Operating instructions

VENTICELL 55, 111, 222, 404, 707

INCUCELL 55, 111, 222, 404, 707

ECOCELL 55, 111, 222, 404, 707
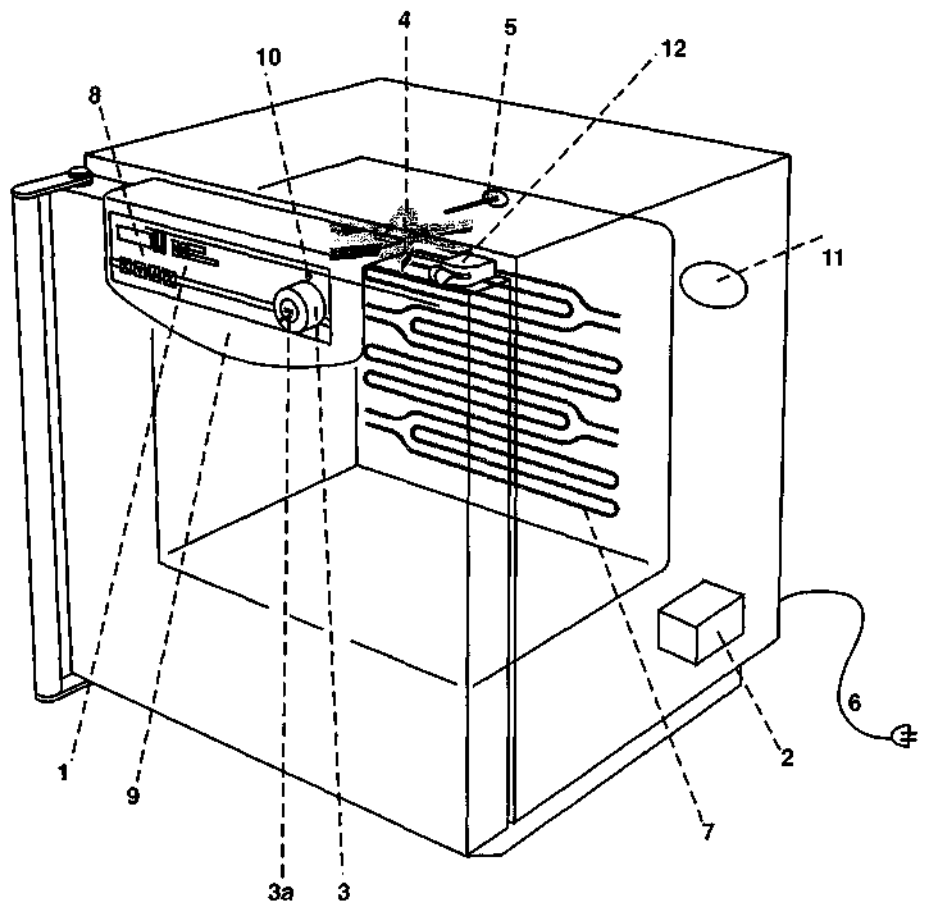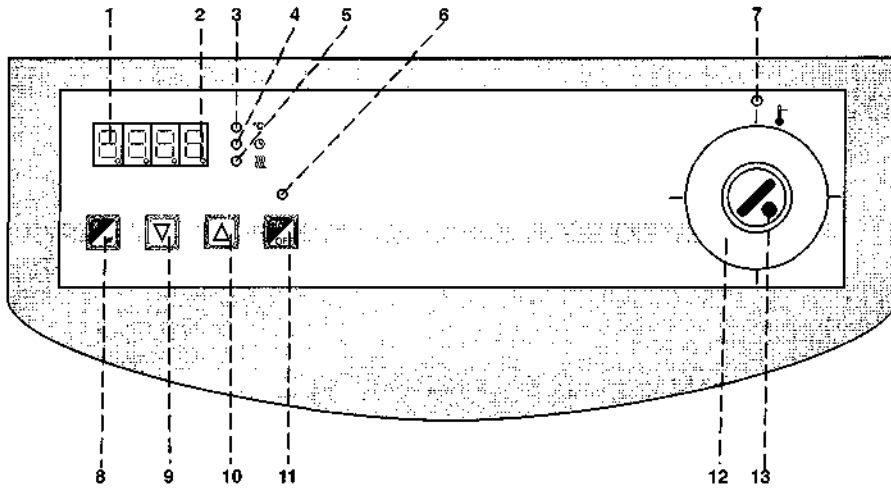
CE   VDE
EMV

2. Description of the oven

1	Control	2	Power supply and switch
3	Safety thermostate	3a	Reset pin of safety thermostate
4	Ventilator (only for VENTICELL and INCUCELL/V)		
5	Pt 100	6	Connection to mains
7	Heating element	8	Control panel
9	Control casing	10	malfunction indicator red – safety class operating
11	Air flap	12	Air flap lever

1. Operating panel

	Display
1	Display
2	Decimalpoint (oven connected to mains – stand-by)
3	°C = temperature, possible indications:

		O °C	not active
		● °C	light is on, temperature indicated
		◑ °C	light blinks, temperature programmable
4	◷ = Time	O ◷	not active
		● ◷	light is on, programmed time indicated
		◑ ◷	blinks, heating is controlled
5	▩ = heating	O ▩	heating off
		● ▩	light is on, heating active
		◑ ▩	blinks, heating is controlled
6	LED-diode oven	-light is on: oven switched on
7	Indicator light	-light is on: temperature surpasses the set safety temperature - heating element is switched off (INCUCELL ovens continue at slightly higher temperature)
8	RATED/Actual-value key	
9	Lower RATED value	
10	Rise RATED value	
11	ON/OFF switch	
12	Adjustable safety thermostate, DIN 12880, Kl.2: ECOCELL und VENTICELL KL.3.1: INCUCELL/V	
13	RESET pin back safety thermostate	

T = Indication of temperature at the display

t = Programmed period of time runs down

h = hours, info at the display

min = minutes, info at the display

sec = second

3

3. CONTENTS

4. General notes

a Unpacking and checking

Please check after unpacking if the oven and its accessories are complete and not damaged.

A possible damage is to be reported immediately to the forwarding agent.

b Introduction

The series VENTICELL, ECOCELL and INCUCELL are manufactured of high grade materials, with the latest technology and are subjected to a strict final test leaving the plant.

The warranty period of the ovens is 12 months.

A modern microprocessor (fuzzy logic) with digital indicator and PT 100 controls the temperature. Thus exact temperature accuracy and process safety are guaranteed.

c Ambient conditions

- For use in interior rooms
- Ambient temp.: 4/40°C (Venticell/Ecocell)
- All indications relate to 22°C ambient temp.
- Power supply: V, +/-10%
- Degree of soiling 2 according to IEC 664

- For use up to 2000 m above NN
- Attention, not valid for Incucell (37°C)
- Rel.humidity: 80%/31°C, 50%/40°C
- Overvoltage catagory II
- Protection IP 20 acc. to EN 60 529

d Hints for the user:
Watch out! This sign indicates a point relevant for safety aspects.

Goods are only to be put on trays into oven, never directly on the bottom of the oven.

No inflammable or explodable materials may be put into ovens. The ovens are designed according to the EC/VDE-requirements and are individually tested according to EN 61010.

No dangerous goods are permitted. (refer to regulations for laboratories ZH 1/119)

Safety thermostates assure the protection of the ovens and surroundings against surpassing the rated temperature.
Protection through temperature safety class 2 according to EN 61010 for Venticell and Ecocell. Protection for Incucell according to safety class 3 according to EN 61010.

Only connect the oven to shock-proof plug!

The oven should be installed with a 100 mm distance to the walls at the side and in back.

e Cleaning of the oven

Clean the oven with a soft cloth. Use customary soap for the outer casing. Use acidfree detergent or disinfectant for the interior. We recommend cleaning the oven while cold.

f Permitted loads:

| Size	weight per tray kg	weight/total kg per oven
55	20	50
111	20	50
222	30	70
404	30	100
707	50	130

g Useful space

Useful space according to DIN 12880 is the interior minus a distance to the sides, top and bottom. The required temperature accuracy can only be achieved if this distance to the resp. interior's height H, width B and depth T is appr. 10% (X).
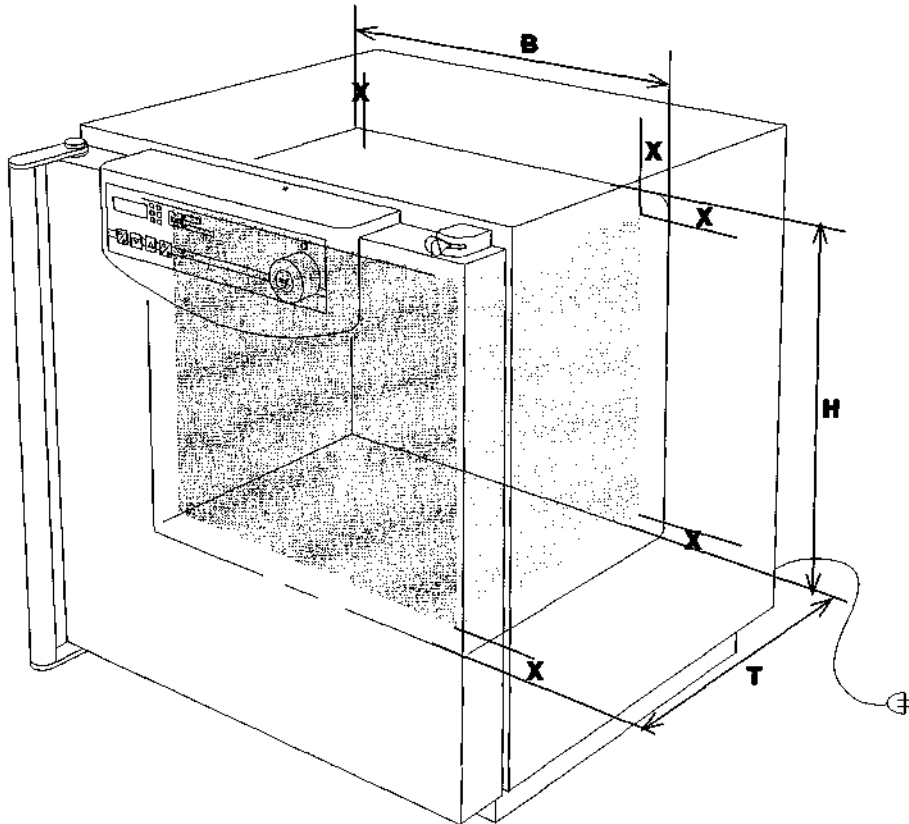
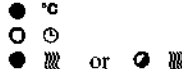# 5. Function and operating

5.1 Start-up oven
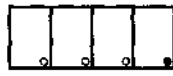
The oven is connected to mains.
The right decimal point lights up.
The oven is in stand-by mode.

To start-up the oven press ON/OFF key.

Self-test routine – all elements light up.

The ACTUAL temperature is indicated after 5 sec. The pre-programmed temperature- and time parameters run down.
If necessary add new settings.
The green Power-ON-LED is on.

5.2 Switch-off oven

a

Display mode is undefined.

Power ON-LED is on.

b

To switch off, activate the OFF-key for 1 sec.

c

Oven in stand-by-mode.

°C
⊕
〰

5.3 Set RATED temperature

a		ACTUAL temperature is indicated.
b		Press X/W - key to show rated value.
c		Rated value is indicated.
d	or ... or	Change the rated value at UP-DOWN - key.
e		New rated value is indicated.
f	5 sec or	Press X/W - key or wait 5 sec, ACTUAL temperature is indicated at the display.
g		Oven operates at rated temperature.
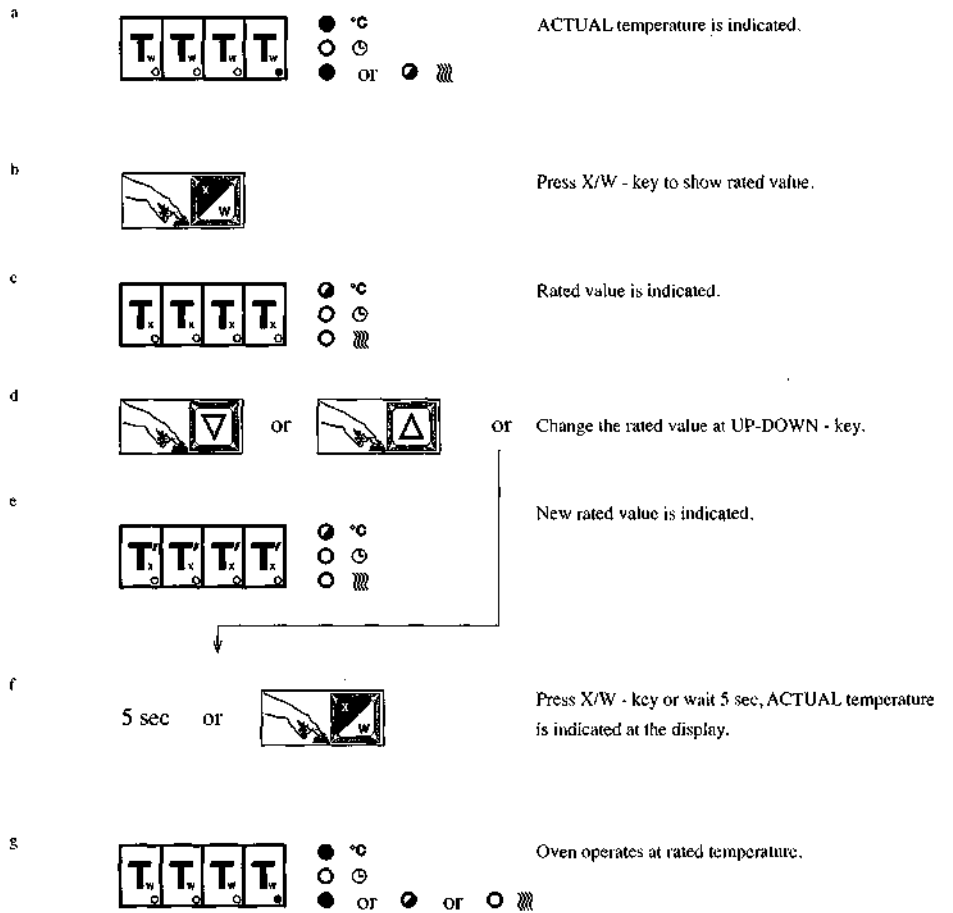
5.4 Set safety thermostate

The safety thermostate is set higher than the RATED temperature. You can set the safety thermostate with a coin or a screw-driver as follow:

5.4.1. Set safety thermostate to maximum (turn right).

5.4.2. Heat the oven up to working temperature.

5.4.3. Turn the safety thermostate back (left) till the red light comes on. Then turn the safety thermostate a little "tick" to the right and press the reset-pin. The red light comes off and the oven is set to normal working condition.

5.4.4. Safety thermostate is active.

5.4.4.1 Venticell/Ecocell
The red light is on, the heater is switched off, the control indicates the ACTUAL temperature, the LED "heater" can blink, be on or off.

5.4.4.2 Incucell
The red light is on, the control indicates a slightly higher safety-temperature.
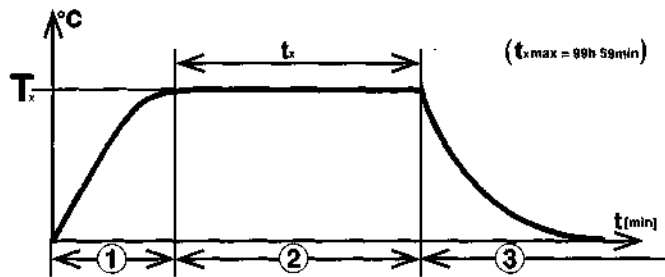
5.4.5. Set back the safety thermostate.

5.4.5.1 Venticell/Ecocell
If the temperature decreases press the reset-pin to activate the normal function of the oven, the red light is off. Should this not happen please check the setting, points 5.4.1-3.

5.4.5.2 Incucell
The actual temperature has slightly risen. Turn the safety thermostate towards the right, the light comes off. The oven operates in normal function. After reaching the rated temperature repeat setting points 5.4.1-3.

5.5 Switch-off at a given RATED temperature
(Depending on RATED temperature)

a

ACTUAL temperature

b

2 sec

Press simultanously RATED/ACTUAL and DOWN key (2 sec) and the timer function is activated. Back to temperature function by again activating the X/W and DOWN key.
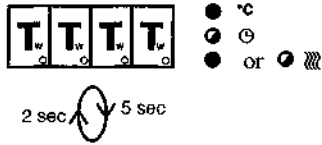
c

The programmed time is indicated.

d

or

If you want you can change the time at the UP/DOWN key

e

New or old time is indicated, wait for 5 sec. Process is operational.

f

| T$_w$ | T$_w$ | T$_w$ | T$_w$ |

● °C
◐ ⊕
● or ◐ ≋

2 sec ↗ ↘ 5 sec

| h | h | min | min |

○ °C
◐ ⊕
● or ◐ ≋

Actual heating-up time
(phase1)

Oven heats up to set rated temperature.
The ACTUAL temperature (5 sec) and the time needed
to reach the rated temperature (2 sec) are alternatingly
indicated at the display.

g

| T$_w$ | T$_w$ | T$_w$ | T$_w$ |

● °C
● ⊕
● or ◐ ≋

2 sec ↗ ↘ 5 sec

| h | h | min | min |

○ °C
● ⊕
● or ◐ ≋

Remaining time (phase2)
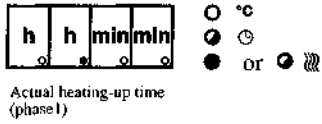
Has the rated temperature been reached, the preset time
starts to run down. Now the ACTUAL temperature
(5 sec) and the remaining time (2 sec) are alternatingly
indicated.

h

| T$_w$ | T$_w$ | T$_w$ | T$_w$ |

● °C
○ ⊕
○ ≋
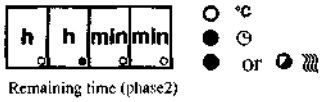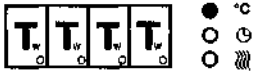
Time has run down – heater is switched off – oven cools
off – ACTUAL temperature is indicated.

5.6 Start-up at a given time
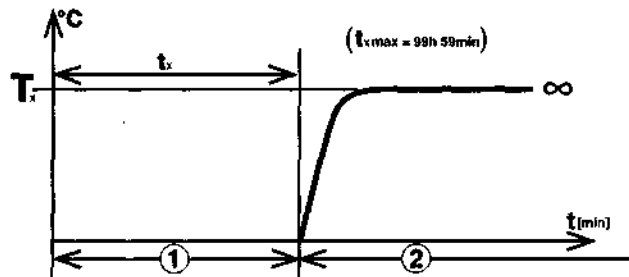
a

ACTUAL temperature
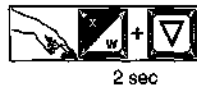
b

2 sec

Press simultanously RATED/ACTUAL and DOWN key (2 sec) and the timer function is activated. Back to temperature function by again activating the X/W and DOWN key.

c

The programmed time is indicated.

d

 or

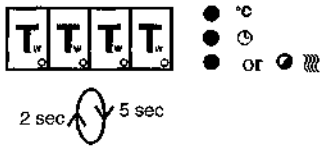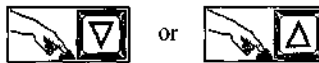If you want you can change the time at the UP/DOWN key.

e

Press the X/W key to activate the "start-up at a given time"

14

f

⊘ h	⊘ h	⊘ min	⊘ min

○ °C
◐ ⏱
○ 〰

Display blinks and confirms the function "start up at a given time". After 5 sec, time period is active.

g

T_w	T_w	T_w	T_w

● °C
○ ⏱
● 〰

The remaining time (2 sec) and the ACTUAL temperature (5 sec) are alternatingly indicated.

2 sec ⟲ 5 sec

h	h	min	min

○ °C
◐ ⏱
○ 〰
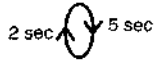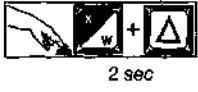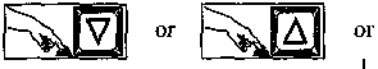
Remaining time to start

h

T_w	T_w	T_w	T_w

● °C
○ ⏱
● or ◐ 〰

The time has run down, the oven heats up to the rated temperature and holds it until manually interfered.

5.7 Set printer interval

a
Display mode undefined.

b

2 sec

Press X/W-key and UP-key for 2 sec.

c

| h | h | min | min |

O °C
O ⏲
O 🌑

The actual interval time is indicated.

d

∇   or   △   or

If necessary set interval time at UP/DOWN-key
(max 4.15) or wait 5 sec.
Process activ.

e

| h′ | h′ | min | min |

O °C
O ⏲
O 🌑

New interval time or keep old interval time.

f

| T. | T. | T. | T. |

● °C
O ⏲
● or ◑ or O 🌑

Indication of ACTUAL temperature.

5.8 Adjust air flap
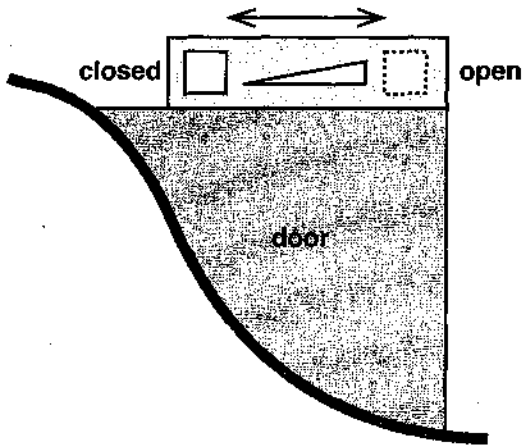
5.9 Remove / install inside walls

One tray remains in the middle of the interior.

The top part is removed by pulling it forward.

After the tray is taken out the side walls and the bottom part can be removed.

Remove the back panel.

Installation is done in reversed order starting with the back panel.

The side walls are coded thus incorrect installation is prevented.

6. Possible connections

6.1 Panel for connections (rear left)

protocol printer   mains
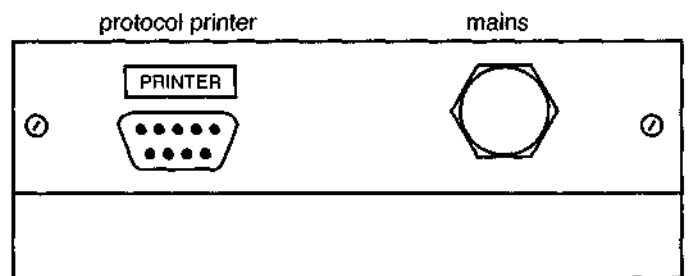
PRINTER

ATTENTION! Only connect to this interface equipment tested according to IEC 950.

6.2 Interface for protocol printer (RS 232 C, monolog)

6.2.1 pin assignment

1 2 3 4 5

6 7 8 9

2 = TxD
3 = RxD
5 = GND
6 = DSR
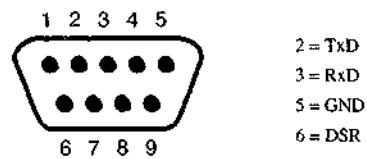
6.2.2 Description of Interfaces

6.2.2.1 Interface parameters

Baud: 9600
Stopbit: 1
Parity: none
Databit: 8

The connected oven activates the handshake-entrance, if not the control ignores the
interface and no data will be transmitted.
Should the interface be interrupted during data transmission, the control is blocked. In that
case a quick power-ON/OFF will release the blockade.

6.2.2.2 Transmitted data

The transmitted data form lines of text. The line ends with CR/LF(ASCII decimal).
Intervalls of 0.4 sec are mandatory between the lines. The handshake signal is checked
everytime prior to transmitting a signal.

Used signals:
ASCII 32 - 126
ASCII 248 (°)
ASCII 13 (CR)
ASCII 10 (LF)

6.2.2.3 Note

No data are transmitted at printer interval "0".

A new line with information is printed if: - the oven is started up
                                              - the temperature is changed
                                              - the printer intervall is changed
                                              - a new process starts

7. Explanation of accessories

7.1 Switch for the inside light towards the window

The inside light is switched on/off with the switch integrated into the right hand side of the door.

⚠ Glasspanel is hot during operation!
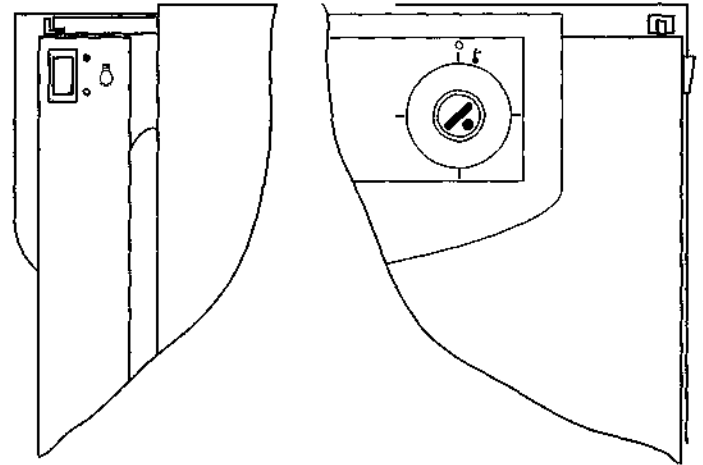
7.2 Flexible sensors to check the temperature of the goods.

(To comply with the EN 61010, the measering gauge must comply with these standards as well.)

7.2.1 Pt 100

You can place the flexible probe within the ovens sizes: 55, 111, 222 ltr all over the interior.
At ovens 404, 707 ltr in the upper half.

probe in the interior   connecting panel rear right
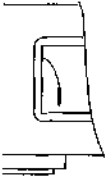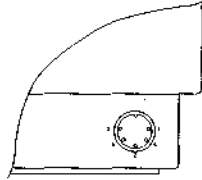
diagram of connections

7.2.2 NiCrNi

connecting panel rear right
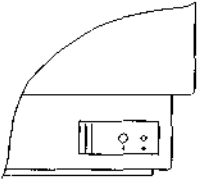
diagram of connections
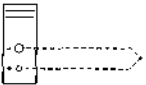
8. Identification signals for self-diagnosis

The electronic is equipped with routines for self-diagnosis to facilitate the analysis of possible malfunctions. The identification signals appear at the 7-segment indicator.

Err 2   malfunction Pt 100

Err 1+4   malfunction hard- or software

Please inform the service.

9. Exchange of the door seal

Pull out the seal all around starting at the bottom middle.
Fit the new seal onto the folded edge of the chamber starting at the bottom middle. The
seal "clicks in" between the chamber and the outer casing.

To check the seal take a piece of paper and put it between the door and the chamber. Pull
it out slowly, a rather strong resistance should be noticeable.

The door is adjustable at all four points.
- top left with screws and bolts
- bottom left with screws and bolts
- top right with octogonal wrench for socked head cap screws (lift plastic covering at right
side and remove it) adjustable in all directions.
- bottom left with octogonal wrench for socked head cap screws (right foot side)
adjustable towards front/back.

10. Technical data

(Technical data given for 22°C ambient temperature and +/-10% electric power fluctuation.)

Fuses:

- 10 A 250 V, F, 3,2 x 20
- 15 A 250 V, M, 6,3 X 32

VENTICELL

Technical data		Models	55	111	222	404	707
Interior of stainless	volume	appr. ltrs	55	111	222	404	707
steel	width	appr. mm	400	540	540	540	940
material No. 1.4301	depth	appr. mm	390	390	540	540	540
	height	appr. mm	350	530	760	1410	1410
	tray	racks max.	4	7	10	19	19
		trays included	2	2	2	2	2
	No. of doors		1	1	1	1	2
Electricity	max.power consumption:	appr. kW	1,3	1,9	1,9	3,7	4,9
	stand by	appr. W	5	5	5	5	5
	mains 50/60Hz,+10/-15%	V	230	230	230	400/3N	400/3N
Working temperature	ambient temp.+10°C	to °C	250	250	250	250	250
	plusversion	to °C	300	300	300	300	300
Temperature accuracy according to DIN 12860,T2 at working temperature with closed air flap and metal door							
	deviation	appr. %	1	1	1	1,5	1,5
	variation	appr. %	< 0,2	< 0,2	< 0,2	< 0,2	< 0,2
Time required to reach 250° C		appr. min	42	43	56	58	64
Heat emission		appr. W	520	670	880	930	1080
Air exchange rate at 150° C		appr./h	45	49	24	18	12
Max.weight of load	inside the oven	appr.kg	50	50	70	100	130
	per tray	appr.kg	20	20	30	30	50

INCUCELL

Technical data		Models	55	111	222	404	707
Interior of stainless	volume	appr. ltrs	55	111	222	404	707
steel	width	appr. mm	400	540	540	540	940
material No. 1.4301	depth	appr. mm	390	390	540	540	540
	height	appr. mm	350	530	760	1410	1410
	tray	racks max	4	7	10	19	19
		trays included	2	2	2	2	2
	No. of doors		1	1	1	1	2
Electricity	max.power consumption	appr. kW	0,3	0,3	0,5	0,9	0,9
	max.power consumption incucell V	appr. kW	0,7	0,7	0,7	1,3	1,4
	stand by	appr. W	5	5	5	5	5
	mains 50/60Hz,+10/-15%	V	230	230	230	230	230
Working temperature	ambient temp.+5°C	to °C	70	70	70	70	70

Temperature accuracy according to DIN 12880,T2 at
working temperature with closed air flap and metal door

			55	111	222	404	707
	deviation	appr. %	< 0,5	< 0,5	< 0,5	< 1	< 1
	with ventilation	appr. %	≤ 0,3	≤ 0,3	≤ 0,3	≤ 0,5	≤ 0,5
	variation	appr. %	≤ 0,2	≤ 0,2	≤ 0,2	≤ 0,2	≤ 0,2
Time required to reach 37° C		appr. min	17	21	37	50	59
	with ventitation	appr. min	8	10	17	23	38
Heat emission		appr. W	30	45	45	60	85
Air exchange rate at 150° C		appr./h	–	–	–	–	–
	with ventilation	appr./h	45	49	24	18	12
Max.weight of load	inside the oven	appr.kg	50	50	70	100	130
	per tray	appr.kg	20	20	30	30	50

ECOCELL

Technical data		Models	55	111	222	404	707
Interior of stainless	volume	appr. ltrs	55	111	222	404	707
steel	width	appr. mm	400	540	540	540	940
material No. 1.4301	depth	appr. mm	390	390	540	540	540
	height	appr. mm	350	530	760	1410	1410
	tray	racks max.	4	7	10	19	19
		trays included	2	2	2	2	2
	No. of doors		1	1	1	1	2
Electricity	max.power consumption	appr. kW	1,3	1,9	1,8	3,6	4,5
	stand by	appr. W	5	5	5	5	5
	mains 50/60Hz,+10/-15%	V	230	230	230	400/3N	400/3N
Working temperature	ambient temp.+10°C	to °C	250	250	250	250	250

Temperature accuracy according to DIN 12880,T2 at
working temperature with closed air flap and metal door

			55	111	222	404	707
	deviation	appr. %	2	2	2	2,5	2,5
	variation	appr. %	0,2	0,2	0,2	0,2	0,2
Time required to reach 250° C		appr. min	68	60	72	85	95
Heat emission		appr. W	520	670	880	930	1080
Air exchange rate at 150° C		appr./h	8	12	5	4	3
Max.weight of load	inside the oven	appr.kg	50	50	70	100	130
	per tray	appr.kg	20	20	30	30	50

11. Warranty and service

Warranty is guaranteed by MMM Medcenter for satisfactory delivery and functioning of the ovens within the contractual regulations and the period of the warranty. Please refer to the MMM-Medcenter sales and delivery conditions.

MMM Medcenter does not cover any deficiences or damages due to normal wear and tear, chemical or physical attack, excessive overload, incorrect handling or due to the ovens beeing used in a way in which it was not intended to be used, particularly in case of non-observance of the enclosed operating instructions, incorrect installation resp. start-up by the customer or a third party, as well as in the case of damage to the system caused by foreign objects or by incorrect or inadequate maintenance and repairs.

For the correct connection of the ovens to the power supply the technical data and operating instructions are to be observed.

If you have questions about service or upkeep or the ovens (maintenance, repair or spare-parts-supply) please contact:

MMM-Service department
D-92549 Stadlern/Oberpfalz
Telephone (Germany-9674) 80-0

MMM Medcenter
Postbox 1738
D-82145 Planegg/München
Telephone (Germany-89) 89 92 26 -0

Your retailer

EG-Konformitätserklärung

Produktbezeichnung:	Gewerbliche Wärmeschränke und Brutschränke
Typenbezeichnungen:	Venticell 55, 111, 222, 404, 707 / Incucell 55, 111, 222, 404, 707 Incucell/V 55, 111, 222, 404, 707 / Ecocell 55, 111, 222, 404, 707
Hersteller:	MMM Medcenter Einrichtungen GmbH Behringstr. 6 82152 Planegg

Die bezeichnete Produktreihe stimmt mit den folgenden Europäischen Richtlinien überein:

(89/336/EWG)
„Richtlinie des Rates zur Angleichung der Rechtsvorschriften der Mitgliedsstaaten über die Elektromagnetische Verträglichkeit"

(73/23/EWG)
„Elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen"

(93/68/EWG)
„Zur Änderung der Richtlinie (73/23/EWG)"

Die Übereinstimmung der bezeichneten Produkte mit den Vorschriften der Richtlinien wird nachgewiesen durch vollständige Einhaltung folgender Normen:

Europäische Norm	Deutsche Norm	VDE-Klassifikation
EN 50082-1:1992	DIN EN 50082 Teil 1/03.93	VDE 0839 Teil 82-1/03.93
EN 55014:1993	DIN EN 55014/12.93	VDE 0875 Teil 14/12.93
EN 55011:1991	DIN VDE 0875 Teil 11/07.92	
Grenzwerte der Klasse B, Gruppe 1		
EN 61010-1	DIN EN 61010-1	VDE 0411, Teil 1
EN 61010-2-010	DIN EN 61010-2-010	VDE 0411, Teil 2-010

Die Produktreihe ist vom VDE Prüf- und Zertifizierungsinstitut Offenbach geprüft und zertifiziert mit dem **EMV-Zeichen** des VDE gemäß dem hierfür bestehenden **Zeichengenehmigungs-Ausweis 92205 F** und dem **GS-Zeichen** des VDE gemäß dem hierfür bestehenden **Zeichen- genehmigungsausweis 91643 G**

Aussteller:

Planegg, den 18. 12. 1995

MMM Medcenter Einrichtungen GmbH
Udo Schulte, Geschäftsführer

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