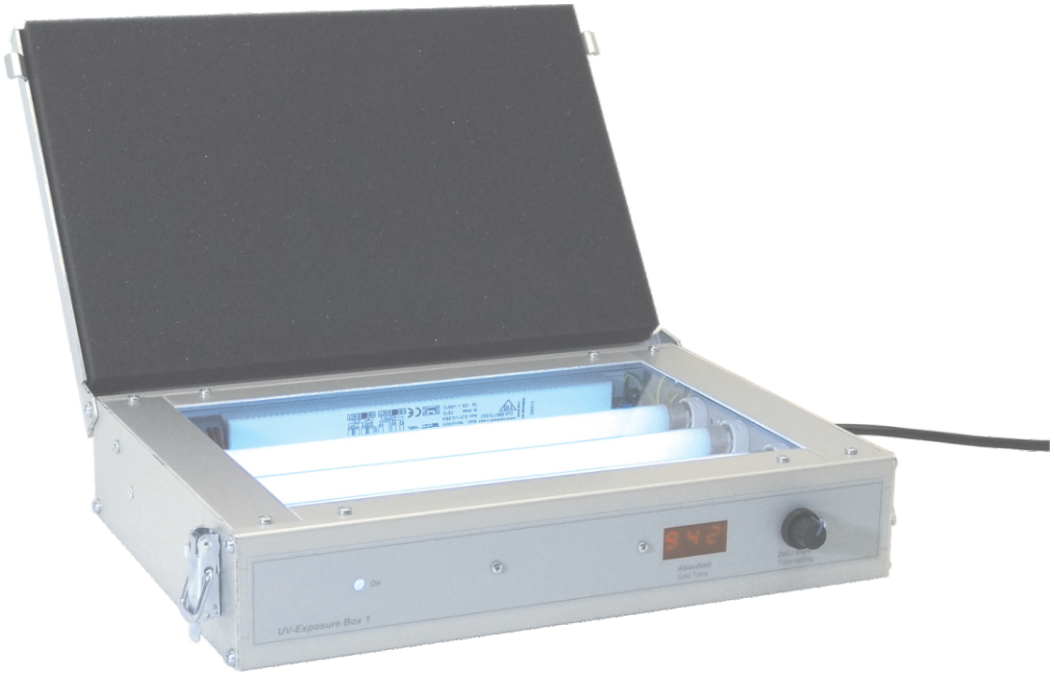
UV-Exposure Unit

...for expose UV-light sensitive foils and plates



UV Exposure Units are designed for exposure single-side fotosensitive materials such as base materials, or foto sensitive films.

Using the devices is very easy and user-friendly. The oscillator-based electronic timer allows the precise adjustment of the exposure time, with 1-knob operation (mode, time, Start/Stop) only. The seven-segment LED display is showing the adjusted time and while the device is active the remaining time.
The Exposure Units are designed for using in dry rooms, schools, living rooms, office, as well in laboratory and small factories

- *Fully metal housing out of anodised aluminum profiles and plates.*
- *Grindet glass plate with high UV transparency for UV-A wave length.*
- *Special flourescent lamps (type: ACTINIC), wave length 350 - 400nm (UV-A).*
- *Intensive and all-over illumination of the working area.*
- *Constant contact pressure between cellular material in lid and glass plate.*
- *Electronic timer with selectable time ranges 1-600 seconds, or 1-100 minutes, 1-knob operation, seven-segment LED display.*
- *electronic ballast according EN60929, EN-EC 03, EI=A2, no stroboscopic effect, no flicker, power factor >0,92*
- *Leading bar for exact adjustment of films and plates*

Technical Data	
Item no.:	AS1625
Dimension (LxBxH)	317 x 225 x 90 mm
Mounting area	160 x 250 mm
Power consumption	32 W
Number of UV tubes	4x 8 W
UV wave length	365 nm
Timer	1 ... 600 s / 1 ... 100 min

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ATTENTION! DANGER!

- **The UV Exposure Unit is suited for light exposure of fotosensitiv coated materials, such as fotopositive coated base material, Cobritherm, front plates and films for making printed plates. Other usings are not allowed.**
- **The device is designed for power supply 230V (50- 60Hz) and may used only in perfect technical condition. Using the Exposure Box it´s not allowed by children and people which are not instructed.**
- **All operations with the exposure box have to be done by professionals. Thereby they have to consider all instructions of the electronic industrie and the accident preventation.**
- **Don´t use the device without connecting earth line.**
- **Before opening the housing (e. g. to change the lamps) the device must be free of voltage. Please disconnect the power cord from mains voltage. Please note: Not all wires inside the device, which may have contact to high voltage, are covered**
- **Assembly and using of the device has to be done only according the declaration of conformity.**
- **Ambient temperature 0 bis +40°C Storage temperature -10° bis +60°C**
- **The device must not exposed to high humidity, strong vibrations or explosive gas.**
- **Keep this manual careful and undertake every user to consider. If you don´t provide this manual, loss of property, risk of injury up to loss of life may can happen.**

1. Starting up

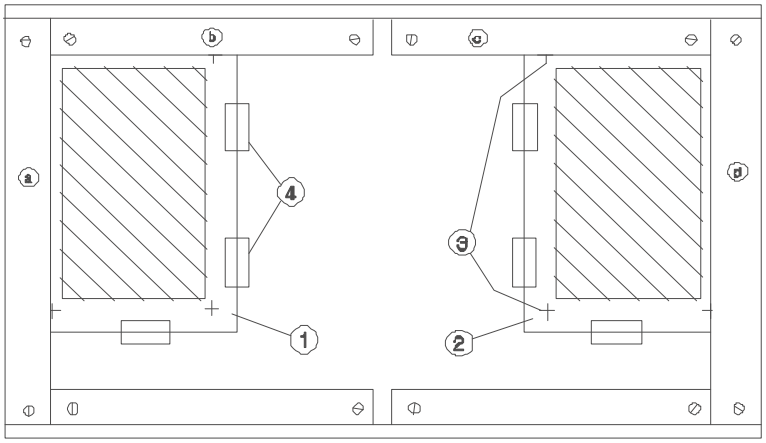
1.1 Placement

The device ought to be placed onto a horizontal, stable base (e. g. workbench, table) with the control elements pointing to the front.
The room must to be darkned.

1.2 First use

Example:
Mounting of films for manufacturing two sided printed circuit boards.

① Film (layout) for printed circuit board (top layer)
② Film (layout) for printed circuit board (bottom layer)
③ Delimiter
④ Self-adhesive strip for fixing the film



1. Connect the device to 230V mains.
2. Attach the films (layouts) under the aluminum stripes in such a way, that the delimiters are flushed with the edge of the alu stripes (possibly you have to loosen the screws)
3. Fix films with self-adhesive strips
4. Remove one lightprotective foil from the double-side printed circuit board and place the board (foto sensitive side down) against the aluminum strips
5. Close lid
6. Adjust exposure time and start exposure.
7. Expose the second side analogously.

1.3 Cleaning and Maintenance

The exposure unit is free of maintenance!
Only the lamps will loose intensity while using (about 15% in 1000 hours).

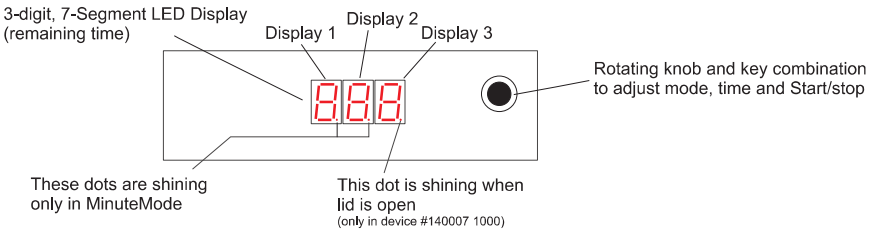
Avoid scratches and contamination (e. g. adhesive tape) on the glass plate
These may have influence to quality of exposure.

For cleaning the glass plate please use usual glass cleaner.

List of spare parts:
Part no.: 410007 UV-lamp 230V/8W (ACITINIC)

1.4 Operating instruction for Electronic Timer

The built-in electronic timer, is used for adjust the exposure time of the device. Time setting is possible in *SecondMode* or *MinuteMode*.
Switching on the device, the timer is working in "*SecondMode*". Thereby the ON-time can be adjusted between 1 sec and 9min50sec.



Adjustment of exposure time
After switch-on the device or plug in the power cord to mains voltage, all three displays are flashing. Turning the rotating knob counterwise (cw) or counterclockwise (ccw), display 3 will change the value of the digit. Adjust die the desired value and store it by pushing the knob.
Turning the knob again the value of display 2 will be changed and by pushing the knob the desired value will be stored.
After you have stored the value of display 1 in the same way, the complete display is flashing.
Now you can start the count-down timer by pushing the knob once again.
While the timer decrement, the power relay is on and by this the lamps of the Exposure Box are shining. The display now is showing the remaining time, until exposure unit will be switched OFF.

Seven-segment display	***Range***
Display 1 minutes	{0, 1, 2, 3, 4, 5, 6, 7, 8, 9}
Display 2 seconds (ten`s digits)	{0, 1, 2, 3, 4, 5}
Display 3 seconds (one`s digits)	{0, 1, 2, 3, 4, 5, 6, 7, 8, 9}

Example: Display Value

2 3 4	corresponds to	2 minutes, 34 seconds
7 5 9	corresponds to	7 minutes, 59 seconds
0 4 5	corresponds to	0 minutes, 45 seconds

1.5 Replacement of lamps

The UV-lamps (low pressure mercury-vapor lamp) will loose UV-A intensity while using (approx.: 15% after 1000 h).

If intensity of UV-A is to less to exposure the fotosensitive plates and films, you have to replace them. Therefore you have to remove the glass plate.

Procedure::
- Unplug the power cord from mains voltage.
- Remove screws (M3x6mm) out of the small aluminum strips, which are used for holding-down and clamp the glass plate.
- Remove the glass plate carefully.
- Replace the lamps. Therefore you have to turn the tubes 90° (1x click). After this you can take them upward out of the socket .
- After replacement the lamps and mounting all metal strips you have removed before, the device is ready for operation again.

Please decontaminate "old" lamps only in special container and consider the national rules for this!

If you push the knob while switching ON the Exposure Unit, operation mode "MinuteMode" will be selected. Now Display 3 indicates the time in seconds (10 seconds each count) and Display 1 / 2 are showing the time units minutes. Therefore, you can enter times up to 99 minutes and 50 seconds.

Excample:
> 2.3.4 < = 23 minutes, 40 seconds
> 7.5.5 < = 75 minutes, 50 seconds
> 0.4.3 < = 4 minutes, 30 seconds

In this operation mode, the decimal point of Display 1 and 2 lights up.

It is not possible to start the timer, if the display is showing >000<.

You can interrupt the count-down at any time by pushing the rotary knob. The display flashes again and the flourescent lamps are switched off. The display is showing the remaining time now.
For continue the exposure press the rotary knob once again.

DANGER!

Before opening the metal housing of the exposure box (for example to change the lamps), the device must be free of voltage. Please unplug the power cord from mains voltage. Please note: Not all components inside the device, which may have contact to high voltage, are covered.

UV-lamps are customary in industry, without any special safety requirements. In spite of this, we emphasize the following pre-caution:

Switch the UV-lamps ON only when the lid is closed!

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