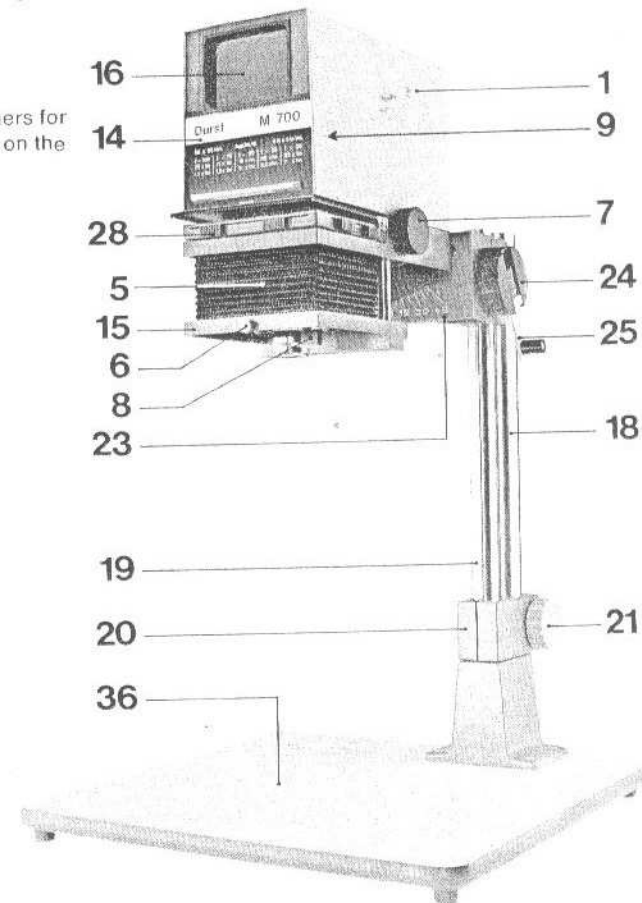


2.2.0. Components and controls

- 1. Enlarger head
- 2. Mirror housing
- 3. Lamp holder with lead
- 4. Locking screw
- 5. Bellows of lens unit
- 6. Locking screw
- 7. Focusing knob
- 8. Red filter knob
- 9. Filter drawer
- 10. Lamphouse cover
- 11. Heat filter slot
- 12. Fixing screws
- 13. Cross-head screws for tightening the friction drive
- 14. Name plate panel
- 15. Lens holder
- 16. Green filter
- 17. Latch to secure the mirror housing
- 18. Column with column base
- 19. Top column with guide rail
- 20. Clamping sleeve
- 21. Clamping knob to lock the column
- 22. Washer
- 23. Carrying arm
- 24. Vertical adjustment knob
- 25. Crank for rapid adjustment
- 26. Clamping knob for locking the enlarger head
- 27. Screw for tensioning the friction drive
- 28. Negative carrier
- 29. Top section of negative carrier
- 30. Film stops
- 31. Retaining strips
- 32. Top and bottom glass plates
- 33. Opening lever

- 34. Negative carrier masking strips
- 35. Controls for adjusting the negative carrier masking strips
- 36. Baseboard
- 37. Switch of lamp holder lead
- 38. Plug
- 39. Screws with nuts and washers for mounting the column base on the baseboard
- 40. Lens panel



2.3.0. Assembly

2.3.1. The baseboard

Place the baseboard (36) with the rubber feet down on a table. Then locate the column base (18) over the holes, with the open side to the rear. Next push the bolts (39) from above through the holes of the column base and the baseboard. To secure the column base fit the nuts and their washers over the bolts and tighten evenly.

2.3.2. The columns and enlarger head

The two columns are already fixed in

the column base and therefore need no separate mounting.

Fit the enlarger head by pushing the clamping knob (26) through the hole of the carrying arm (23). The engagement stop of the enlarger head should slide into the groove on the supporting arm; the locking knob can then be pulled tight.

2.3.3. The condenser

Lift up the name plate panel (14) and push the condenser into the enlarger head.

2.3.4. The lamphouse

Push the lamp holder (3) from below

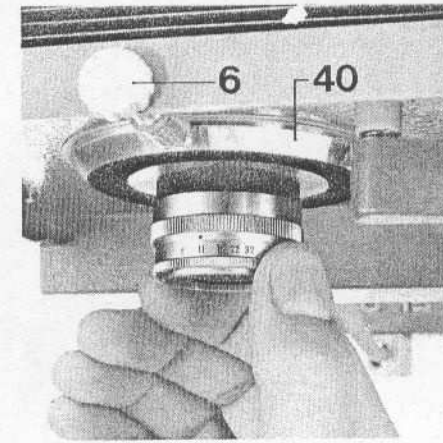
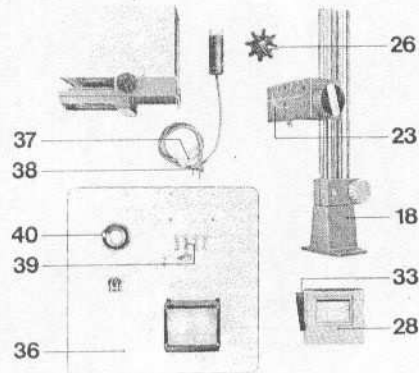
into the lamphouse. Remove the lamphouse cover and screw an opal lamp (up to 150 watts) into the lamp fitting.

2.3.5. The negative carrier

With the opening lever (33) horizontal, push the negative carrier (28) fully into the enlarger head.

2.3.6. The lens

Fully screw the lens into the lens panel (40). Then insert the panel with the lens into the lens carrier (15) so that the aperture scale is visible from the front. Secure the panel with the milled screw (6).



3.0.0. Features

3.1.0. The lighting system — Light sources

The M 700 has a reflex lighting system which gives extremely uniform illumination, provided the lamp was correctly centered: Fully push the negative carrier — without the negative — into the enlarger head. Then fully open the lens aperture and switch on the enlarger lamp. Rotate the lamp holder (3) and push it up or down until the projected image on the baseboard appears evenly illuminated. Optimum illumination is obtained by using a 150 watt opal lamp (e.g. Philips Photo-

crescenta). After prolonged service the inside of the light bulb may accumulate deposits which could impair even illumination. So check the lamp from time to time for such deposits.

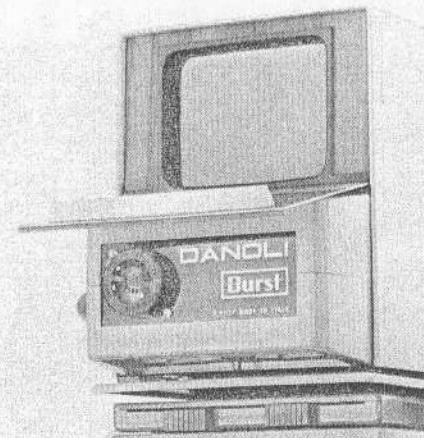
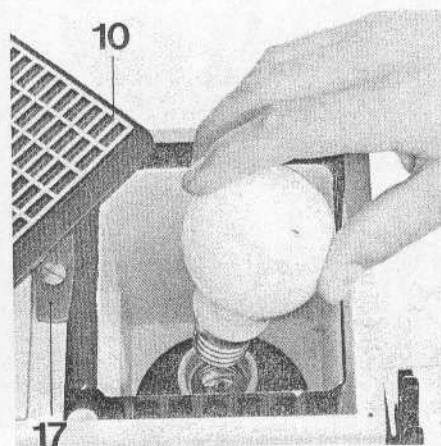
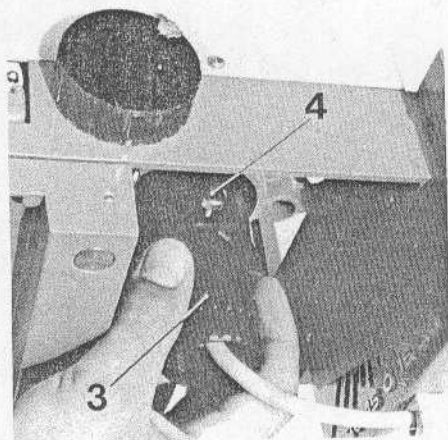
When enlarging black-and-white negatives the DANOLI cold cathode light source — available as an accessory — can also be used in place of the opal lamp. The DANOLI is a diffused lighting system giving a soft light which is particularly suitable for enlarging very contrasty negatives and for portrait enlargements. The softness of this illumination suppresses scratches and flaws in the

negative, thus keeping subsequent spotting within reasonable limits. Push the DANOLI into the enlarger head after removing the condenser and filter drawer.

3.2.0. Condenser systems

Depending on the focal length of the lens, the M 700 takes the following condensers:

- 105 mm lens (for negatives up to $2\frac{1}{2} \times 3\frac{1}{2}$ inches or 6.5 x 9 cm) UNICON 105
- 75/80 mm lenses (for negatives up to $2\frac{1}{4} \times 2\frac{1}{4}$ inches or 6 x 6 cm): UNICON 85
- 50, 35 and 28 mm lenses (for miniature and ultra miniature negatives): UNICON 50



3.3.0. The negative carrier system

The basic outfit includes a hinged book-form negative carrier for all negative sizes up to 2 1/2 x 3 1/2 inches (6.5 x 9 cm). This carrier has four individually adjustable masking strips (34) to mask down the negative area. The lower part of the carrier (29) has two adjustable film stops (30) for 70 mm, No. 220/120, No. 127 roll films and 35 mm film.

The negative carrier glasses (32) keep the films completely flat. A specially coated carrier glass, available separately, to prevent Newton's rings (Order Code: AUDA 70 N) can be fitted in place of the

regular top glass. The carrier will also take glassless metal mask inserts (Order Code: AUMET) in place of the negative carrier glasses. The AUMET mask pairs are available for negative sizes of 12 x 17 mm, 18 x 24 mm, 24 x 24 mm, 26 x 26 mm and 2 1/4 x 2 1/4 inches (6 x 6 cm).

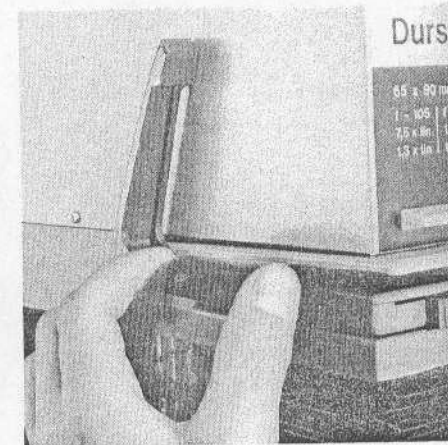
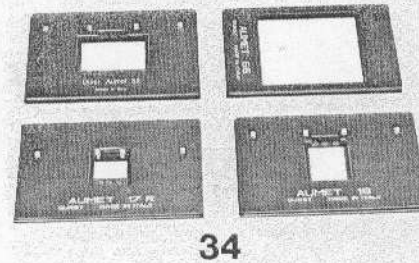
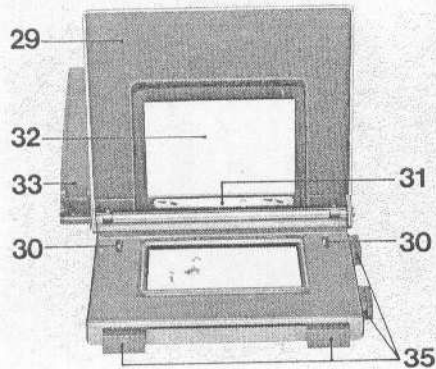
The negative carrier glasses are released for removal, or secured, by sliding retaining strips (31).

To insert single negatives, remove the negative carrier from the enlarger head. On pushing the carrier into the head, the upper and lower halves are pressed together to prevent movement of the negative.

To insert film strips, swing back the opening lever (33) through 90° to raise the top section of the negative carrier.

The film strip can now be pushed in from the front. The strips are accurately located when they abut the pins of the film stops. Bringing the opening lever forward again lowers the top section of the negative carrier to hold the film strip flat. To advance the film strip slightly raise the top of the negative carrier.

Always insert the negative into the carrier with the emulsion side (matt side) downwards.



3.4.0. Magnification

Adjust the required magnification by raising or lowering the enlarger head. The higher the head, the larger the image. To move the enlarger head, turn the knob (24) or the crank (25) which swings out of the knob for rapid adjustment. For maximum rigidity keep the front column (19) in its bottom position whenever possible. Raise the front column on the rear column only when the magnification obtained is insufficient. In that case lock the front column at the required height on the rear one.

Minimum and maximum magnifications

105 mm lens (for negatives up to $2\frac{1}{2} \times 3\frac{1}{2}$ in. or 6.5x9 cm)

Min. magnification: approx. 1.3 x lin.

Max. magnification: approx. 7.5 x lin.

75-80 mm lens (for negatives up to $2\frac{1}{4} \times 2\frac{1}{4}$ in. or 6x6 cm)

Min. magnification: approx. 1.2 x lin.

Max. magnification: approx. 11 x lin.

50 mm lens (for negatives up to 24x36 mm)

Min. magnification: approx. 3 x lin.

Max. magnification: approx. 18 x lin.

35 mm lens (for negatives up to 18x24 mm)

Min. magnification: approx. 5.5 x lin.

Max. magnification: approx. 28 x lin.

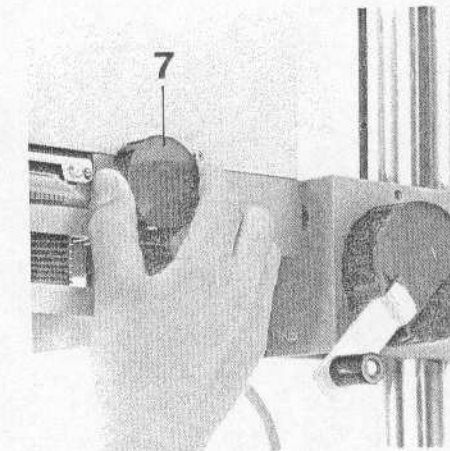
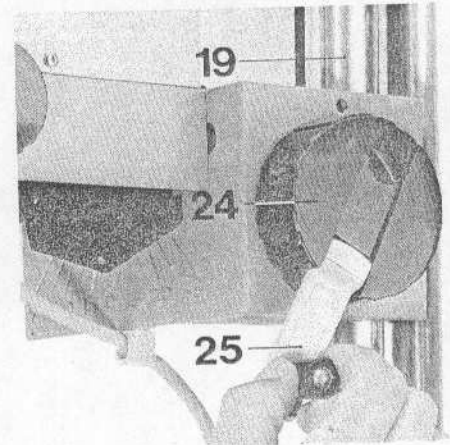
28 mm lens (for negatives up to 12x17 mm)

Min. magnification: approx. 7 x lin.

Max. magnification: approx. 33 x lin.

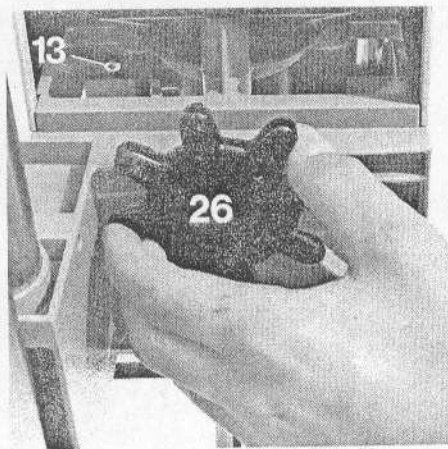
3.5.0. Focusing

Focus by turning the knob (7) at the right of the enlarger head. This should of course be done before making an enlargement. Place the masking frame on the baseboard and insert a sheet of white paper (not enlarging paper) of the same size and thickness as the enlarging paper to be used. Fully open the lens aperture and switch on the lamp. First adjust the image to the required size, then focus. After focusing it may be necessary to readjust the image size (and to refocus again finally).



3.6.0. Correcting converging verticals

Unwanted converging verticals can be corrected with the M 700 by tilting the enlarger head and the masking frame in the appropriate direction. To do this, slack off the locking knob (26) and incline the enlarger head — while tilting the masking frame in the opposite direction — until the verticals of the projected image appear parallel. Complete correction of converging verticals is possible with the aid of the TAUBA distortion control panel (available as an accessory).

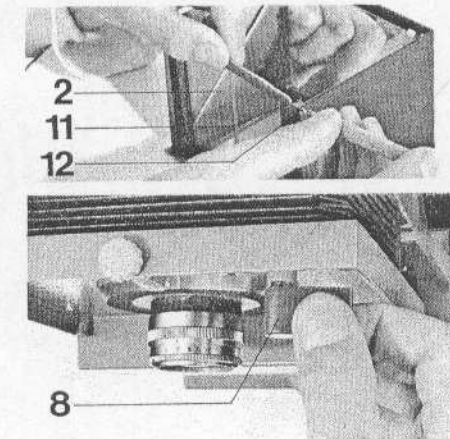
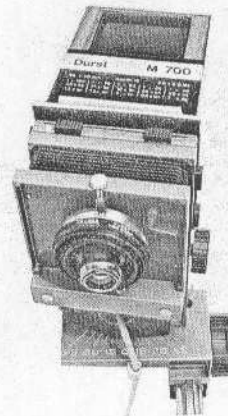


3.7.0. The filter drawer

The filter drawer (9) is placed on top of the condenser after raising the name plate panel (14). The drawer takes $4\frac{3}{4} \times 4\frac{3}{4}$ inch (12 x 12 cm) colour filters.

3.8.0. The heat filter

When enlarging negatives in a glassless negative carrier, always use the AUTOCALO heat filter (available separately). The AUTOCALO goes into the slots provided for this purpose in the mirror housing. Secure it with the two screws.



3.9.0. The red filter

The red filter permits observation of the projected image on the black-and-white enlarging paper when the latter is already in position on the baseboard. The red filter swings into the light path on turning the knob (8).

The red filter cannot of course be used for colour papers, as the latter are sensitive to all colours and would be fogged by the light passed by the red filter.

4.0.0. Operation and applications

4.1.0. Clean negatives

Dust and fingerprints on negatives show up disturbingly in enlargements. So always clean dirty negatives before enlarging. Remove adhering dust with a sable or antistatic brush. Fingerprints can be removed by gently wiping with a fluffless cloth. Clean off obstinate dirt with a suitable film cleaning solution.

Negatives must be completely dry before insertion in the negative carrier. Always clean negatives very carefully to avoid scratching the emulsion surface.

4.2.0. Enlarging exposures

After some practice it becomes easy to estimate reasonably accurately the correct exposure time required. An average value is about 10 seconds. With bigger enlargements a preliminary exposure test is however advisable. Focus the image and stop the lens down by two stops and cover the enlarging paper in the masking frame with a sheet of card. Then switch off the enlarger lamp and swing the red filter out of the light path. Withdraw the card to expose a 1 inch wide strip for about 2 seconds. Make another 4 to 5 similar strip exposures, withdrawing the card a further inch at a time. Each of these successive exposures increases the exposure of the previous strip by the new exposure time. This yields a test print of progressively exposed strips, the first

strip having received the longest exposure time. From this it is easy to select the correctly exposed strip and hence obtain the optimum exposure for the full enlargement. Such a test sheet thus helps in establishing correct enlarging exposures.

4.3.0. Cropping

Even an expert photographer does not always manage to frame the required field of view exactly during the camera exposure. Precise framing is only possible during enlarging. This way you can often get a number of different interesting enlargements from one negative. Mask down the required image area with the masking strips of the negative carrier and with the sliding mask of the paper holder.

4.4.0. Giant enlargements

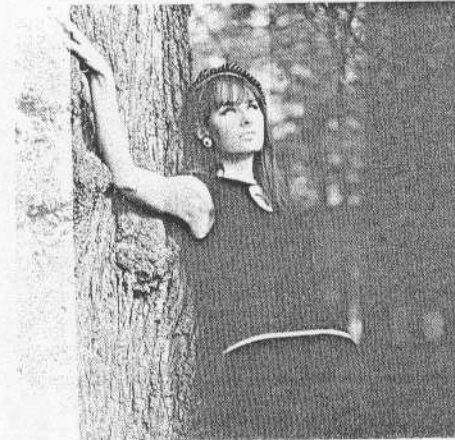
For big enlargements and for enlargements of smaller parts of a negative on the baseboard release the clamping knob (21) and raise the front column as high as possible. This yields the maximum magnification on the baseboard.

For giant enlargements project on the floor or on a wall. For floor projection slack off the clamping knob (21) on the sleeve (20), turn the column with the enlarger head through 180°, then secure again with the clamping knob. Be sure to stabilise the baseboard with weights to prevent the enlarger from tipping over.

For projection on the wall slack off the locking knob (26) and swing the enlarger head through 90°. Once the head engages in its horizontal position, tighten the locking knob again.

When estimating exposure times for giant enlargements, allow for the fact that the light intensity on the projection surface decreases in proportion to the square of the distance. (For example with a given exposure time of 10 seconds, doubling the distance increases this exposure to 40 seconds or to 4 times what it was

6 8 10 12 14 sec.



before.) While the exposure time can be reduced by opening the lens aperture, the lens does not necessarily produce the sharpest image at full aperture.

4.5.0. Distortion control

Converging verticals are caused by tilting the camera when taking the picture.

If for instance you shoot a high building from street level by pointing the camera up against the sky, the verticals will converge on the negative. This undesirable effect can be compensated by tilting the enlarger head, the lens (with the aid

of the TAUBA distortion control panel) and the masking frame. To keep the image sharp over the whole area with the enlarger head tilted, stop down the lens by two stops or more for increased depth of focus.

This method of distortion control is limited by the depth of focus of the lens and the exposure variation across the image being corrected. With the enlarger head tilted, one side of the enlarging paper receives a brighter image, and hence more exposure, than the other. To compensate this effect, shade this part of the image during the exposure.

