

# PhotoCentric

Introduce the latest in photopolymer plate making equipment



imagebox 9

A4 machine fitted with imagebright,  
automatic washing unit, vacuum, plate dryer and germicidal de-tack.

## Index

1.	Introduction.....	3
2.	Safety Precautions.....	4
3.	Technical specification.....	5
4.	Control panel.....	6
5.	Exposing imagepac™.....	7
6.	Washing out imagepac™.....	9
7.	Post exposing imagepac™ .....	10
8.	Trouble shooting guide.....	12

# 1. Introduction

## **Unrivalled expertise:**

imagebox™ 9 is collaboration between Polydium, Europe's leading photopolymer equipment manufacturer, and PhotoCentriC, the creator of pre-packed photopolymer, imagepac™. It is a multi functional platemaker, specifically designed for the exposing and processing imagepac™. imagepac™ plates are used for the manufacture of rubber stamps, flexographic printing plates and molding plates.

## **Unique features:**

imagebox™ 9 produces printing plates of the highest possible quality. It provides the most sophisticated features currently available for superior plate exposure. Many of its design features are unique to imagebox 9 and are not present on any other machines. Other features such as combined germicidal and actinic post exposure lights have, until now, only been present on much more expensive flexographic exposure units. imagebox 9 also has a unique form of image enhancement, imagebright, that improves the image on fine relief and reverses. It allows the user to hold fine tonal work such as half tones or photographs. It also makes over-exposure virtually impossible.

- No clamps, just place, close and expose.
- Germicidal lamps ensure bone dry plates every time.
- Imagebright image enhancement ensures perfect quality plates every time.

## **Fastest stamp production ever:**

imagebox™ 9 provides the user with the fastest way to make perfect polymer plates. The complete process, from laying down the negative to picking up the finished plate ready for mounting *takes less than 15 minutes*, multiple plates can be made in under 8 minutes.

## **Simplest production ever:**

imagebox™ 9 provides the user with the simplest method of polymer plate manufacture. There is no need to handle resin drums, decant photopolymer, lay coverlay, pull vacuum, place damming tape, pour resin, prick air bubbles, lay backing sheet... all this achieved by simply lying the imagepac™ sachet over the negative. There is no need to clamp the two glass frames, all you have to do is shut the drawer, the sachet is accurately pre-filled to the desired plate thickness and the drawer shuts to compress it perfectly. There is no simpler method of polymer plate manufacture in the world!

## **Unparalleled value for money:**

imagebox™ 9 also provides the user with unparalleled value for money. Features such as the all stainless steel body, combined wash out unit, programmable logic controller, germicidal lights, image enhancement are not currently available on machines in this price range. This opens the possibility of making perfect polymer plates to a much wider customer base.

## **2. Safety Precautions**

Do not tamper with or disable the micro switches.

Read all labels on consumables.

Always ensure that the upper lid is retained onto the clip before letting go to prevent the upper drawer falling down.

Always ensure that the lower retaining clip is slid into place, preventing the wash out plate from accidentally falling forward.

Read this Operational Manual before use.

Your imagebox 9 polymer plate-making machine operates on a standard 230V, 50Hz (110V, 60Hz).

It is fused at the outlet. Always disconnect the mains power before servicing the equipment. Unauthorised servicing of the equipment invalidates the warranty.

Place your imagebox 9 on a flat, level table that is capable of supporting its weight.

U.V. light is harmful if viewed directly. Do not look at light emitted from the lamps. imagebox™ 9 is fitted with micro switches on the wash out lid and in the exposure drawers. If these drawers are opened the power to the U.V. lights will be automatically be stopped, and the timer is reset. Once the drawer has been closed again, the U.V. lights can be restarted by pressing the main and back exposure buttons again.

The wash out unit also stops automatically if opened during its cycle. It can be restarted by depressing the wash out button on the control panel again.

### **Negative Manufacture Safety Procedures**

If using photographic film avoid skin contact with the developer and fixer solutions. Prolonged contact may cause irritation to eyes and or skin. Do not eat, drink, or smoke when using these chemicals. In case of fire, do not breathe fumes. Work in a well-ventilated area.

### **Polymer Plate Manufacture Safety Procedures**

Store your imagepac sachets in the black box that they are supplied in, at between 5°C to 30°C. imagepac™ is very sensitive to light, it will even harden in indirect sunlight so do not leave the box open. Always store and transport the box level. Store your imagepac near to your imagebox exposure unit to minimise distance required to carry sachet. Hold sachet by the seal and let it fall to avoid damaging it.

Polymer may cause irritation to eyes and skin. Avoid prolonged contact. Do not eat, drink or smoke when using polymer. Consult MSDS for detailed health and safety information.

In case of fire, do not breathe fumes. Work in well ventilated area.

It is recommended that you wear gloves when washing out the imagepac plate.

### **3. imagebox™ 9 technical specification**

#### **Electrical**

This exposure unit operates on standard 230V, 50Hz (110V, 60Hz). It is fitted with a logic controller, which can be re-programmed if necessary. This allows updates in technology to be sent to your machine on a logic program module and all the user has to do is to insert the new plug in module to update the machine.

#### **Lighting**

imagebox™ 9 is fitted with special PLL high performance lamps, the latest in UV lamp technology. These lamps have a U-Tube construction with only one end equipped with the electrical fitting. These give a more even spread of light than conventional lamps, they provide higher intensity and have a longer life span. These bulbs are rated to 9000 hrs continuous use, three times longer than conventional fluorescent tubes.

The unit has 3 x 36 W lamps for the back or floor exposure.

It has 5 x 36 W lamps for the main or relief exposure.

It is also fitted with 4 x 15 W germicidal lights specifically for post exposure. These lights are activated in conjunction with the actinic lights for post exposure.

#### **Wash out unit**

Capacity	maximum 8 litres of wash out liquid
Standard fill	6.5 litres of water and 150 cc of W5 washout agent

The water bath is controlled with a timer adjustable on the logic controller. The water temperature is thermostatically controlled with a dial on the right hand side of the unit, which actually measures the water temperature. The washout unit also has a thermostat in the water bath that prevents water heater burnout should it run dry.

#### **Dimensions**

Weight:	90 kg (105 kg packed on a pallet) Packed dimensions are 600 x 800 900
Length:	500 mm
Width:	700 mm
Height:	820 mm
Maximum exposure area:	35cm x 28 cm (14" x 11")
Maximum wash out area:	33cm x 25 cm (13" x 10")

## 4. imagebox™ 9 control panel

All of the controls for imagebox™ 9 are governed with a simple combination of three buttons, a cycle selector that determines which function is being adjusted and a combination of '+' and '-' buttons which adjust the time for that function.

A black rectangle next to the function signals which one you are adjusting.

There is a delay of 2 minutes set to the back and main exposure lights to allow the resin to settle and reach the corners of the sachet.

Should a drawer be accidentally opened whilst the lights are on, the cycle will automatically stop, the lights (if on) will be cut off and the cycle will have to be re-started. This prevents the user from looking at harmful UV radiation.

### Warning message:

The unit is fitted with a temperature control in the water bath. Should the water run dry, the temperature will rise and the heater will automatically cut off. A message will appear on the display saying that the 'Water Level Low – Heater Cut Off'.



The cycle rotates through the following options in this order:

- NEG** timing set for negative exposure if you use daylight or photographic film. It immediately triggers the upper lights so can be used for bulb warming.
- BCK** timing set for back exposure. This will typically be between 10 and 30 secs. If you want a lower floor reduce this time, if you want a higher floor increase it.
- FRT** timing set for front exposure. This will be between 350 and 500 secs.
- DE-** timing set for de-tack or post exposure. This will be between 250 and 350 secs.
- H** the length of time the water heater remains on. This is a safety device to prevent the heater being left on permanently and the water completely evaporating. Set it a convenient time say 60 minutes.
- W** timing set for wash out. This does not need to be longer than 3 mins.

There is a number in the bottom right hand corner, this signifies the sensitivity for the water temperature cut-off level and is adjustable.

Vacuum is controlled by a pull/push button release button and on/off start button. Ensure the button is engaged before pressing the vacuum button and release the vacuum before trying open the upper glass lid.

The water temperature is governed by the thermostat, we suggest you set it to between 40 and 50 degrees C.

The dryer temperature is governed by the thermostat, we suggest you set it to between 70 and 80 degrees C.

## 5. Exposing imagepac in imagebox™ 9

### Preparation

#### Negative Manufacture

Negatives can be printed at low cost and easily directly from a laser printer using imageblack film. If you purchase an HP1020 or better a 1022 you can print negatives directly onto imageblack film without modification. However, for preference we recommend enhancing by coating with white spirit (turpentine) and heating. You can either wipe the printed surface of the negative with white spirit or dip it into a shallow container, then either heat it with a hot air gun (avoiding burning the film) for a few minutes or leave it in an oven.

Your negative will then be as black as a photographic negative.

#### Features

The hinged glass upper plate is trimmed with a stainless steel surround to prevent the glass chipping. It is loose locked to allow the upper glass to adjust to different bearer heights.

There is a locking system to keep the upper glass lid open when preparing a sachet. This locking system prevents the top glass from falling if the drawer is knocked.

The machine is fitted with a vacuum system that compresses to expose 1.45mm Jet and imagepac up to 2.55mm thick without adjustment. This also removes all air bubbles that may impair the image between the negative and the polymer.

Bearers should be used when exposing imagepac to ensure that the plate is level, but this is not necessary with Jet plates which are already levelled.

Both the exposure and the post exposure drawers run on high performance ball bearing telescopic drawer slides.

#### Instructions

Open plate making drawer.

To lock the glass in the open position, lift the top framed glass by the handle and push into the plastic locking system.

To close, pull it gently out of the lock and lower onto the glass.

Ensure both sides of exposure glass are clean.

Lay negative down on the bottom glass so that the reading side faces you (unless you wish to speed up the process and do not want to use imagebright).



## Features

imagebright is fitted in the exposure unit in the lower glass and appears silvery. This prevents the plate from overexposing making plate making very simple, just set the recommended main exposure time and get a perfect result time after time. It also gives you an exact reproduction of the negative giving you unparalleled plate quality.

The machine is fitted with the latest in lamp technology producing very even and high intensity UVA output over the entire bed. The spacing between the lamps and the height from the lamps to the glass has been calculated to optimize an even coverage of UV light.

All the lamps on the imagebox 9 are controlled by electronic control switching gear to produce a soft, flicker free, and rapid start.

The lamps on top of the exposure area produce the back exposure, these generate the equivalent UVA light output of approximately 10 regular 15 Watt lamps.

Adjust your floor according to the size of sachet used- as with all dual exposure photopolymer platemakers, the UV light output from the both the top and bottom lamps reflect off the shiny glass surface of the opposite set of lamps. Light emitted during the main exposure through the negative reflects off the top lamp glass and bounces on to the back of the sachet causing the back to gain extra exposure producing a thicker base or floor to the plate. To eliminate this effect the platemaker should reduce the back exposure time when using smaller sachets or mask off around smaller sachets.

## Instructions

Lay a sachet that is slightly larger than the negative on top of it and lower the upper lid.

Ensure that you have the correct thickness of bearer for your imagepac.

Engage the vacuum and check that the imagepac is going flat. Close the drawer assembly.

Set your back exposure BCK to between 15 and 25 seconds.

Set your main exposure FRT to between 350 and 500 seconds.

Press the BCK (back) and FRT (main) exposure buttons simultaneously.

There is a delay of two minutes pre-set into the exposure times to allow the resin to reach the corners of the sachet.

When the exposure lights have gone out, open the drawer and remove the sachet.



## 6. Washing out imagepac™ in imagebox™ 9

Empty the wash out unit every 25 A4 plates or their equivalent in smaller size. Every month lift the brushes up and clean the base of the wash out unit and the heating element.

Ensure the wash out unit is retained by the base clip every time the wash out plate is in the open position

Fill the wash out unit from the side to avoid pouring water over the electrical controls.

Leave the wash out plate in the open position when not in use as the rubber will shrink if left under water for a long time.

Only use imagepac W5 wash out agent in the wash out unit.

Ensure that the wash out plate is dry (you can use a squeegee to remove excess water).

Place the sachet on the wash out plate so that the side that was lying next to the negative is facing towards you. If you forget which side this is, the side with the text in reverse on it should face outwards. Make sure that the edges of the plate are stuck down.

Either cut around the sachet with scissors or cut around the sachet with a scalpel, just in from the seal. Ensure that you do not cut too deep, you only need to cut through one layer of plastic.

Do not cut on the washout as you may cut into the green layer.

If you have a negative slightly smaller than the sachet then you can cut onto solid polymer and not touch liquid polymer at all.

Remove the cut out rectangle of plastic (if you fold the corner over back on itself you can remove the plastic sheet without touching liquid resin).

Carefully lower the wash out plate into the water, close the lid and press the wash out button.



## 7. Post exposing imagepac in imagebox™ 9

After washing out the uncured resin, place the printing plate in the post exposure tray. Ensure that it is covered by water. Add a teaspoon of imagepac de-tack salts and dissolve. Close drawer. Set the post exposure time to 250 seconds. Press the DE- (de-tack or Post Exposure) button.

After the post exposure light has gone out, remove the plate, and place in the dryer for 5 mins. Remove your plate and mount the stamps.



## 8. Trouble shooting guide

<p><b>1. Little or no character relief on liquid polymer plate</b></p>	<p>a. Back exposure too high. b. Negative not dense enough.  d. Sachet already exposed to light</p>	<p>Reduce back exposure by half. Check black areas of negative prevent light from getting through. Increase speed of preparation. Store sachet away from light.</p>
<p><b>2. Negative not dense enough</b></p>	<p>a. Negative exposure time too short. b. Developer solution too old. c. Print not dark enough</p>	<p>Increase exposure time.  Negative developer should be clear and warm. Choose HP1022, enhance with white spirit and heat.</p>
<p><b>3. Characters filling in on the negative</b></p>	<p>a. Negative not dense enough. b. Negative wrong way round.</p>	<p>Expose for longer or use a HP1022 printer. Negative should be right reading.</p>
<p><b>4. Image washes off</b></p>	<p>a. Main exposure too short. b. Negative exposure time too long and clear parts have blackened.</p>	<p>Increase main exposure to 600 secs.  Expose for shorter time or print negatives</p>
<p><b>5. Poor plate tolerance</b></p>	<p>a. Plate is thicker at one end than other.</p>	<p>Machine not set up level, use bearer bars.</p>
<p><b>6. Plate tacky after post exposure</b></p>	<p>a. Plate not fully de-tacked.  b. Plate not fully covered in water. c. Bulbs too old.</p>	<p>Use de-tack salts in the water bath. Increase post exposure time. Add more water to tray.  Change set of bulbs.</p>
<p><b>8. Part of plate is uncured</b></p>	<p>a. Some bulbs are not working correctly. b. Part is thicker and so underexposed.</p>	<p>Change all of the bulbs.  Level plate with bearers</p>



PhotoCentriC Ltd  
10 Stevern Way  
Peterborough, PE1 5EL  
Tel: 00 44 1733 34 99 37  
Fax: 00 44 1733 34 99 49  
Email: [info@photocentric.co.uk](mailto:info@photocentric.co.uk)  
Web: [www.photocentric.co.uk](http://www.photocentric.co.uk)

We reserve the rights to change or improve specification without prior notice. All rights reserved. No part of this manual may be reproduced, store in a retrieval system in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the copyright holder. The information contained herein is produced in good faith, and is believed to be reliable but is for guidance only. PhotoCentriC and its agents cannot assume liability or responsibility for results obtained in the use of its products by persons whose methods are outside or beyond our control. It is the users responsibility to determine the suitability of any of the products and methods of use or preparation prior to use mentioned in our literature and furthermore the user's responsibility to observe and adopt such precautions as may be advisable for the protection of personnel and property in the handling and use of any of our products.