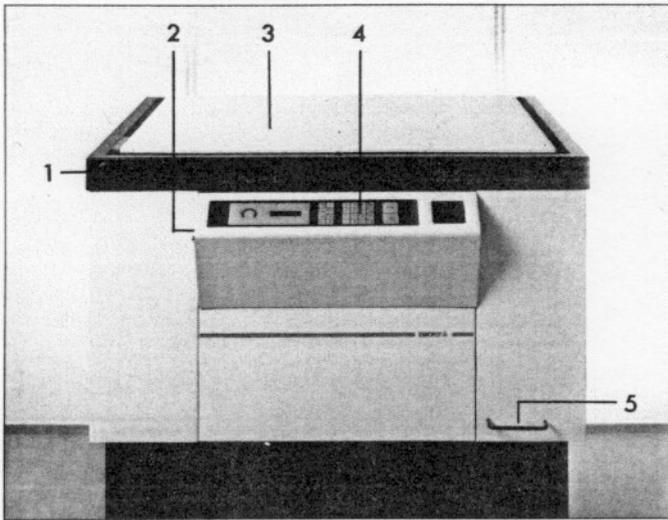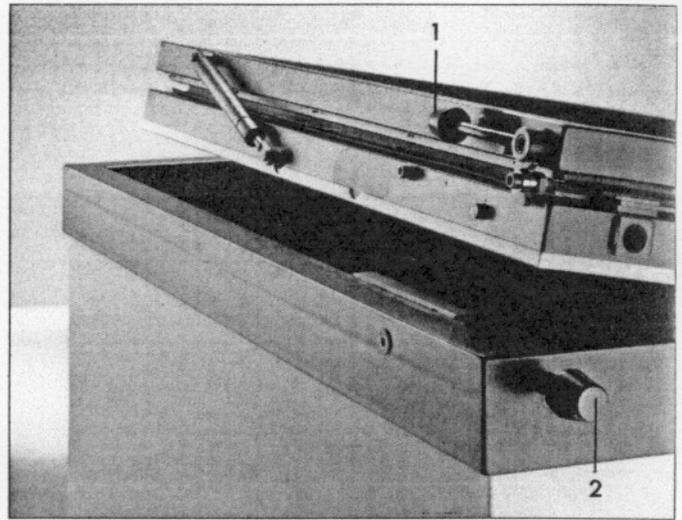# Index

Definitions:

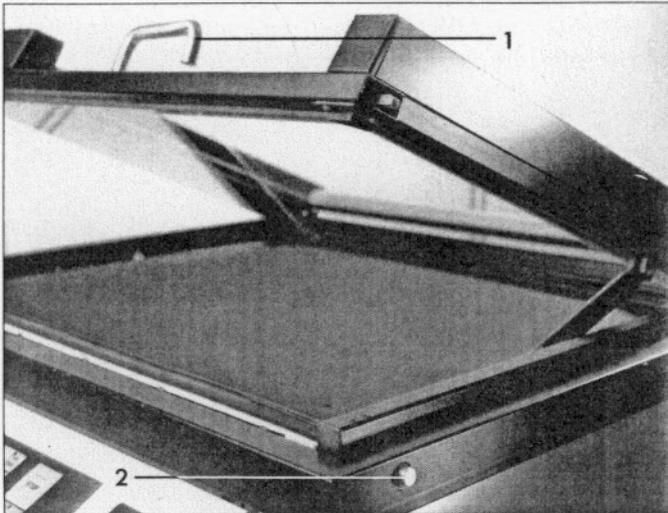Type 1 = 245 FPP.
Type 2 = 263 FPP.
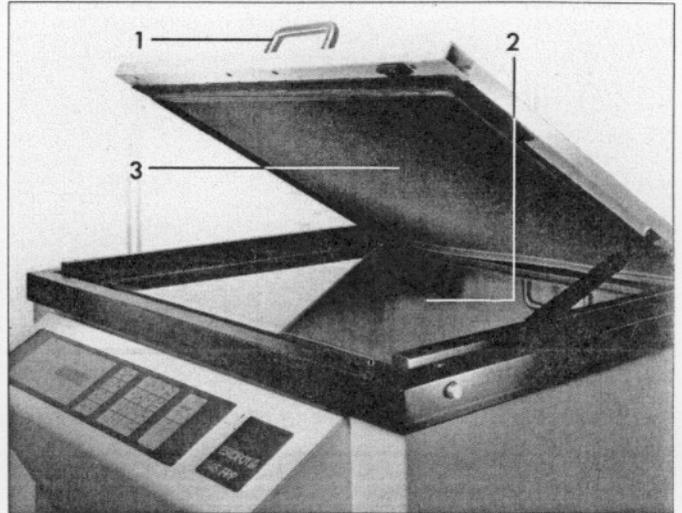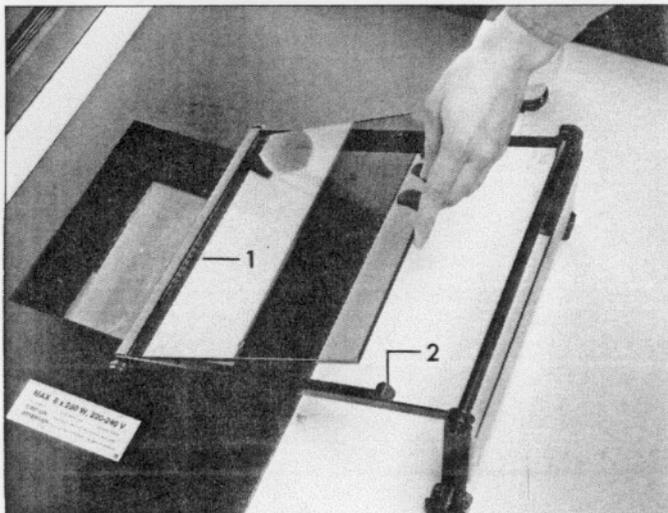
Fig. 1

Fig. 2

Fig. 3

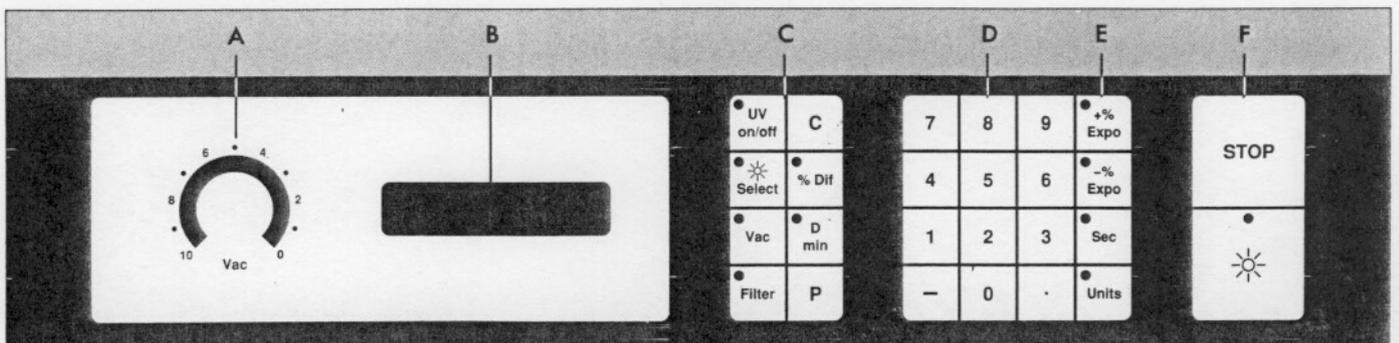
Fig. 4

Fig. 5

Fig. 6

Fig. 7

Introduction

The flip-top exposure frames are designed to comply with the strictest demands made to contact copying on film, plates and colour proofs and also to reflex copying of paste-ups directly to a ready - to - print offset plate (the "diffusion transfer" system).

They are equipped with two light sources as standard:

1) UV (metal halogen) lamp system with a patented reflector especially designed for optimal light distribution. The lamp system has two light intensities, 250 or 800 W candela (programmable), and a filter carriage.

2) 8 diffusion lamps for copying the above-mentioned paste-ups.

The exposure frames have 40 programmes, and a programmable diffusion foil as standard. After an easy and logical programming cycle, each programme automatically complete an exposure cycle.

Available accessories are: Pointlight for exposing traditional contact/camera films and other highly light-sensitive materials (darkroom applications), and various filters for special films and some proofing systems. For further information contact your dealer.

Illustrations

Fig. 1. Overall view (Type 2):

1.1 Release button for flip frame.

1.2 Main switch.

1.3 Single-sided flip frame. (Shown in exposure position.)

1.4 Control panel.

1.5 Handle for filter carriage.

Fig. 2. Frame and lock system (Type 2):

2.1 Handle for opening of glass frame. Lift up for opening, push down for closing.

Warning: Remember to close and lock the glass frame; it must to be locked before turning to exposure position.

2.2 Release button for flip frame. Turn clockwise to release before turning frame.

Figs. 3 and 4. Frame and lock system (Type 1):

Type 1 has a glass frame that may be used in two different ways. The light-sensitive material may be placed underneath or on top of the original film.

In the first case (fig. 3) the light-sensitive material is placed on the rubber cloth and the original is placed on top of the light-sensitive material. The glass frame is closed and turned to expo position.

In the second case (fig. 4) the original is placed on the glass plate. The lid with the rubber cloth is closed. The glass frame must not be turned before exposure.

Fig. 3. Frame and lock system:

3.1 Locking handle for glass frame.

3.2 Release button for flip frame. Push in before turning frame.

Fig. 4. Frame and lock system:

4.1 Locking handle for lid.

4.2 Glass plate (lower) see above explanation.

4.3 Rubber cloth (upper) see above explanation.

Note: When used in this position the frame need not to be turned as it is already in expo position.

Fig. 5. Filter carriage:

5.1 Spring-loaded rail.

5.2 Locking clamps.

Installing a filter: Push the filter down in the spring-loaded rail (1), lower the glass to underneath the locking clamp (2).

Fig. 6. Diffusion foil :

6.1 Shown halfway out, ready for a test exposure establishing the filter factor = the amount of light being absorbed by the diffusion foil. See "Programming of diffusion foil".

Fig. 7. Control panel:

A: Vacuum indicator.

B: Display.

C: Functional keyboard.

D: Numerical keyboard.

E: Keys for temporary + and - changes of basic exposure time.

F: Start and stop key for automatic exposure cycle.

Upstart

Turn ON the main switch. Display indicates programme no. *1* and *0.00*, or if already programmed the three digits to the right will show the selected exposure time.

By pushing each individual function key, display will show the keyed-in values for the selected programme (1-40).

Change of programme by keying in the required programme no. on the numerical keyboard and confirming by pushing *P*.

Note: Metal halogen (UV) lamp only ignites automatically, when a programme is selected in which this light source is selected.

If UV light is the light source most often used, we recommend this to be inserted in programme no. 1, as the UV lamp will then ignite when the main switch is turned ON.

Turning the UV light ON and OFF may also be done manually by pushing *UV on/ off*. Warm-up time for the lamp is approximately from 0.5 to 5 minutes.

Programming

Access to programming or to make change(s) in a program is achieved by pushing *-*,*P*. A flashing point in the display indicates that you are in programming mode.

To exit the programming mode *-*,*P* is to be pushed again.

After entering the programming mode by pushing *-*,*P*, the display will indicate *nn*. and the programme no. selected previous to the entering.

If this is the wanted programme no. confirm on *P*, otherwise key in the programme no. you want (1-40) and confirm on *P*.

Display shows *XX X.XX* = selected programme no. and *0.00* or previously selected exposure time.

Function/change(s) with numerical values may now be keyed in arbitrarily. First push the function key then key in the corresponding numerical value and confirm on *P*.

Values keyed in by mistake may be cleared by pushing *C* before the value has been confirmed by pushing *P*.

The following function keys (Fig.7 C) are used for programming or for making change(s) to an existing programme:

Remember to finish programming or change(s) in a program by pressing *-*,*P*.

UV on/off
Turns the UV lamp ON/OFF. Red light in the LED indicates that the lamp is ON. This function works both inside and outside the programming mode.

Select
Selection of required light source and intensity. Step forward to the wanted light source and intensity by pushing the *Select* key and confirm on *P*.

During this sequence display will show in rotation:

U 1.00 = UV light with full intensity (800 W).

U 0.50 = UV light with lowest intensity (250 W).

d 1.00 = Diffusion light.

P 1.00 = Point light (gallow) with full intensity (option).

P 0.50 = Point light (gallow) with half intensity (option).

After having confirmation of selected light source and intensity by pushing *P*, display will show XX X.XX = selected programme no. and 0.00 or previously programmed exposure time.

Units

Keying in exposure time, when UV light is the selected light source, is done by pushing the key *Units* = photocell controlled exposure (1 unit = approx. 0.5 sec.)

Sec

Keying in exposure time, when any light source except UV light is the selected light source, is done by pushing the key *Sec* = exposure time in seconds.

Note: The UV light may also be programmed in seconds.

After selection of Units or Sec, key in the wanted exposure time (0.5-999) and confirm on *P*.

Vac

Keying in vacuum time(s) is alone by pushing the key *Vac* .

Display will show A1 and 0 or previously programmed pre vacuum (1/2 vac).

Key in the wanted pre vacuum time (0 to 500 sec.) and confirm on *P*. If no pre vacuum is required, key in *0* and confirm on *P*.

Display will now show A2 and 0 or previously programmed end vacuum (1/1 vac).

Key in the required end-vacuum time (0 to 500 sec.), and confirm on *P*. If no end vacuum is wanted, key in *0* and confirm on *P*.
Note: If 0 has been keyed in for both pre- and end-vacuum the exposure will take place without vacuum.

Filter

By pushing this function key display shows Fl and 0 or 1. 0 means that filter is not to be used in the programme and 1 means that filter is to be used in the program.

Key in *0* or *1* and confirm on *P*.

Note: When changing from 0 to 1 or vice versa an acoustic signal is heard when confirming on *P*. This means that the handle for filter carriage must be altered accordingly.

C

Clearing of all mistakenly keyed in values if pushed before confirmation on *P*.

% Dif

By pushing this key display shows dF and 0 or previously programmed diffusion percentage. 20% dif means that 20% of the exposure is done through the diffusion foil.

Key in the wanted percentage (0 to 100) and confirm on *P*.

D min
May in the programming mode be used according to following procedure:

The correct exposure time can be established by one test exposure using a transparent grey wedge on which the density in each individual step is known.

Push *D min* key, display will show *r. 0.75* (suggested breakpoint). If another breakpoint is required, key in the density from the wanted breakpoint and confirm on *P*.

Display will show *C* and *X.XX* = selected breakpoint density.

Insert relevant film/plate material, place the grey wedge, expose, and develop.

On the developed film/plate material find the step on the grey wedge where the breakpoint lies. The density (from the step of the original transparent grey wedge corresponding to the step just found) is to be keyed in and confirmed on *P*.

To exit programming mode push *-*, *P*.

Temporary changes to the individual programmes

Without entering programming mode (*-*, *P*) it is possible to insert temporary change(s) of below-mentioned functions.

To insert a change: Push the function key in question, key in the wanted value and confirm on *P*.
Display will flash indicating that one or more temporary change(s) have been inserted.

+% Expo
Extends exposure time in percentage (0 to 100).

-% Expo
Reduces exposure time in percentage (0 to 99).

% Dif
Changes the amount of exposure carried out with diffusion foil (0 to 100).

D min

To be used when copying an original with more layers of film. Using a densitometer measure the density in a "clear" area, where maximum layers are present. This density (0.00 to 1.00) is to be keyed in and confirmed on *P*, and the computer will automatically correct the exposure time accordingly.

Cancelling changes is done by pushing the key for the function that is to be cancelled, and then confirm on *P*.

Note: By changing to another programme all temporary changes are cancelled.

Programming diffusion foil

In order to make the diffusion exposure the right amount in percentage, the filter factor (F/F) must be found and keyed in to the computer. Checking a previously calculated filter factor can be done by making two test exposures. Select a programme which will provide a suitable density on a grey wedge. Make one exposure of the grey wedge with 0% diffusion, and make another exposure with 100%. If the two films or plates are not equal a new filter factor must be calculated in the following way:

1:
Select a programme with the required UV intensity, units and vacuum time and confirm on *P*.

2:
Key in password *247* and push *-*, *P*. Diffusion foil will move half way out (Fig. 6.1)

3:
Place a film or plate in the frame so that half of it is covered by the diffusion foil. On the film/plate two grey wedges (with

known densities in each of the steps) is placed in such a way that one is exposed through the diffusion foil and the other is exposed directly by the UV light. Expose and develop.

4:
Push *.*,*P* and display will for 5 seconds show *FF* and the previously calculated filter factor, then display will show *F1*.

5:
Find the first step showing "solid black" on one of the contact copies, then measure the density of the corresponding step of the original grey wedge. This density is to be keyed in and confirmed on *P*. Display will show *F2*.

6:
Find the first step showing "solid black" on the other contact copy, then measure the density of the corresponding step of the original grey wedge. This density is also to be keyed in and confirmed on *P*. Display shows for 5 seconds *FF* and the computer-calculated filter factor. The computer will automatically exit this pro-

gramming procedure after 5 seconds and display will show the programme no. selected prior to this diffusion foil programming.

Note: Either one of two densities may be keyed in first. The computer will still calculate the right film factor.

Error codes

The contact frames have a built-in automatic trouble-shooting system, which shows an error code in display if a problem occurs during operation.

Error code	Error and possible correction
Er 4	Foil not in position 10 sec. after command given. Press *STOP* or turn contact frame off and then on again.
Er 6	No pulses from photocell to computer. Press *STOP*.
Er 7	UV-lamp not ready within 5 min. Press *STOP*.
Er 8	No expo time in the selected program. Press *STOP* and go to programming mode.

Note: If Er 6 appears it may be possible to use the machine in programmes made in seconds instead of light units.

If errors do not disappear after trying the above corrections - call for service technician.

Technical specifications

	Type 1	Type 2
Exposure coverage:	450 x 540 mm 17.7 x 21.2 "	630 x 800 mm 24.8 x 31.4 "
Number of programmes:	40	40
Filter size:	250 x 250 mm 9.8 x 9.8 "	250 x 250 mm 9.8 x 9.8 "
Metal halogen lamp:	250/800 W	250/800 W
Diffusion light:	1600 W	2000 W
Mains voltage: Frequency: Power consumption:	200-240 V 50/60 Hz 2200 W	200-240 V 50/60 Hz 2700 W
Width: Depth: Height: Weight, gross:	760 mm 760 mm 1110 mm 140 kg	1060 mm 860 mm 1030 mm 180 kg
Optional:		Point light (20 W). Various filters.