivien) määräyksiä och följer (vid krav) följande direktivs bestämmelser and in conformity with (if necessary) orders of following directive(s)

MSD 89/392/EEC + 92/31+ 93/68

LVD 73/23 + 93/68

EMC 89/336/EEC + 92/31 + 93/68

Vakuutuksen antopaikka ja päivä / Utfärdad på ort och datum / Place and date of issue

KERAVA

23.06.1999

Valtuutetun henkilön nimi, nimikirjoitus ja asema / Bernyndigad persons namn, namnteckning och befattning / Name, signature and title of authorized person

Rainer Keto, R&D Manager

Pekka Mönkkönen, Production Director