



**Operation and  
Maintenance  
KBL 4000**

# Copyright and Trademark

Printed in Germany

© Copyright 2006 KBL-Solarien AG

---

This documentation covers only products manufactured by KBL-Solarien AG.

This documentation must not be duplicated, photocopied, translated or stored on any electronic medium or in a machine-readable form, neither in whole or in part, without prior written consent by KBL-Solarien AG.

**Only original spare parts – especially tubes and burners – have to be used, otherwise operating authorization and terms of guarantee will become invalid.**



**KBL**<sup>®</sup>  
SUNSHINE COMPANY

KBL-Solarien AG ·  
Ringstraße 24-26 · 56307 Dernbach · Germany  
fon +49(0)2689.9426-0 · Fax +49(0)2689.9426-66

# Table of content

<b>1. General safety - Exposure schedule - Service.....</b>	<b>4</b>
<b>2 Operating during the tanning session.....</b>	<b>7</b>
2.1. Operating panel.....	7
2.2. Functions.....	8
2.3. Hints for studio operators.....	10
<b>3. Maintenance of the unit.....</b>	<b>11</b>
3.1. Cleaning and care.....	11
3.2. Dismantling the acrylic panes.....	11
3.3. Filter panes.....	14
3.4. Tubes and facial tanners.....	16
3.5. Removing the burners.....	17
3.6. Unit lighting.....	18
3.7. Canopy drive.....	19
3.8. Filter mats.....	20
3.9. Cooling and exhaust air.....	21
3.10. Air-conditioning unit.....	23
3.11. Condensate pump.....	24
<b>4. Technical data.....</b>	<b>25</b>
4.1. Data that is common to all unit models.....	25
4.2. Views.....	26
4.3. KBL 4000 Super Power - inductive.....	26
<b>5. Wiring diagrams.....</b>	<b>27</b>
5.1. Mains voltage.....	27
5.2. Audio signal.....	28
5.3. External Timer.....	29
<b>6. Service mode - inductive.....</b>	<b>30</b>
6.1. Service level I - inductive.....	31
6.2. Service level II - inductive.....	31
<b>7. Service Mode CPI.....</b>	<b>32</b>
7.1. General information and structure.....	32
7.2. Structure of the menus on service level I and II CPI.....	34
7.3. Service level I - CPI.....	35
7.4. Service level II - CPI.....	39
7.5. Error messages.....	40
<b>8. Tanning instructions.....</b>	<b>41</b>
8.1. General tanning instructions.....	41

# 1. General safety - Exposure schedule - Service

Please observe the following safety information:

**Tanning times** Never exceed the recommended duration of a tanning session.  
See Section 8 Tanning Instructions

**Timer** **This device must be operated with an external timer that is in compliance with UL 917.** The maximum tanning time must not be exceeded.

**Disconnecting** Before opening the unit switch off the fuses to disconnect the system from the voltage supply!



**Facial tanners**

Do not operate the tanning system if a filter pane is defective.  
Section 3.3 Filter panes

**Technical parameters**


The data indicated in the tanning schemes are based on the assumption that both tubes and burners are replaced at regular intervals. See Section 3.4 Tubes and facial tanners  
With regard to tube replacement remember to reset the control and the working hour counter of the tubes.  
See Section: 6.1 Service level I in inductive mode

**Mechanical parts**

The canopy drive has to be serviced regularly with each tube replacement. This includes the replacement of the drive rope after 3,000 hours of operation.  
See Section 3.7 Canopy drive

**Cleaning**

Do not use any cleansing agents other than the ones approved by KBL Solarien AG.  
See Section 3.1 Cleaning and care

	<p><b>WARNING - ULTRAVIOLET RADIATION - FOLLOW INSTRUCTIONS - FAILURE TO USE PROTECTIVE EYEWEAR MAY RESULT IN SEVERE BURNS OR OTHER EYE INJURY - IF DISCOMFORT DEVELOPS, DISCONTINUE USE AND CONSULT A PHYSICIAN.</b></p> <p><b>ATTENTION - RAYONNEMENTS ULTRAVIOLETS - VEUILLEZ SUIVRE LES INTRUCTIONS - SANS DISPOSITIF DE PROTECTION DES YEUX, CE PRODUIT PEUT CAUSER DES BRÛLURES OU LÉSIONS OCULAIRES GRAVES - SI VOUS SENTEZ UN MALAISE, EN DISCONTINUER L'USAGE ET CONSULTER UN MÉDECIN.</b></p>
<p><b>DANGER</b> - Avoid overexposure. As with natural sunlight, overexposure can cause eye and skin injury and allergic reaction. Repeated exposure may cause premature aging of the skin and cancer. Medications or cosmetics may increase your sensitivity to the ultraviolet radiation. Consult physician before using sunbed if you are using medications or have a history of skin problems or believe yourself especially sensitive to sun light. If you do not tan in the sun you are unlikely to tan from use of this product.</p> <p><b>DANGER</b> - Eviter surexposition. Comme avec la lumière naturelle du soleil, la surexposition peut causer lésions aux yeux et à la peau et réactions allergiques. Une exposition répétée peut causer un vieillissement prématuré de la peau et cancer. Médicaments et cosmétique peuvent augmenter votre sensibilité aux rayons ultraviolets. Consulter un médecin avant d'utiliser la lampe à ultraviolets si vous utilisez médicaments, si vous avez problèmes de peau ou si vous croyez vous êtes particulièrement sensibles au rayons du soleil. Si vous ne bronzes pas avec le soleil c'est improbable que vous pouvez vous bronzer en utilisant ce produit.</p>	
Part No. 3010370800	

<p>This device may be used only by persons over 18 years and is intended to be used by only one person at a time. Lie down on the bench in a straight position and with physical contact to the bench.</p> <p><b>CAUTION:</b> EXPOSURE POSITIONS OTHER THAN SPECIFIED MAY RESULT IN OVEREXPOSURE AND ARE NOT RECOMMENDED. Tanning normally begins after one to two exposures and maximizes after one to four (1-4) weeks of exposure following the recommended schedule for you skin type. <b>Wear protective eyewear.</b> Eyewear: AHK GmbH, No. 600545</p>	<p><b>DO NOT REMOVE THIS LABEL</b></p> <p>Read the instruction booklet before using tanning system</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">RECOMMENDED EXPOSURE SCHEDULE</th> </tr> <tr> <td colspan="5" style="padding: 2px;">First three sessions should be at 48 hour intervals. Followed by the gradual increasing of exposure times until maximum tanning has occurred (in approximately 4 weeks). MAXIMUM EXPOSURE is 12 minutes.</td> </tr> <tr> <th style="padding: 2px;">Skin type</th> <th style="padding: 2px;">Week 1 1st - 3rd Session</th> <th style="padding: 2px;">Week 2 4th - 6th Session</th> <th style="padding: 2px;">Week 3 7th - 9th Session</th> <th style="padding: 2px;">Subsequent Weekly Session</th> </tr> <tr> <td style="text-align: center; padding: 2px;">I</td> <td style="text-align: center; padding: 2px;">2 min</td> <td style="text-align: center; padding: 2px;">5 min</td> <td style="text-align: center; padding: 2px;">7 min</td> <td style="text-align: center; padding: 2px;">9 min</td> </tr> <tr> <td style="text-align: center; padding: 2px;">II</td> <td style="text-align: center; padding: 2px;">2 min</td> <td style="text-align: center; padding: 2px;">5 min</td> <td style="text-align: center; padding: 2px;">7 min</td> <td style="text-align: center; padding: 2px;">10 min</td> </tr> <tr> <td style="text-align: center; padding: 2px;">IV</td> <td style="text-align: center; padding: 2px;">2 min</td> <td style="text-align: center; padding: 2px;">5 min</td> <td style="text-align: center; padding: 2px;">8 min</td> <td style="text-align: center; padding: 2px;">11 min</td> </tr> <tr> <td style="text-align: center; padding: 2px;">V</td> <td style="text-align: center; padding: 2px;">2 min</td> <td style="text-align: center; padding: 2px;">6 min</td> <td style="text-align: center; padding: 2px;">9 min</td> <td style="text-align: center; padding: 2px;">12 min</td> </tr> </table>	RECOMMENDED EXPOSURE SCHEDULE					First three sessions should be at 48 hour intervals. Followed by the gradual increasing of exposure times until maximum tanning has occurred (in approximately 4 weeks). MAXIMUM EXPOSURE is 12 minutes.					Skin type	Week 1 1st - 3rd Session	Week 2 4th - 6th Session	Week 3 7th - 9th Session	Subsequent Weekly Session	I	2 min	5 min	7 min	9 min	II	2 min	5 min	7 min	10 min	IV	2 min	5 min	8 min	11 min	V	2 min	6 min	9 min	12 min	<p>This product is in conformity with performance standards for sunlamp products under No. 21 CFR 1040.20. This appliance is intended to be used with the following lamps:  <b>Canopy:</b> megaLine 1862 R 160W  <b>Bench:</b> megaLine 1803 R 120W  <b>Facial units:</b> megaLine HP 500</p> <p>For replacement lamps, eyewear or parts contact:  <b>Orthotech Sports Medical Equipment, Inc.</b>  <b>1211 Weaver Road</b>  <b>Herrin, IL 62948</b>  <b>USA</b></p>
RECOMMENDED EXPOSURE SCHEDULE																																					
First three sessions should be at 48 hour intervals. Followed by the gradual increasing of exposure times until maximum tanning has occurred (in approximately 4 weeks). MAXIMUM EXPOSURE is 12 minutes.																																					
Skin type	Week 1 1st - 3rd Session	Week 2 4th - 6th Session	Week 3 7th - 9th Session	Subsequent Weekly Session																																	
I	2 min	5 min	7 min	9 min																																	
II	2 min	5 min	7 min	10 min																																	
IV	2 min	5 min	8 min	11 min																																	
V	2 min	6 min	9 min	12 min																																	
Part No. 3010370833																																					

Read the instruction booklet before using this device. This device must be operated with an external timer that is in compliance with UL 917. The maximum tanning time must not be exceeded. This device may be used only by persons over 18 years and is intended to be used by only one person at a time. To use, lie down under canopy and pull down as far as adjustment will allow.

**CAUTION: THE USE OF ANY OTHER POSITION MAY RESULT IN OVEREXPOSURE.** Tanning can begin on a regular basis. An appearance of tanning normally appears after a few exposures and maximizes after four (4) weeks of exposure.

**WARNING:** As the device is intended to be used by only one person at a time, only one (1) pair of protective eyewear is provided with each KBL 4000.

Use protective eyewear whenever equipment is energized. Read the instruction booklet before using.

Follow the exposure schedule in accordance with your skin type. Failure to do so may result in overexposure. However, regardless of how dark an individual may tan on this system, it will not provide adequate protections against overexposure to natural sunlight or UVB tanning systems.

**SKIN TYPE II** - This is the individual that usually burns easily and severely, tans minimally or lightly and peels

**SKIN TYPE III** - Often referred to as „AVERAGE“ complexion. Burns moderately and tans about average

**SKIN TYPE IV** - This individual burns minimally, tans easily and above average with each exposure

**SKIN TYPE V** - This individual rarely burns, tans easily and substantially

**Exposure schedule**

Skin type	Week 1 1st-3rd Session	Week 2 4th-6th Session	Week 3 7th-9th Session	Subsequent Weekly Session
II	2 min	5 min	7 min	9 min
III	2 min	5 min	7 min	10 min
IV	2 min	5 min	8 min	11 min
V	2 min	6 min	9 min	12 min

**REPAIRS - SERVICE - REPLACEMENT - PARTS AND LAMPS -  
EYE PROTECTION**

If you are in need of any of the above mentioned products or services, you should contact:

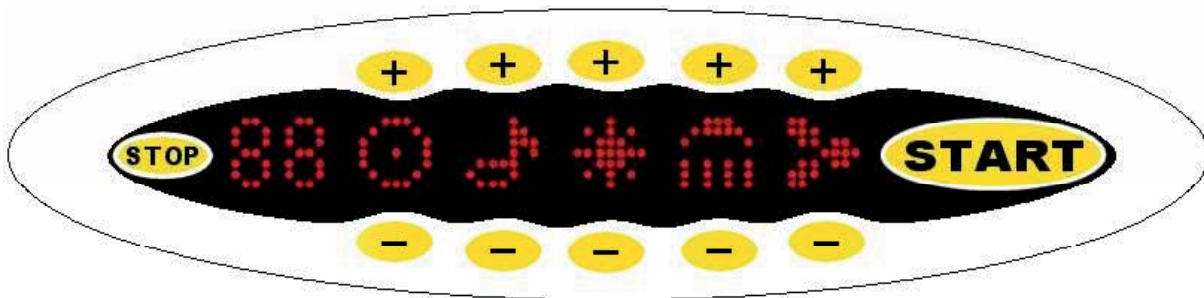
Orthotech Sports Medical Equipment, Inc.  
1211 Weaver Road  
Herrin, IL 62948  
USA

NOTE: All repairs and replacement components including, but not limited to, protective eyewear, lamps, timers and acrylic must be in compliance with CFR21 1040.20.

## 2 Operating during the tanning session

**General** The start of the tanning program depends on the studio control system. If a simple coin-operated system has been installed, the tanning program is started by inserting coins or tokens. After the warm-up time has elapsed, the tanning lamps are turned on automatically. If the touch key „Start“ is pressed during the warm-up time, the lamps turn on immediately. The facial tanners are always switched on after a certain delay.

### 2.1. Operating panel



A running text is displayed prior to starting the tanning program. Otherwise, the operating panel displays the symbols explained below.

**Main display** As soon as the unit has been enabled by the corresponding signal from the coin-operated studio control system, the tanning bed is ready to be operated by touching the respective sensor field. Any input is confirmed by a beep tone. The elapsed tanning time is permanently indicated on the numerical display (count up to total tanning time released).



A function is switched on by pressing the plus sensor; this sensor is also used for increasing the value step by step. To set the maximum value (e.g. fan speed), the sensor field has to be pressed repeatedly until the maximum value appears.



A function is switched off by pressing the minus sensor; this sensor is also used for decreasing the value step by step. To set a lower value (e.g. volume), the sensor field has to be pressed repeatedly until the desired value is reached.

## 2.2. Functions

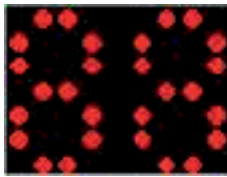


This touch key may be used to switch on the unit during the warm-up time. If touching the "Stop" key has interrupted the tanning session, it may be continued after touching the „Start" key, provided that the total run time has not elapsed yet.



By touching this key field for at least 2 seconds, you can terminate the tanning session prematurely.

### Run Time



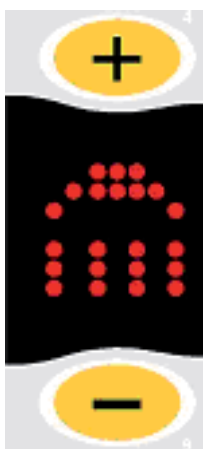
While the tanning program is running, the run time is indicated in this field. In case the volume of the audio system is adjusted, the value set – between 0 and 99% - is displayed here for a short time. In case the fan speed is adjusted, the value set - between 20 and 99% - is displayed here for a short time.

### Body fan



The power of the body fan can be increased or reduced step-wise (by 10 % each) by touching the „+" or „-" fields. The initial value after turning on the unit is set to 30%. When changing the value, the current setting is displayed as a two-digit number between „20" (minimum) and „99" (maximum) in the numerical field for a short time. In order to switch off the body fan completely, press the „-" field several times until the value of 20% appears. After that press the „-" key once again and keep it pressed for 0.5 sec. After a time lag the body fan is eventually switched off. The body fan can be switched on again at any time simply by touching the „+" field.

### Facial tanner



Level II Once the tanning program has been started, the tanners are automatically switched on at maximum setting.

Level I To reduce the output to level I, use the „-" field.

Level 0 To switch off the facial tanners completely, touch the „-" field again for at least 3 seconds. Touching the „+" key, you can switch the facial tanners on again, or increase their power. After having switched the facial tanners off, there is a time lag (depends of its temperature) before they may be turned on again.

„Spaghetti" tubes in XXL tanning beds: Touching the „-" key, you can switch off every second "Spaghetti" tubes in the facial area. (Switch on by touching „+" key) Touching the „-" key again, you can switch off the rest of the "Spaghetti" tubes in the tanning bed. (Switch on by touching „+" key).

### Air-conditioning unit



During a tanning session the air-conditioning unit is switched on and off by pressing the „+“ or „-“ sensor fields. Once being switched off, the air-conditioning unit cannot be switched on again until 3 minutes have elapsed. To confirm, a small star symbol is being displayed. If the request to switch on the system is made earlier, it is registered (big star symbol) and then executed automatically after the 3 minutes have passed.

*Exception* In case the unit has been switched off via the coin-box system, it may be switched on again immediately.

### Volume



You can adjust the volume of the music by touching the „+“ and „-“ fields. When adjusting the volume, the current setting is displayed in the numerical field as a value between 0 and 99% for a short time. Press the respective sensor key several times until the desired value is reached.

### Channel selection



This function is only displayed in case a music / audio system with channel selection is provided with the system.

Here you may choose the audio source, e.g. changing the CD.

### aroma



The option „aroma“ is controlled by a time limit relay.

$T_{on} = 12\text{ s}$

$T_{off} = 60\text{ s}$



The time adjustment will be done at the relay (see pict. at the left hand side).

The relay is mounted on a plate at the left foot in the front.

**The client cannot switch off or on the aroma function by the display.**

## 2.3. Hints for studio operators

### Illumination after use (decorative)



Unless there is an incoming timer signal, the illumination after use (decorative lighting) may be switched off or on by pressing the „+“.... „-“....“+“ keys of the body fan.

The intervals between pressing the keys must not exceed 1 second each.

### Error messages „Abluft“(exhaust air) or „Wind- schalter“ (air-flow Switch)



The cause of the error message has to be removed by service staff. Reasons for these error messages appearing are:  
no free exhaust air flow in the hose or  
exhaust vent system is defective  
This error message is displayed on the operating panel and may be acknowledged by pressing the “Stop“ touch key.

### Error messages „Übertemperatur“ (temperature too high)“ or „Thermo- schalter“ (thermal switch)



The cause of the error messages has to be removed by service staff. Reasons for these error messages are:  
insufficient cooling of the unit or  
dirty filter mats.

This error message is displayed on the operating panel and may be acknowledged by pressing the “Stop“ touch key.

### Error message „ Ende Beson- nung“ (end of tanning time)

This message will be displayed after 40 minutes of uninterrupted operation of the tanning system. By turning off the coin system, this message is acknowledged.

### 3. Maintenance of the unit

#### Preparatory works



Before opening the unit, switch off the fuses to disconnect it from the mains supply! Never operate the tanning unit without the bulkhead plates, acrylic panes or with the bed section opened, for otherwise the tanner areas will become overheated. This will destroy the filter panes!

#### 3.1. Cleaning and care

##### Plastic parts

The major plastic parts consist of solid high-grade ABS material. **The surfaces and the acrylic panes must not be cleaned with concentrated disinfectants or solvents or other liquids that contain alcohol! The manufacturer cannot be held liable for any damage caused by chemically active agents such as unsuitable cleaning agents. To clean the varnished or plastic surfaces, use a damp soapy cloth. Make sure that there is no cleaning fluid running inside the appliance. This has to be avoided at any rate!**

##### Note

##### Acrylic panes

Unsuitable cleaning or disinfecting agents may damage the surface of the acrylic panes (base pane) and further materials, particularly if there are drops of perspiration in addition to that.

##### „megaClean“

The cleaning and disinfecting agent „megaClean“, to be purchased from KBL, has specifically been developed for use on acrylic surfaces and is regarded as safe. It is diluted in water at a ratio of 1:13.

#### 3.2. Dismantling the acrylic panes

##### Dismantling the pane in canopy

The acrylic panes of both the canopy and the bed are held in place by means of aluminium profiles. Two pan-head screws secure the base pane.

Step	Procedure	Reference
1	Open the system by lifting up the canopy.	
2	Turn the right-hand / left-hand lock carefully to the right / left and swing the front swivel hinge profile downwards. If necessary, pull a little bit in the middle. Once the canopy pane may be moved, tilt it downwards and place it on the bed section (arrange for padding).	Fig. 3-1 Fig. 3-2
3	When the pane is in the lower position, you can lift it out of the swivel hinge profile, if necessary. For cleaning the pane, this is not required	Fig. 3-3
4	Mount the panes in reverse order. Ensure that the pane is correctly positioned in the hinge. Relock the swivel hinge profile.	

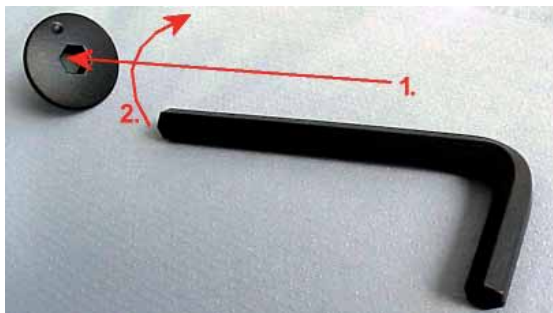


Fig. 3-1 Opening the front swivel hinge profile using a hexagon recess wrench (Allen key) (1 and 2)



Fig. 3-2 Turning the profile (3).



Fig. 3-3 Rear pane profile

**Base pane and ducting pane**

The following table describes the cleaning of the base pane and the ducting pane.

The electronic parts installed underneath the bed must not get in contact with any moisture. Therefore, in order to clean the underside of the base pane and the inner base section, use a slightly damp cloth only.

Step	Procedure	Reference
1	Open the system by lifting up the canopy.	
2	Undo the two pan-head screws on the right-hand and on the left-hand side of the base pane	Fig. 3-4
3	Pull the base pane out of the rear hinge profile. Put the pane in a safe place.	
4	Clean the underside of the base pane.	
5	In case there is a ducting pane in the base section (for tanning systems equipped with air-conditioning unit), it can be lifted out for cleaning purposes.	
6	Re-insert the base pane, clean its upper surface and fasten the base pane by means of the two screws. Hint: Lift the base pane a little bit when mounting.	



Fig. 3-4 Undo the two screws of the base pane

### 3.3. Filter panes

**Safety function** The facial tanners are equipped with an additional safety function. Behind each of the filter panes, there is a safety cutout switch that will switch off the burner in the case of a missing or broken pane.

**Never operate the tanning system with a defective filter pane.**

**Carry out visual inspections regularly!**

**Filter panes may only be replaced by ones of the same type!**

**The filter panes may be dismantled and replaced by trained expert staff only.**

**Filter panes** After having dismantled the frame carrying the filter pane (see below), clean the filter pane with a household glass cleaning agent and a soft cloth or chamois leather.

#### Filter pane in the frame

Step	Procedure	Reference
1	Dismantle the acrylic pane of the canopy.	see 3.2
2	Undo the screw fixing the filter pane frame (1), swing the frame downwards (2) and pull out the frame including the filter pane (3).	Fig. 3-5 Fig. 3-6
3	After cleaning, mount the filter pane again by following the reverse order.	



Figure 3-5 Cover of the filter frame

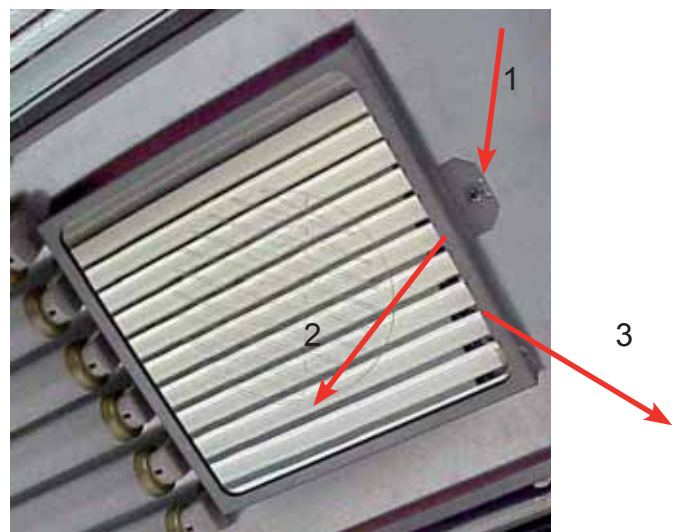


Figure 3-6 Remove the filter frame

### Filter panes with clamping springs

Step	Procedure	Reference
1	Undo the screw fastening the filter pane covering (1). Swing the covering towards yourself (2) and pull it out (3).	Fig. 3-7
2	Press carefully the filter pane downwards using both hands (4) until the pane is released by the upper springs (5). Take the filter pane out of the clamping springs that retain it.	Fig. 3-8
3	After cleaning (use any household glass-cleaning agent) mount the filter pane again.	

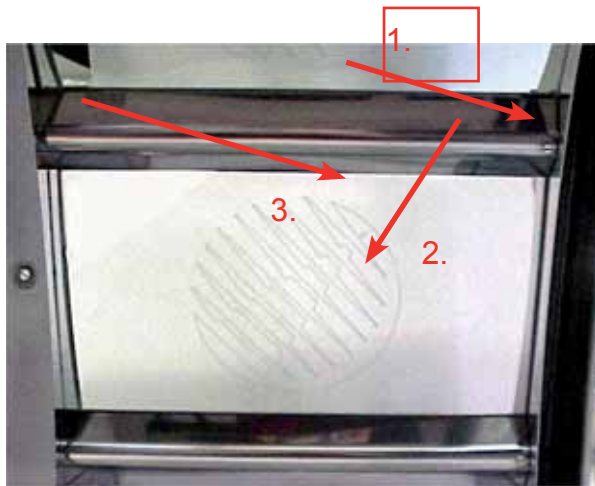


Abb. 3-7 Filter pane covering

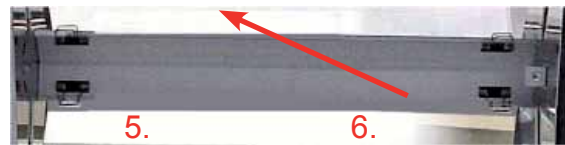
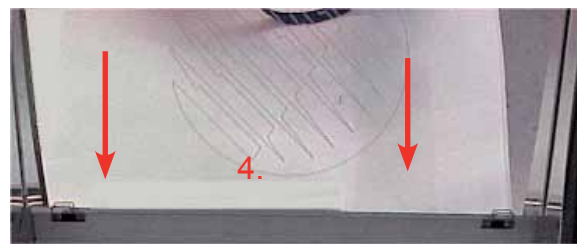


Abb. 3-8 Clamping springs retaining the filter panes

### 3.4. Tubes and facial tanners

Dismantling                      In order to be able to clean or replace the tubes or the facial tanners, please carry out the procedure described below:

Step	Procedure	Reference
1	Dismantle the canopy pane and the base pane	Section 3.2
2	<b>For units equipped with burners:</b> You will have to remove the filter panes for access to the burners in case you need to replace them.	Section 3.3
3	When installing the tubes, make sure that the inscription is visible, which means that the reflector is at the rear side.	
4	When replacing the tubes, remember to install new starters!	

To make sure that the tanning effect is maintained, we recommend cleaning the tubes and UV burners with warm water and a chamois leather after approx. every 200 hours of operation. Do not use any aggressive or alcoholic cleaning agents.

Tubes, facial tanners and starters may only be replaced by ones of the same type! When installing the tubes, make sure that the inscription is visible, which means that the reflector of the tube is at the rear side.

For units equipped with CPI technology, it is vital to carry out a reset after each tube replacement! see

For units operated with inductive technology, also install new starters with each tube replacement. Remember to set the working hours counter to zero. (see 6.1)

All units with burners	Inductive units	CPI units			
		with facial tanners		without facial tanners	
Burner	Tubes and starters	Mode			
		Eco	Power	Eco	Power
500 - 600 hrs	500 – 600 hrs	800 hrs	500 hrs	1000 hrs	800 hrs
Zero setting - see section 6.1		Carry out a reset! See section 7.1			

### 3.5. Removing the burners

**The burners may be installed or removed by trained expert staff only.**

Step	Procedure	Reference
1	Remove the canopy pane and the filter pane frame.	Section 3.2 and 3.3
2	Hold the burners with a soft cloth, then push them to one side and pull them out towards the front.	Fig. 3-9 and Fig. 3-10
3	You must not touch the burner glass with your bare hands. If necessary, clean the bulb with an alcohol-containing cleaning agent..	

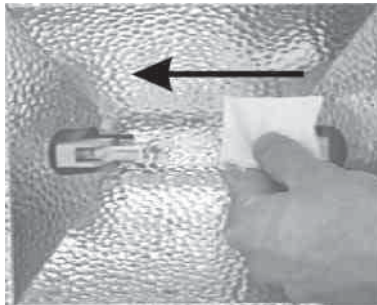


Figure 3-9 Pushing the burner towards the side

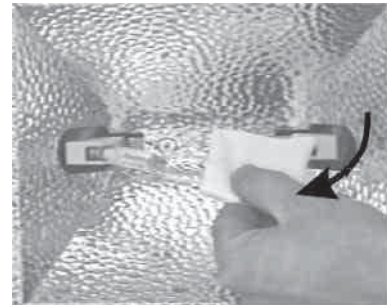


Figure 3-10 Pulling the burner out towards the front

Installing the burners

Dirt accumulation and incorrect positioning may result in damage to lamps and sockets when the system is running. Therefore, on inserting the burners, you must ensure that the contact surfaces of both sockets and burners are clean. Insert the burners straight into their sockets. After being inserted into the socket, the little metal shackle in the centre of the reflector should face the reflector.



Abb. 3-11 Burner KBL 3230 355 00

### 3.6. Unit lighting

**Replacing the lighting system in the lateral part and in the base part** One tube (8 watts) each is installed in the lateral parts (see Figure 3-13), and there is another tube (58 watts) installed in the lower front section (see Figure 3-14).

Step	Procedure	Reference
1	<i>Lateral parts:</i> Undo the screw fixing the interior lateral panel. Remove the panel and the coloured tube covering. Now you may replace both tube and starter.	Fig. 3.12 and Fig. 3.13
2	Re-install all parts in reverse order.	
3	<i>Base section:</i> The lighting tube is installed behind the front profile and may be easily exchanged. The starter is located at the left-hand socket.	

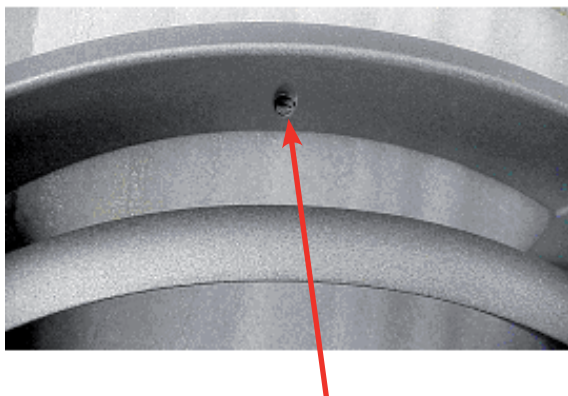


Figure 3-12 Fixing screw at the interior lateral covering

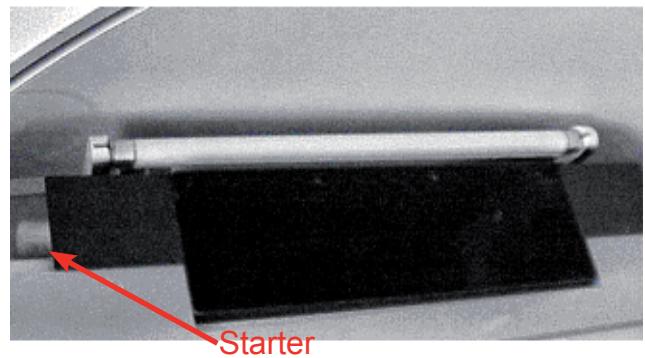


Figure 3-13 Lighting tube in the lateral part, including starter



Figure 3-14 Unit lighting in the lower base section, the starter at the left hand side

### 3.7. Canopy drive

**Regular maintenance** In order to ensure a trouble-free operation of the drive, check and service it each time the tubes are replaced (see table below). If the canopy does not remain safely in the upper position any more, the spring must be re-tensioned.

**Tension the spring** While tensioning or relaxing the spring, fix it against torsion.

Step	Procedure	Reference
1	Check the spring rope for wear. Should individual wires of the rope be spliced, replace the rope.	
2	Lubricate the rope in the return-pulley area by using HHS 2000 spray lubricant.	Fig. 3-16
3	Tension the spring in such a way that the canopy remains stable in any position. The spring-compressor is kept below the bed, at the front left-hand side	Fig. 3-15
4	The rope has to be replaced after 3,000 hours of use:· - Completely relax the spring. - Remove the upper covering of the attachment fitting of the rope. - Undo the bolt and remove the used rope, paying attention to the position of the bolt. - Hinge the lubricated new rope, fix the bolt and tension the spring.	Fig. 3-17 Fig. 3-18 spray lubricant HHS 2000
5	Test the canopy drive: If it is working properly, you can easily open and close the canopy, and it remains stable when in its upper position.	



Figure 3-15 Spring compressor The spring has to be secured against torsion while tensioning and relaxing.



Figure 3-16 Return pulley



Figure 3-17 Upper rope covering

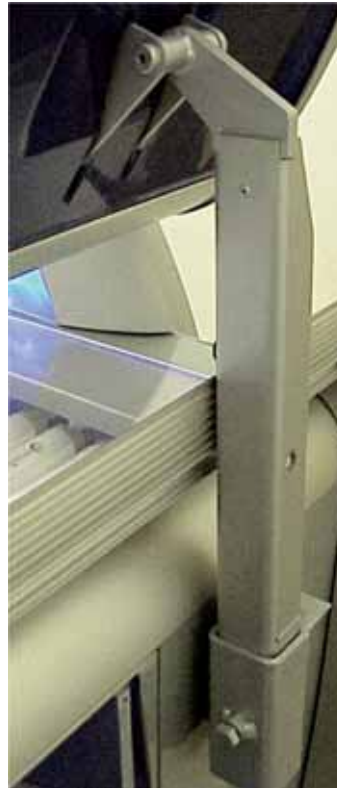


Figure 3-18 Canopy suspension, right-hand side and left-hand side

### 3.8. Filter mats

**Cleaning interval** The cooling air is drawn in through two dust filters. Depending on the installation site, clean the filter mats or, if necessary, replace them after approx. every 100 hours of use. To ensure trouble-free operation of the unit, exclusively use original spare filter mats.

Whenever you clean or replace the filter mats, also check the heat exchangers of the air-conditioning unit for traces of dirt. (section 3.10). Dirty heat exchangers considerably reduce the capacity of the air-conditioning unit. Vacuum-clean the heat exchangers, if necessary.

**Filter mats in the canopy and in the base section**

The filter mats are located behind the grip edge of the canopy, or behind the front profile of the base section respectively. They may easily be replaced.

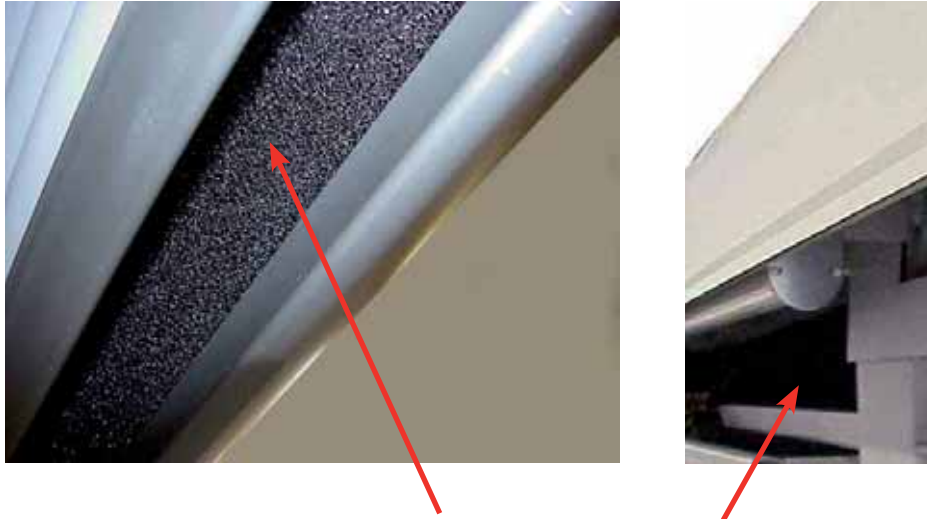


Figure 3-19 Filter mats in the canopy and in the base section

### 3.9. Cooling and exhaust air

*Unit cooling:* The air for cooling the tubes and burners in the canopy section is sucked in through the upper filter mat. Ambient air for cooling the tubes in the base section is sucked in through the front filter mat in the base section. The fan collects the cooling air coming from above and below, which is then blown off through the exhaust-air flue (see Figure 3-20 and Figure 3-21).

*Body cooling:* A body fan blows ambient air (if not equipped with air-conditioning unit), or chilled air (if equipped with air-conditioning unit), into the tanning space of the system (blue). The air spoiler at the canopy pane directs this air towards the face. (see Figure 3-22)

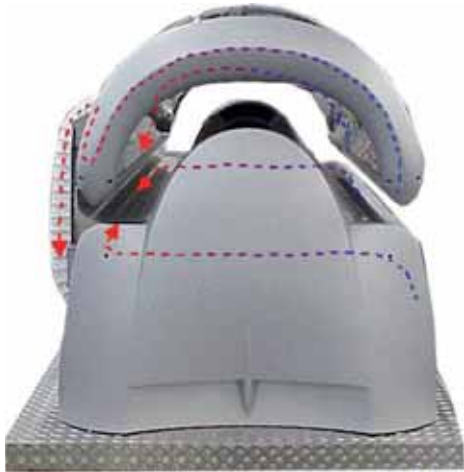


Figure 3-20 Unit cooling

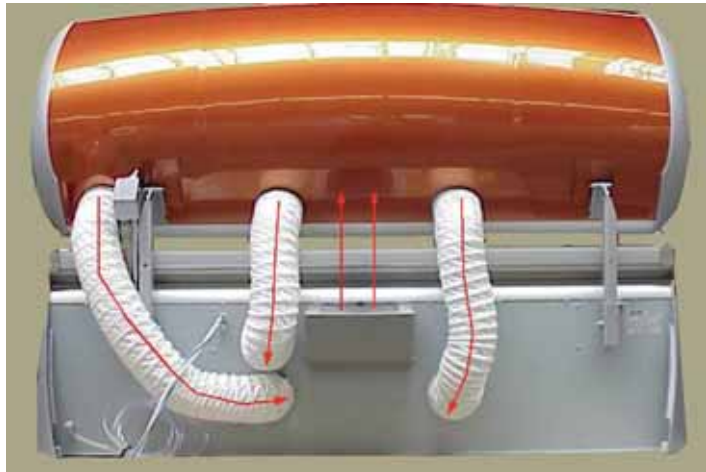


Figure 3-21 Exhaust air of the canopy and exhaust-air fan (assembly photo not showing the exhaust-air hose)

**Cooling of the base pane**

If the system is equipped with an air-conditioning unit (optionally available), the base pane is also cooled. The ambient air is sucked in through the filter, chilled in the air-conditioning unit and led through an air hose to the space between ducting pane and base pane. At the foot end of the base section the air is blown into the tanning space of the system.

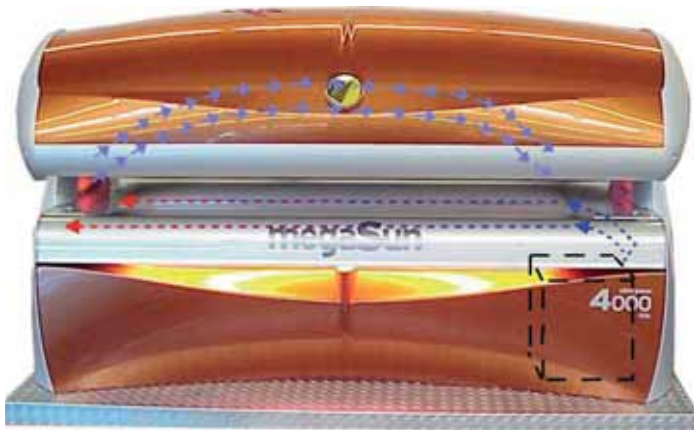


Figure 3-22 Principle of cooling of the base section with air-conditioning unit



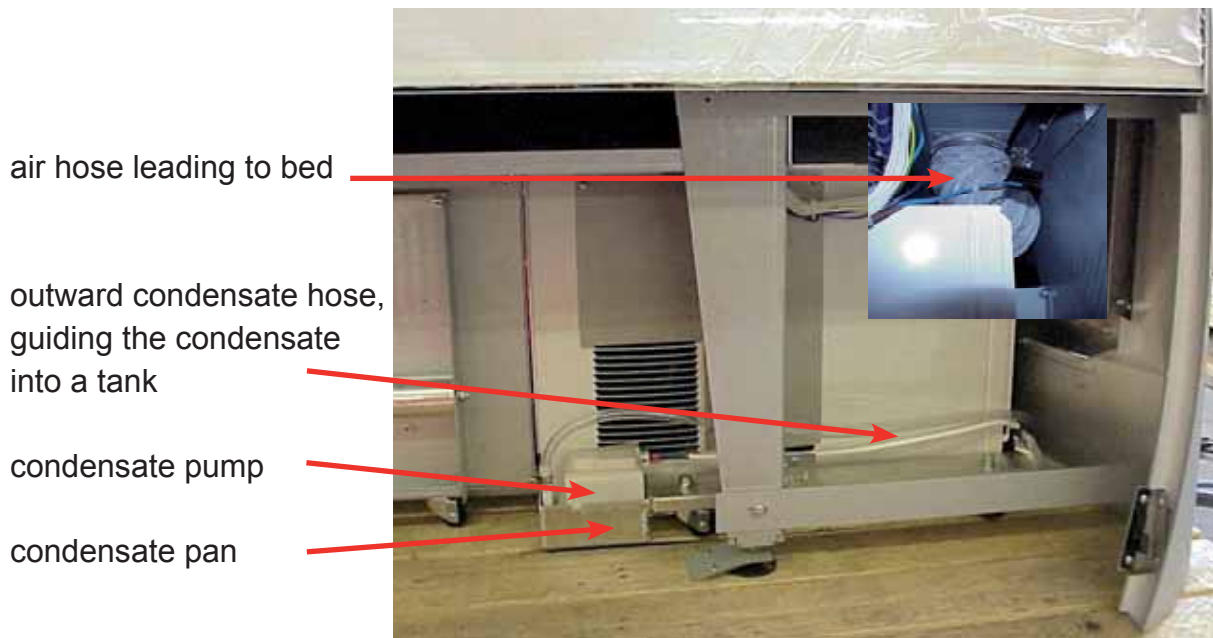
Figure 3-23 Exhaust air duct

**Maintenance of the exhaust-air system and the air-conditioning unit**

A clean exhaust air system in good working order prevents the unit from overheating. The maximum length of the exhaust-air hose of 6 metres must not be exceeded if there is no additional fan.

1	Open the lower front cover and check the following items regularly:	
2	Check the air-conditioning unit and the condensate pump.	see section 3.10
3	The air hoses at the rear wall must not be kinked.	Figure 3-21
4	The filter mats in the base section and in the canopy must be clean.	see also section 3.8
5	Check whether the exhaust-air hose is kinked or damaged; furthermore, check the working order of the additional fan in cases where the hose length exceeds 6 m.	
6	Adequate ventilation and air extraction both in the studio and in the tanning booth must be ensured at all times.	

**3.10. Air-conditioning unit**

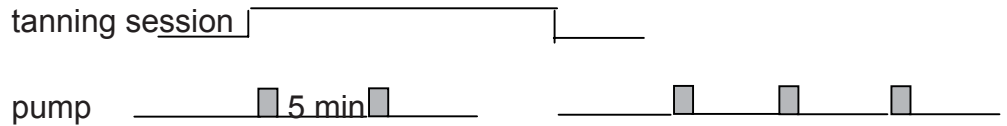


**Check routine**

Check the heat exchangers of the air-conditioning unit for dirt particles each time a tube is replaced. Dirty heat exchangers reduce the capacity of the air-conditioning unit. Open the lateral cover and vacuum-clean the heat exchangers, if necessary. Check the connection hose each time the tubes are replaced. Defective hoses must be replaced.

### 3.11. Condensate pump

**Function** The condensate pump is controlled by the processor in such a way that, during the tanning session, it is switched on every 5 minutes for 20 seconds ( ) each. After the tanning session is over, this sequence is repeated 3 times.



**Maintenance** Check the function of the condensate pump each time a tube is replaced. Open the front cover and slowly fill the condensate pan in the air-conditioning unit with water. Ensure that the water is pumped out when the pan is around half full. For this check, the mains voltage must be connected. **By servicing the unit regularly and properly you substantially contribute to a long period of trouble-free and safe operation.** The condensate hose must be guided into the condensate tank without being kinked. The maximum height of the hose must not exceed 25 cm from the bottom level of the tanning system.



Figure 3-25 Condensate outlet at the rear right-hand side

## 4. Technical data

### 4.1. Data that is common to all unit models

A notice board bearing the following wording must be permanently fixed at the cubicle wall near the tanning unit:

**Warning:** UV radiation may cause damage to eyes and skin. Ask the operating staff for further information. Wear protective goggles. Certain medicaments or cosmetics may increase the sensitivity. (UV type of the unit )

#### Ambiant conditions

Installation site	In dry rooms with sufficient air supply and ventilation
Relative air humidity	<70%
Ambient temperature	<86°F (30°C)
ATTENTION!	The unit must not be operated in case the coin-box timer system or the internal monitoring of the maximum tanning time is faulty or if a filter broken or missing.

#### Condensate

Water outlet	In dry rooms with sufficient air supply and ventilation
Disposal	Connection to sewage system or tank (capacity ≥ 5 litres)
Quantity	Depends on the local conditions and the air humidity
Note!	As the condensate has to be pumped out, the power supply must not be disconnected, not even after the tanning session.

#### Electrical connection

Mains voltage	3-phase: 3x 220 V / ~ / 60 Hz 2-phase: 2x 220 V / ~ / 60 Hz
Cable cross section	3-phase: 4x AWG10 2-phase: 3x AWG8
Internal plug socket	For PCs, lamps, or similar items; <b>NOT to connect</b> welding equipment, angle grinders or similar devices

## Dimensions KBL 4000

Central exhaust-air duct and exhaust air hose	Ø ~11.81"
Quantity of exhaust air	2000 m <sup>3</sup> /h
Weight	~1058.22 lbs

## 4.2. Views

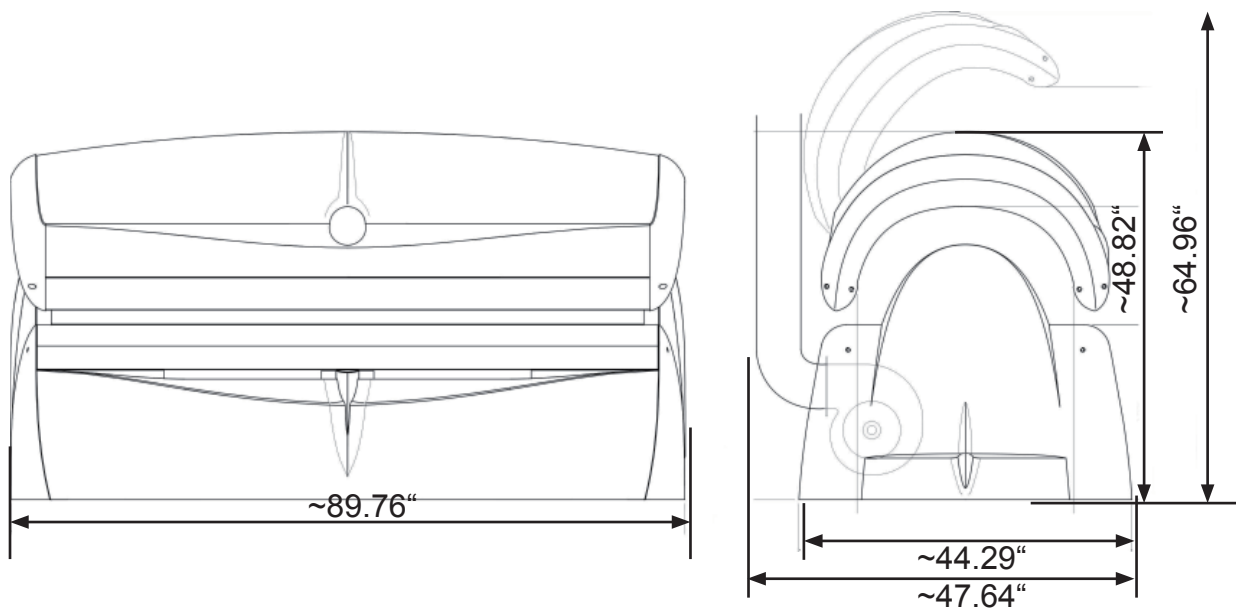


Figure 4-1 frontal and lateral views

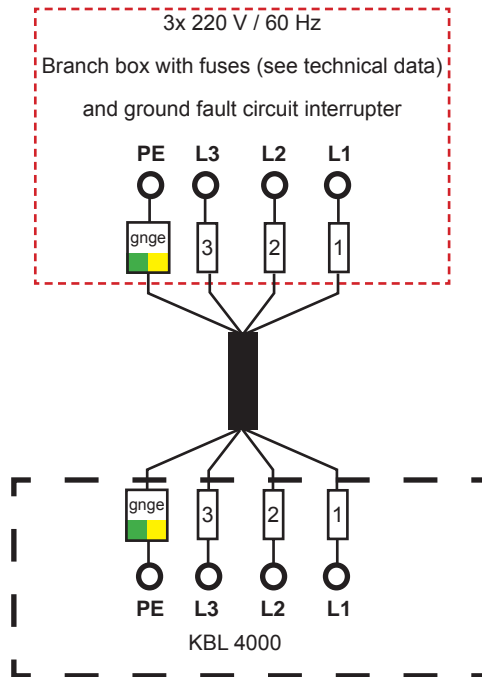
## 4.3. KBL 4000 Super Power - inductive

Lamps	megaLine HP 500
Power	3x 400 W
Filter panes	KBL 3020019x00
Tubes	
Canopy	24x megaLine 1862 R 160W
Bench	16x megaLine 1803 R 120W
Rated capacity W	
w. air-conditioner	8950
w/o air conditioner	7990
Fuse	Automatic fuse, K-type, 3x 35 A (for 3-phase) or 2x 50 A (for 2-phase) with ground fault circuit interrupter

## 5. Wiring diagrams

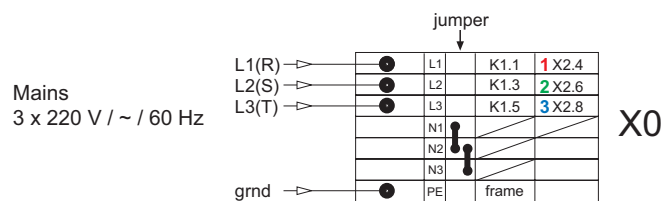
### 5.1. Mains voltage

The unit has to be connected to the 220 V mains; the connection is to be protected by fuses. For details on the fuses, please refer to the section „Technical data“. An ground fault circuit interrupter is required in any case.



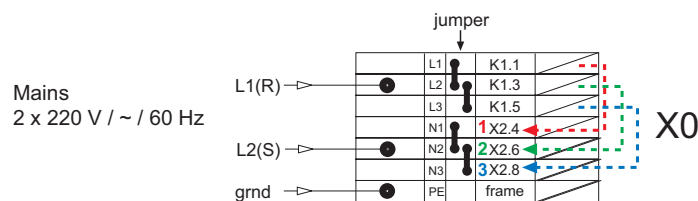
The sunbed is by default set up to operate on 3 phases but it can be changed over to 2-phase operation.

The wiring for 3-phase operation is shown below:



The wiring for 2-phase operation is shown below.

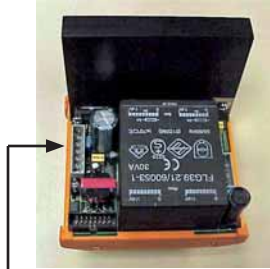
1. Re-wire the 3 cables according to the diagram.
2. Make sure that you use the right cable for the power supply.



## 5.2. Audio signal

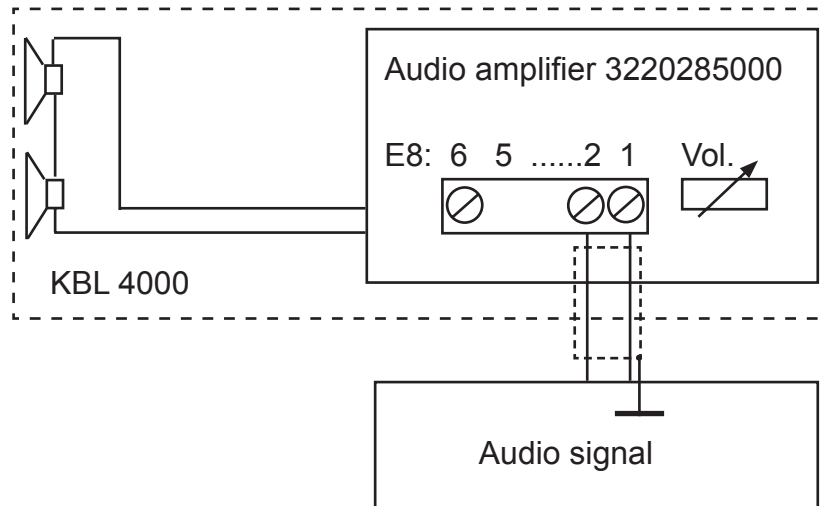
### Audio amplifier

**KBL 3220 285000**



Terminal E8

The audio signal is connected to the amplifier by means of a 2-pole shielded cable. At the source of the signal, the shield is connected to ground. The cable is connected to terminals E8:1 and E8:2 of the audio amplifier.



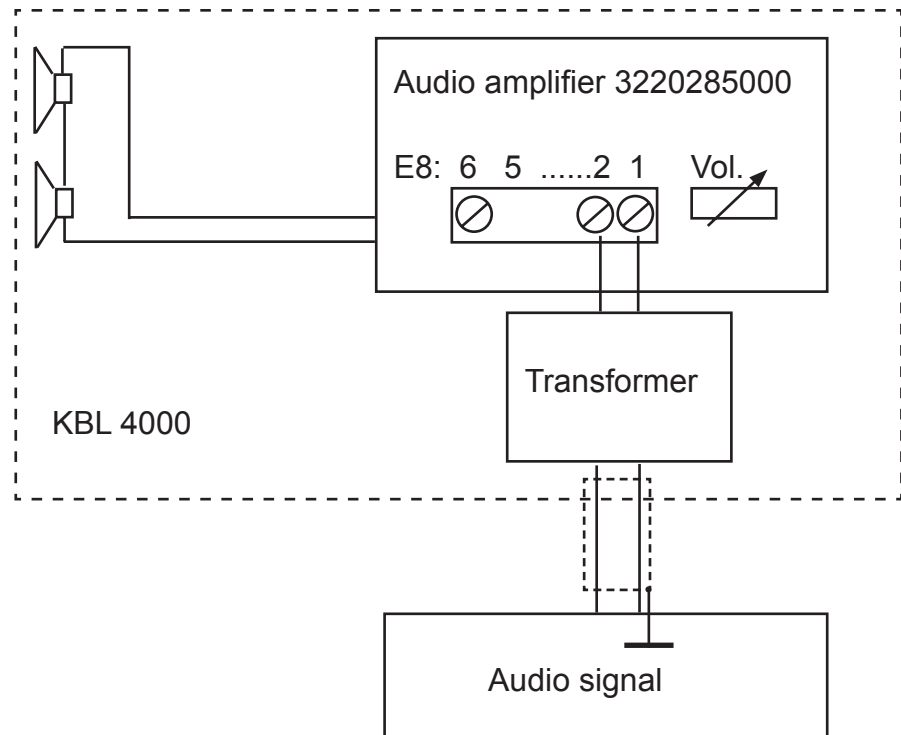
### 100 V audio signal

#### Transformer

**KBL 9100 0170 00**

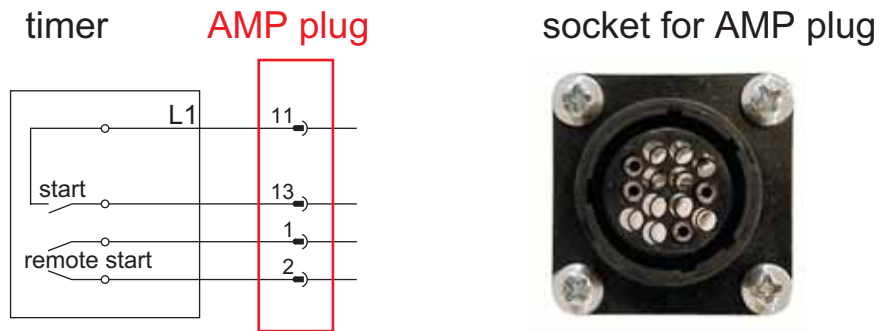


For this application, a transformer 91000170 is required. The audio signal is connected at the terminals „IN“



### 5.3 External Timer

Connect the external timer (e.g. coin box, studio control) according to the instructions supplied with the timer. The connection is made via the socket for an AMP plug on the back side of the device. The following diagram shows the wiring of the timer connection.



## 6. Service mode - inductive

<b>Differences</b>	The inductive controlled sunbeds are equipped with the KBL processor /5 and the CPI controlled devices with the KBL processor /4. The processor /4 used a serial interface for software download. All functions (see chapter 7) are available in this sunbed.
<b>Service levels</b>	<p>There are two service levels that are both protected by passwords. In order to access these levels and to trigger any processes, the touch keys 1 ... 0 have to be pressed. Therefore the plus and minus keys bear numbers adjunct to them; the numbers you see in the illustration below are slightly bigger than they are in reality. In order to get access to the service pages, two prerequisites have to be fulfilled:</p> <ul style="list-style-type: none"><li>— there must not be any error message on the display</li><li>— there must not be any incoming signal from the coin/token box system.</li></ul> <p>In case there is an error message pending you need to reset this message by touching the „Stop“ sensor field.</p>

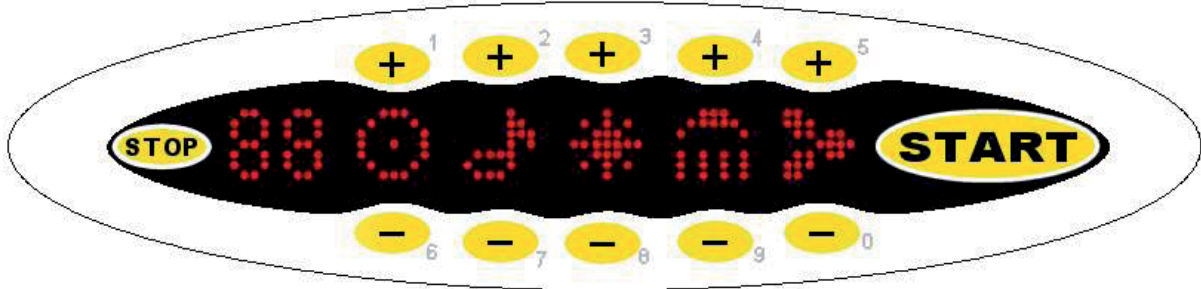


Figure 6-1 Touch keys 1 ... 0 for service operations

<b>Service level I</b>	To access service level I, first enter the sequence 1 6 1, and then enter the PIN 1 1 1 1.
<b>Service level II</b>	This level comprises service pages that may exclusively be used by Technical Service staff. Service level II is accessed from the level I menu "PIN II" by entering the correct PIN.
<b>Leaving the service level</b>	You may leave both levels by pressing START. Any changes made will be taken over and saved.
<b>Menus available on the service levels</b>	The menus available on the respective service level are entered by pressing the touch keys 5 (forward) and 0 (back).

## 6.1. Service level I - inductive

**Menus** The following menus are available on service level I; they may be entered by keys 5 (forward) and 0 (back):

- Unit operating hours
- PIN II
- Working hours of tubes

**Indication of operating hours**



**PIN II**

Entering PIN to access service level II



**Indication of working hours of tubes**



After a tube replacement the working hours counter is reset by pressing the key 1.



## 6.2. Service level II - inductive

**Configure options**  
**C M A B**



Service level II offers you the following menu:

— C M A B

This menu serves to switch on or off certain functions. This feature is useful in case a function is missing or temporarily unavailable (masked).

- C Channel / music channel
- M Music / volume
- A Air conditioner / air-conditioning unit
- B Facial burner / facial tanner

The setting may be changed by pressing the “+” or “-” keys above and below the respective symbol.

If the colon is located at the lower side of the letter, the corresponding function is not available.

**Operating hours of tubes** The operating hours of the tubes are set by pressing the 4 and 9 keys on service level II. After leaving either the menu or the service level, the frequency is switched off.



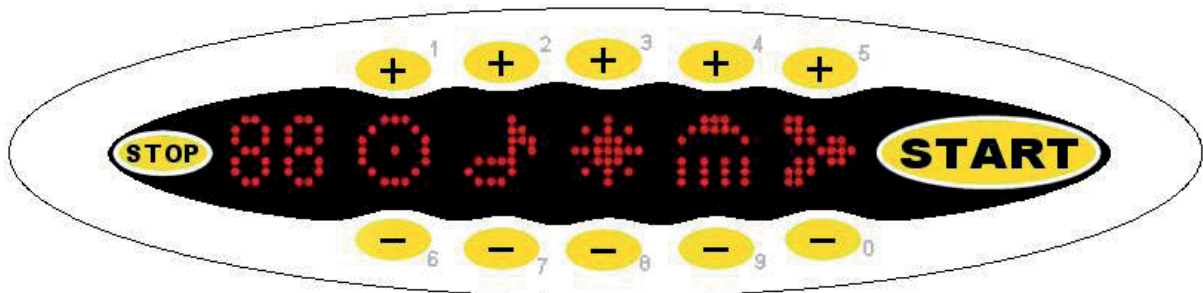
## 7. Service Mode CPI

### 7.1. General information and structure

**Service levels** There are two service levels which are both accessible by passwords. To get into these levels and to release processes the touch keys 1 ... 0 have to be pressed. For that purpose, the plus and minus keys bear numbers which in the illustration below are slightly bigger than in reality. In order to get access to the service pages, two prerequisites have to be fulfilled

- there must not be any error messages on the display
- there must not be any incoming signal from the coin/token box system

In case there is an error message you need to reset this message by touching the „Stop“ sensor field.



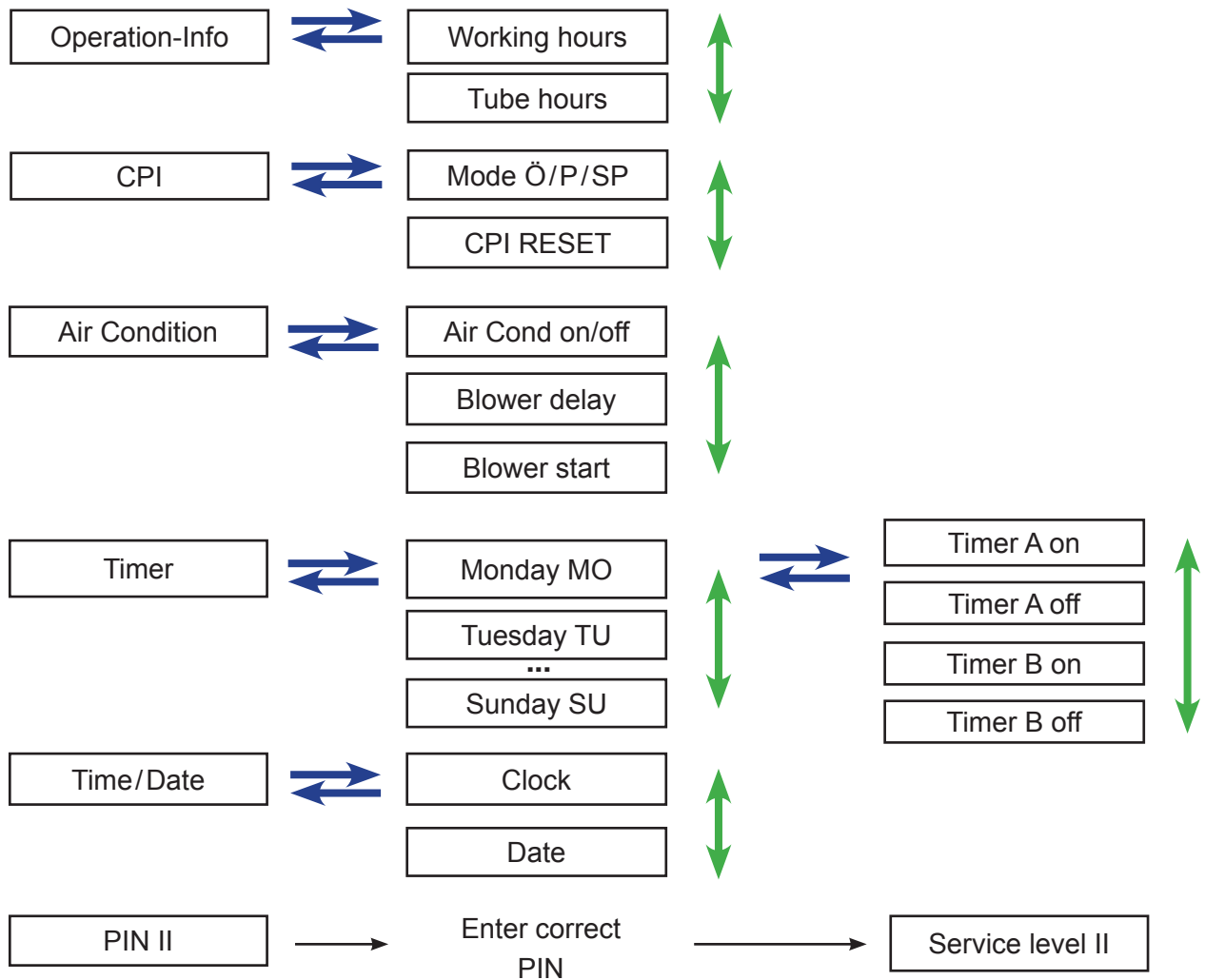
Illustr. 7-1 Touch keys 1 ... 0 for service operations

**Service level I** In order to get access to level I, first enter the sequence 1 6 1 and then PIN 1 1 1 1.

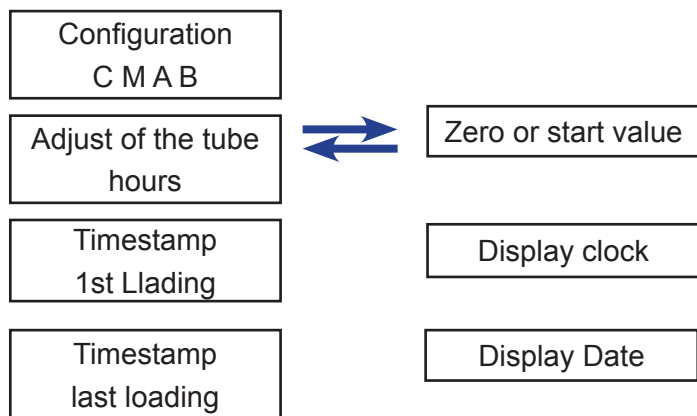
**Service level II** This level comprises service pages that may be used by technical service staff only. Starting from level I, menu „PIN II“, you will get into level II by entering the correct PIN (not 1 1 1 1!)

General navigation	<p>When having called up service level I, the following keys can be used as follows:</p> <ul style="list-style-type: none"><li>Key 5 — to move forward in the menu</li><li>Key 0 — to move backwards in the menu</li><li>Stop key — to leave service level or menu</li><li>Start key — to select a menu item or to save the value displayed</li></ul>
Timer on service level I	<p>For each day of the week, two times for switching on and two times for switching off the decorative lighting of the tanning unit can be set:</p> <ul style="list-style-type: none"><li>— AON and AOFF</li><li>— BON and BOFF</li></ul>
Time/Date on service level I	<p>In this menu, the current time and date can be read and changed.</p>
Time stamp on service level II	<p>Time and date of the first and the last loading of the control software are displayed.</p>

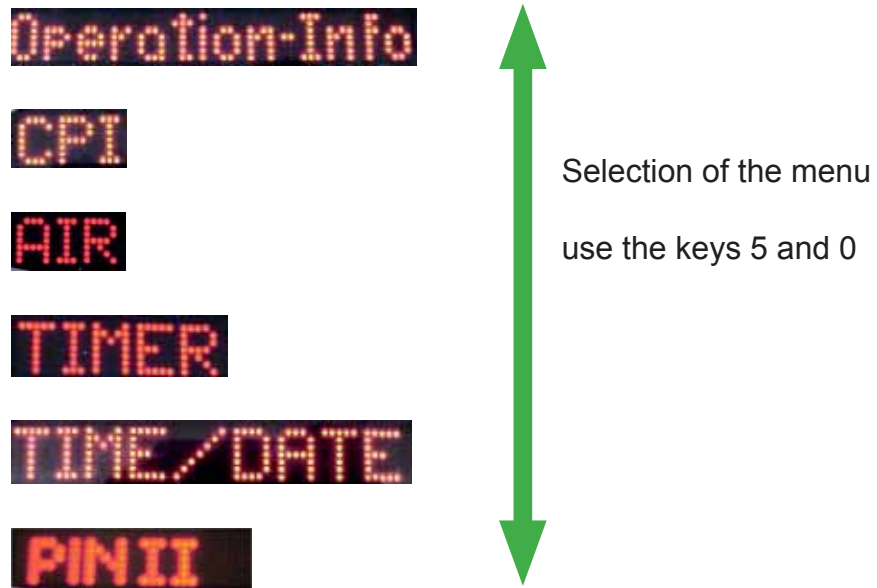
## 7.2. Structure of the menus on service level I and II CPI



### Service level II



### 7.3. Service level I - CPI



In this menu, the service hours of the sunbed (WORK) and the burning time of the tubes (TUBE) are displayed.

	START	Display	Selection
Operation-Info	→	00146h WORK	5
	←		
	STOP	00000h TUBE	0



You open this menu using START (here OPERATION-INFO). You go back to the next higher level menu using STOP (here OPERATION-INFO).

The different CPI-modes are displayed which can be adopted or reset (RESET).

	START	CPI Modes	Selection	Confirmation
CPI	→	MOD: OKO	4	START
	←			
	STOP	MOD: POWER		START
		MOD: SUPER P.	9	START

35

CPI Reset	Selection	Confirmation
MOD: POWER	0	
CPI RESET POW	5	1

**Air-conditioning Ventilator**

This menu offers the following possibilities:

- The air-conditioning system can be switched on or off. When the software has been loaded it is in the ON position. In this menu, it can be switched off or on.
- When the software has been loaded the speed of the body fan is set at xx%. In this menu, it can be adjusted to values between 0-99 % in steps of 10% at the beginning of the tanning session. Here in this menu a value of 50% has been pre-set. It is also possible to switch the fan off
- The time lag of the body fan can be set in steps of 5 seconds, with each new start this interval will be accepted.
- The setting is saved and is then available for the next start.

			Selection
<b>AIR</b>	<b>START</b>	Aircon. OFF / Aircon. ON	0
		A.AFTER 015s.	
	<b>STOP</b>	A.START 50%	5

	Auswahl	Speichern
Air conditioner ON / OFF	9	<b>START</b>
	4	<b>START</b>
Time lag of the fan	9	<b>START</b>
	4	
Initial revolution of the fan	9	<b>START</b>
	4	

**Timer**

This function allows you to specify two times for switching on and two times for switching off the decorative lighting for any day of the week. If you do not need the switching time you can delete it by pressing key 1. The hours are set using keys 2 – 4 and the minutes by pressing keys 3 – 8.

		Weekday: Monday ... Sunday	Selection	Confirmat.
TIMER	START	MO	0	START
		....		
	STOP	SU	5	

Switching time A/BON und A/BOF	Hrs / Min	Store
MO ---:--- BON	2 3	START
MO ---:--- BOF	4 8	START

This menu shows time and date. Both values can be changed.

		Display Date	Selection
TIME/DATE	START	08:37 @	5
		30.01.03 TH	0
	STOP		

Change the time	Selection	Store
08:37 @	Hrs. Min 1 3 6 8	START
Change the date	Day	Store
30.01.03 TH	1 6	START

The day of the week appears automatically.

PIN II	START	Eingabe PIN II und in der Serviceebene II
		öffnet das Menü CMAB.
	STOP	

## Audio

This menu has four sub-menus:

- EXTERN: If the signal is ON, an external source sends the music signal, otherwise the internal MP3-player is used.
- VOL. HOT: the volume of the music or of the user guidance system when the fan is running
- VOL. COOL: the volume of the music or of the user guidance system when the fan is not running.
- NONSTOP: when the signal is ON, the music signal is permanently amplified, otherwise the music transmission ends with the tanning cycle.

The menu can be selected by pressing the „0“ and „5“ keys, the functions can be activated or inactivated by pressing the „+“ key above OFF or the „-“ key below ON, or you can increase or decrease the values by pressing +/- above the numerical value.

			ON / OFF	Confirmation
AUDIO	START	EXTERN OFF	+ / -	START
	↔	VOL.HOT 88%	+ / -	in steps of 2 %
	STOP	VOL.COOL 58%	+ / -	in steps of 2 %
		NONSTOP ON	+ / -	

## 7.4. Service level II - CPI

### Overview

This level contains the following menus:



Selection of the menus by pressing the keys 0 or 5

Selection of the keys

### Configuration menu



In this menu functions can be activated or inactivated. This makes sense when the corresponding function is missing or temporarily not available (faded out).

C Channel / Music channel

M Music / Volume

A Air-conditioning

B Facial tanner The setting can be changed by pressing the “+” or “-“ key above or below the symbol. If the two dots behind the letter are at the bottom, the respective function is inactivated.

C: no channel selection possible

B: facial tanner can be operated

### Tube hours

In this menu, you can set the service hours of the tubes in steps of 5 hours. This display has to be reset to zero after each tube replacement.

**Attention! Always carry out a reset after each tube replacement!**

		Change	Store
START	00000h TUBE	1	START
		6	
STOP			

**Time stamps** Here you can store the time stamps of the first and last download of the software.

			Selection
			5
First Download			↕
			0
			Selection
			5
Last Download			↕
			0

## 7.5. Error messages

**Error messages “exhaust air“ or “air-flow switch“** The cause of the error message has to be removed by service staff.

“exhaust air“ or “air-flow switch“

Reasons for these error messages appearing are:

- no free exhaust-air flow in the hose or
- this error message is displayed on the operating panel and may be acknowledged by pressing the “Stop“ touch key.

**Error messages “temperature too high“ or “thermal switch“**

The cause of the error message has to be removed by service staff. Reasons for these error messages appearing are:

- insufficient cooling of the unit or
- dirty filter mats This error message is displayed on the operating panel and may be acknowledged by pressing the “Stop“ touch key.

**Error message “End of tanning session“**

This message will be displayed after 40 minutes of uninterrupted operation of the tanning system. By turning off the coin-operated system this message is acknowledged.

## 8. Tanning instructions

### 8.1. General tanning instructions

	Note
1	The various skin types can tolerate exposure to sun and the duration of tanning sessions to different extents. Use the skin type table and the respective tanning program as guidelines. <b>Once you have reached your final tan, further tanning can only be achieved by considerably exceeding the recommended tanning times. This is to be avoided at all costs!!</b>
2	UV radiation emitted by the sun or UV appliances may cause damage to skin or eyes. These biological effects depend upon the quality and quantity of the radiation as well as the skin and eye sensitivity of the individual.
3	The skin may develop sunburn after an excessive exposure. Excessively repeated exposure to UV radiation from the sun or UV appliances may lead to premature ageing of the skin as well as increased risk of the development of skin cancer.
4	The unprotected eye may develop surface inflammation, or in some cases, e.g. after a cataract operation, damage may occur to the retina after excessive exposure. Cataracts may form after many repeated exposures.
5	Special care is required in case of pronounced individual sensitivity to UV radiation and in cases where certain medicines or cosmetics are used.
6	It is not to be taken as a general fact that exposure to UV radiation in tanning systems reduces the risk of suffering sunburn in any individual case.
7	The unit must not be operated if the timer or filter pane(s) are defective.
8	<b>The following safety precautions must be taken</b> — Always use the goggles provided. — Remove any cosmetics well in advance of exposure and do not use any type of sunscreen. — Do not undergo exposure when taking medicines which increase sensitivity to UV radiation. If in doubt, take medical advice. — Allow at least 48 hours between the first two exposures; do not sunbathe and use the tanning system on the same day. — Follow the recommendations concerning exposure durations and intervals — Seek medical advice if persistent lumps or sores develop, or if pigmented moles change in appearance.
9	People belonging to one of the following groups must not use this tanning unit: — children — individuals with heart pacemakers — persons burning without tanning when exposed to the sun — persons suffering from sunburn — persons suffering from, or having suffered from, skin cancer, or individuals with a predisposition to skin cancer.

