

## Exposure Unit

### Instruction for Use



#### Introduction

##### Note:

This instructions apply as well to the single sided exposure unit called Hellas-E. Hellas-E has on the lower side an aluminium plate instead of the glass board and the tubes in the lower lighting area are removed.

##### Application

The HELLAS exposure unit is a vacuum assisted copier suitable for all products which are light sensitive in the near UV emission range (360-400nm). These are in particular positive or negative fotocoated boards, printing plates made from nylon, aluminium, steel as well as Diazo- and transfer films.

#### Safety Regulations

**Pull the power supply plug before all maintenance work on the machine.**

The intensity and spectre of the UV light from the fluorescent tubes can be compared to that of skin tanning sets: It may irritate your eyes. You should therefore avoid to look directly into the light for a longer time.

Be extremely careful not to contaminate the foil with spots of developer or etching liquid.

Do not put pieces with an height of more than about 5 mm under the frame. This could lead to serious deformation or even cuts in the foil. Be cautious not to put any sharp things between the glass board and the foil, when the vacuum is on. This might damage the vacuum foil.

Do not block the vacuum pipe which ends at the glass board (Hellas-E: aluminium plate).

Keep away from moisture

Do not drop

Lift the lid only to place artwork (prevent lid from falling)

#### Technical Data

<b>Dimensions (Bx-HxT):</b>	62 cm x 24 cm x 65 cm
<b>Weight:</b>	ca. 40 kg
<b>Electrical Connection:</b>	220 V~, 50 Hz, ca. 800 W
<b>Max. Exposure Size:</b>	ca. 570 x 300 mm

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#### Set Up

The unit should be put onto a table in a way that it can be accessed from the front. Please keep a distance of 30 cm from walls, radiators etc. and make sure that the cover can be easily opened up to a vertical position.

If you encounter any transport damages be sure to directly inform us and the carrier.

Remove the tape locking the cover and verify that the fluorescent tubes have not been damaged during transport. To do so, take the cover's handle and lift it so that the cover stands vertically on the rear mounted rubber pads.

Looking onto the lower part of the set, you can see the vacuum frame with its polyester foil spanning over a crystal glass plate. Please check the foil, the frame and the glass plate for any damage. You may lift the frame vertically so that it leans against the upper part of the unit. Using a soft cloth, please remove dirt or rests of packing material from the foil and the glass plate.

To check that the electrical components of the unit work correctly, please follow the operating instructions given here below. The set requires a 230 V, 50 Hz main supply.

#### Operating

Put the cover and the vacuum frame into a vertical position. Place the board(s) to be exposed onto the glass plate. Be sure to have removed any protective foil from the board(s). Place the artwork onto the board. For double sided boards, we propose that you mount the top and bottom artwork on an L-shaped carrier so that they superimpose and form a "bag" with lateral stops for the board. You will have best results with the emulsion side of the artwork (film) lying directly on the photoresist. Take care not to enclose dust particles between the board and the artwork.

Now slowly return the vacuum frame into its horizontal position. (If any displacement of the artwork has occurred, reopen the frame and rearrange the artwork.)



*Hellas*



*Hellas-E*

Locate the switches, the timer, the ampere meter and the vacuum control on the front panel of the unit (1). Hellas-E: no Amperemeter (2). All to the left, there is a switch controlling the vacuum pump. Put it into its ON position. The pump will start running and the indicator lamp in the switch will light. Within a few seconds, the pump will have evacuated the air between the frame and the glass plate. The vacuum indicator will show approx. 0.8 bar.

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The polyester foil is structured to allow an easy and complete evacuation on the whole surface. Nevertheless, there might remain an air cushion between the artwork and the board(s). Wipe over the polyester foil with your hand or with a soft cloth to remove any rest of air. Using the handle, smoothly close the cover.

Select single or double side exposure by turning on the appropriate switches for the upper and lower set of tubes. They are located to the right of the timer. Hellas-E: You may switch on only the upper unit.

To start the exposure, follow the instructions below to operate the electronic timer. Alternatively you can operate Hellas in continuous mode. To do so turn on the switch left to the timer. Turn the switch off to stop the continuous operation mode. The indicator lamp in the switch is lit during automatic exposure and continuous operation as well. The switch is marked ventilator to indicate that there is a built-in fan always running together with the lower tube set. Hellas-E: there is no switch for continuous exposure.

#### Timer

The exposure time is controlled by a digital-read-out and digital-adjustable timer. The range of time is from 1 second to 9 minutes 59 seconds. The device supports easy time pre selection and recall by one hand operation and can be run in stop-and-go turns.

On the timer front panel there are the LCD time display and the three buttons MODE, + and -.

To adjust the desired exposure time, press the + or - buttons accordingly. Keeping one of them down makes the settings change faster.

To start exposure, press the MODE button once. The remaining time is displayed continuously on the LCD display. The process is interrupted and restarted for the remaining time at each time the MODE button is pressed. The timer beeps several times when exposure has finished.

To redisplay the previous setting, press the MODE button once. You may then use the +/- buttons to change the setting or just restart the unit by pressing the MODE button.

Do not switch off the vacuum during exposure! With the artwork losing contact to the board, severe under-cut may result.

When having completed the exposure, open the cover, switch off the vacuum and open the frame.

Never lift the frame with the vacuum pump running. Abnormal usage of the frame would result.

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#### Maintenance

There is only little maintenance necessary for the HELLAS exposure set. The vacuum pump, for instance, is maintenance free. To protect it from dirt and dust, there is a filter put in front of it.

The fluorescent tubes are subjected to wear. After about one or two years, they should be replaced. A reduced Amps reading on the emission control meter dark shadows appearing at the tubes ends indicate that they should be renewed.

To do so, at first disconnect the exposure set from the main supply. Carefully lift the crystal glass plate and pull off the small blue vacuum hose to get access to the lower tube set. Turn the tubes along their axis until they snap off from the fittings. Replace them only with tubes of the same type and strength. Check that the new tubes are well locked. It is recommended also to replace the starters.

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We want to tear your special attention to a careful maintenance of the vacuum foil. It should be cleaned regularly using water and a soft detergent. Do not use solvents.

Be extremely careful not to contaminate the foil with spots of developer or etching liquid.

Do not put pieces with an height of more than about 5 mm under the frame. This could lead to serious deformation or even cuts in the foil.

#### Guaranty

All machines are submitted before distribution to examination on tightness, function and continuous operation firmness. On the machine we grant a work warranty of 12 months to our customers starting from purchase date on accuracy in material and processing. We warrant at our choice by exchange of incorrect parts or by repair of the machine in our house. Old parts change into our possession.

#### Disclaimer of Warranty

All parts subjected to wear and the heater element are excluded from this warranty. This also applies to defects to the machine caused by non-observance of this manual or of parts of it.

We cannot accept subsequent claims from damage or destruction of work pieces worked on in the machine, because we have no knowledge or control over the operating conditions at your site. This is valid in a general manner also for requirements from damage to articles, buildings and persons as well as the environment.

We do not warrant that the function of the machine will meet the customer's requirements or that the operation of the machine will to this regard be error free.

In no event will we be liable to the customer for any incidental, consequential, or indirect damages of any kind, including loss of profit and prosecution for environmental pollution, even if we could have been aware of the possibility of such damages.

All information was arranged with great care. We reserve ourselves however mistake and technical changes without previous announcement.

#### Copyright

We hope to have covered with this information all essentials of using the HELLAS exposure set and wish you a successful working with this set. If any questions this manual does not answer arouse, do not hesitate to contact us.

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