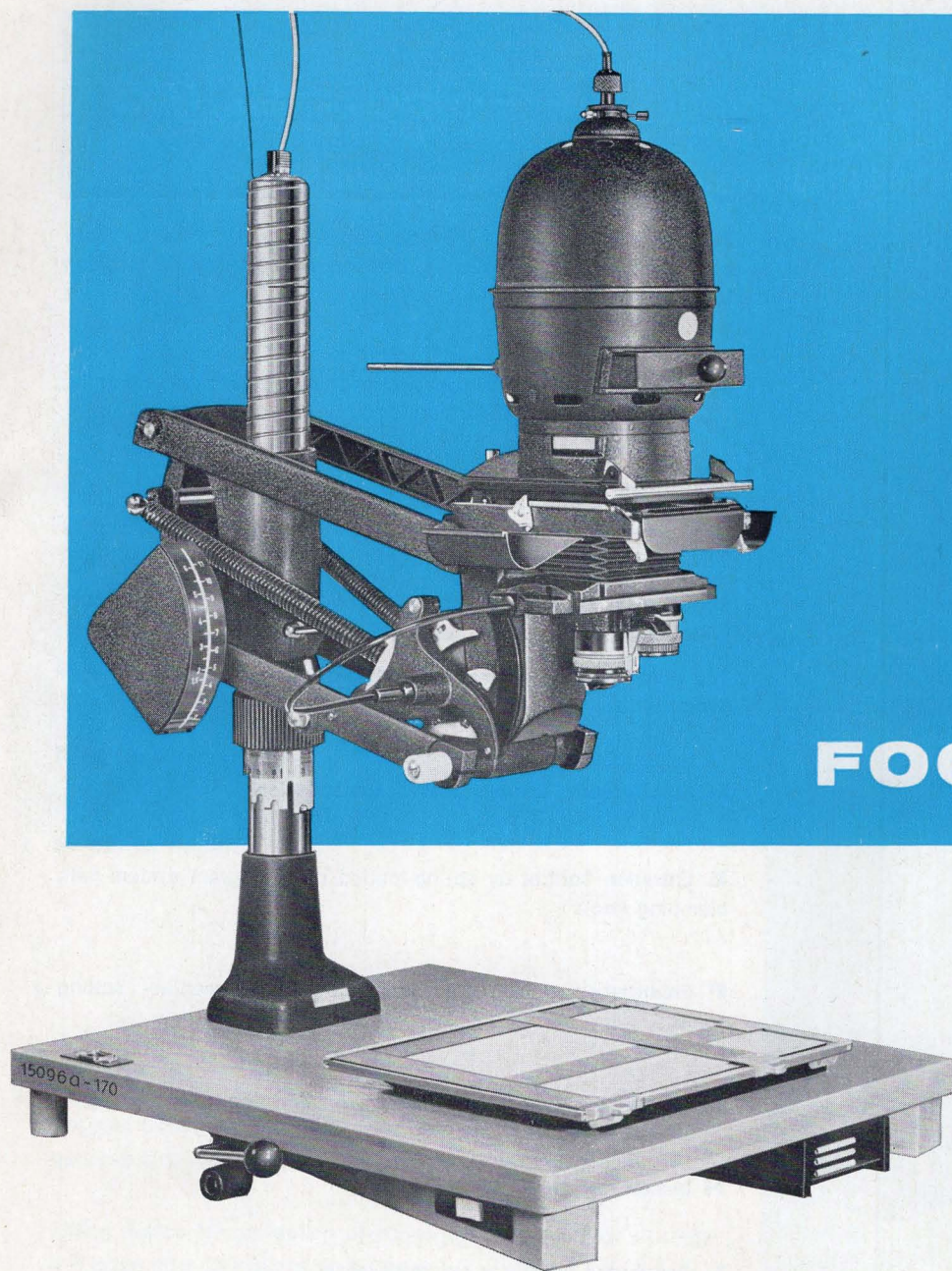
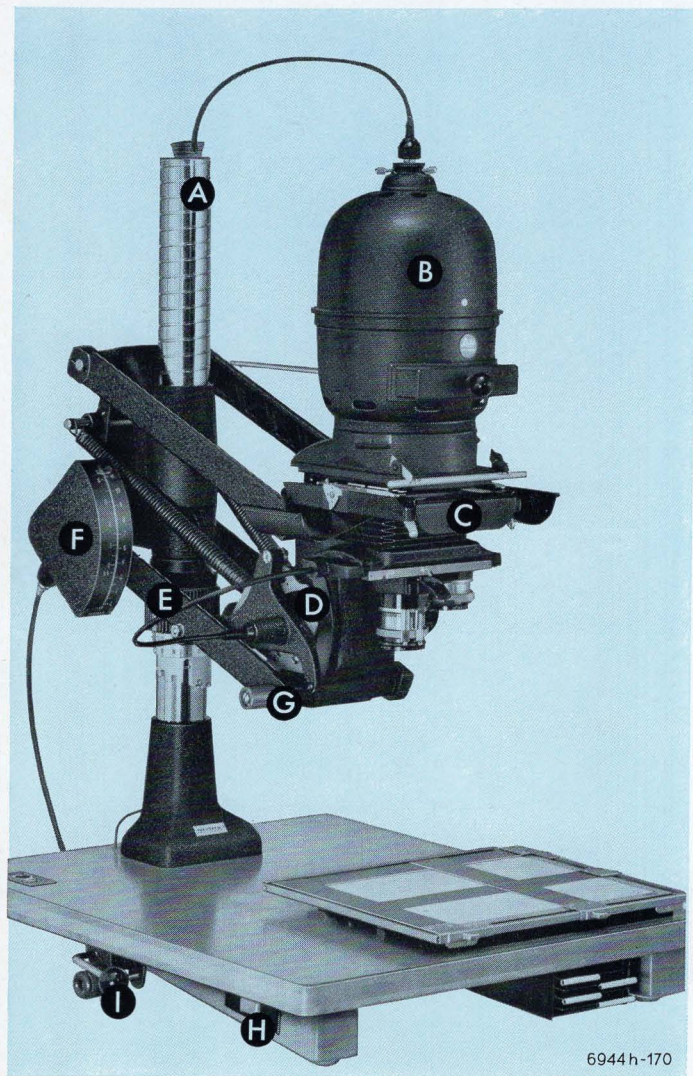




Enlarging,
Reducing,
Correcting
converging verticals,
Copying,
Negative sizes to
 $2\frac{1}{4} \times 3\frac{1}{4}$ " (6x9 cm)

FOCOMAT IIc





6944 h-170

A Upright column, 2.4" (60 mm) diameter, with device for easy vertical adjustment of entire lamphouse, adapter ring for masking frames of different height.

B Lamphouse, removable, with up and down movement, centering 150-w (or 250-w) opal enlarging lamp; double condenser.

C Negative carrier with glass plates (top plate specially treated to avoid Newton's rings) for negative sizes from 12 x 17 mm to 2 1/4" x 3 1/4" (6 x 9 cm), or

Special film holder with single, specially treated glass pressure plate for 35 mm film.

The auto-focusing accuracy is not affected by exchanging negative carriers.

D Auto-focusing cams with lever transmission.

E Elevation control by spring-loaded parallelogram system with clamping knob.

F Enlargement scale, transilluminated, supplementary setting scale.

G Operating handle for raising and lowering enlarger head.

H Master switch.

I Baseboard clamp for enlarging easel.

The LEITZ FOCOMAT® II c is an unusually versatile auto-focusing color and black-and-white enlarger for all formats up to 2 1/4 x 3 1/4" (6 x 9 cm). Professionals and other advanced workers will appreciate its optical and mechanical perfection and the many refinements and conveniences which make for fast, efficient working.

K Filter drawer with lifting device for 12 x 12 cm correction filters for color work.

L Special enlarging lenses: 60 mm FOCOTAR f/4.5 and 100 mm V-ELMAR® f/4.5. Automatic focusing range from approximately 2 x to 11 x and 1.4 x to 5.7 x respectively. Same size reproductions and reductions down to 1:25 are easily obtained. If lamphouse assembly is raised to top of enlarger column, enlargements up to 16 x can be made with the 60 mm FOCOTAR and up to 8.6 x with the 100 mm V-ELMAR.

Sliding lens changer with automatic change-over of auto-focusing system.

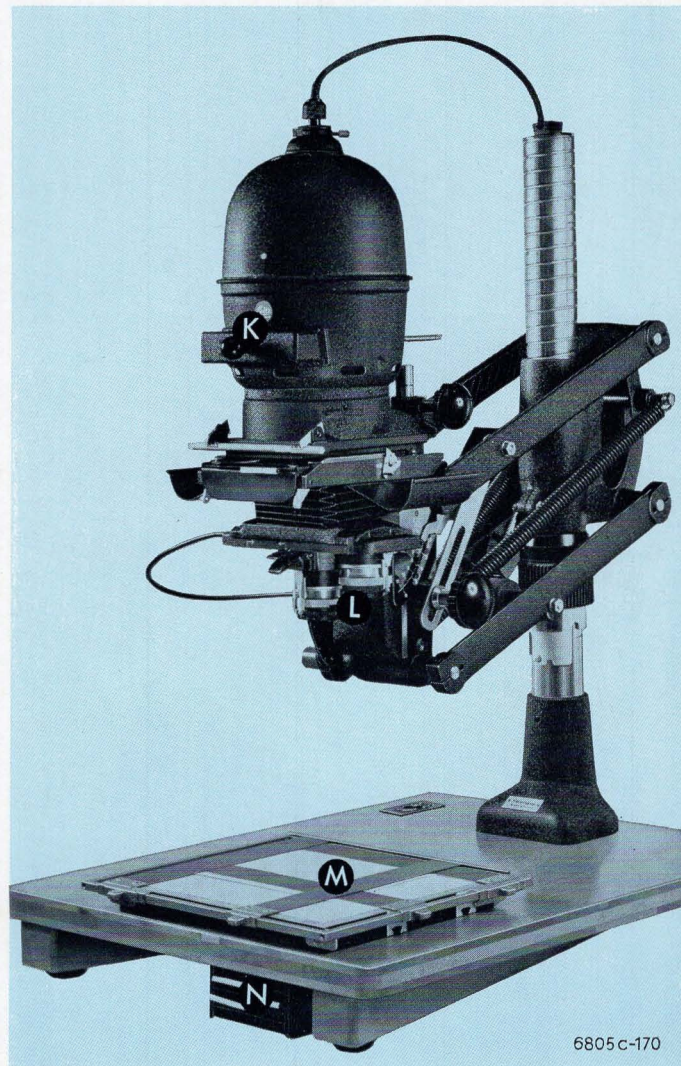
M Enlarging easel, with correct thickness for automatic focusing.

N Box for negative masks.

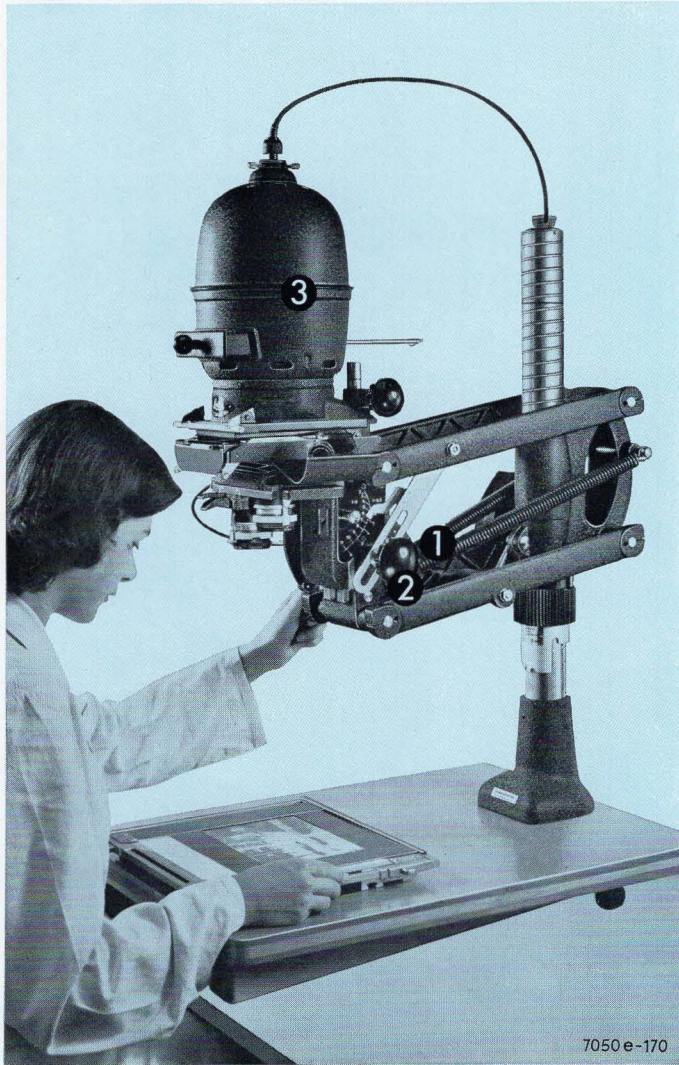
Accessories

Copying cassette designed as slide changer, with guide marks and negative size indicators; for use with auto-focusing system.

Tilting device for correction of converging verticals, for all negative sizes from 24 x 36 mm to 6 x 9 cm.



Detailed technical description

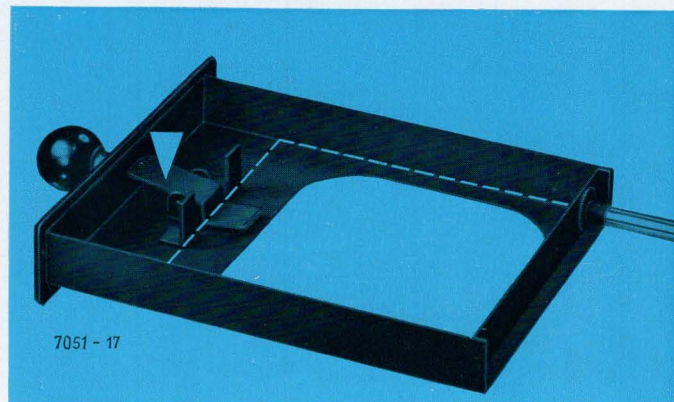


The head of the FOCOMAT II c is raised and lowered smoothly and easily by means of parallelogram arms with particularly well-placed non-torque levers and counterbalancing springs ❶. A conveniently located clamping knob ❷ locks the enlarging head at any desired height within its operating range. A large rubber stop softens impact at the lower end position.

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Lamphouse ③

The lamphouse is efficiently ventilated and can be raised to permit insertion of the distortion correction device (with two bellows and tilting negative carrier) or the copying magazine in the negative stage. The standard model of the LEITZ FOCOMAT II c is equipped with a 150-watt opal enlarging lamp and an easily removable double condenser. To ensure uniform illumination, the enlarging lamp can be vertically adjusted, rotated and aligned by three centering screws.



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Color printing

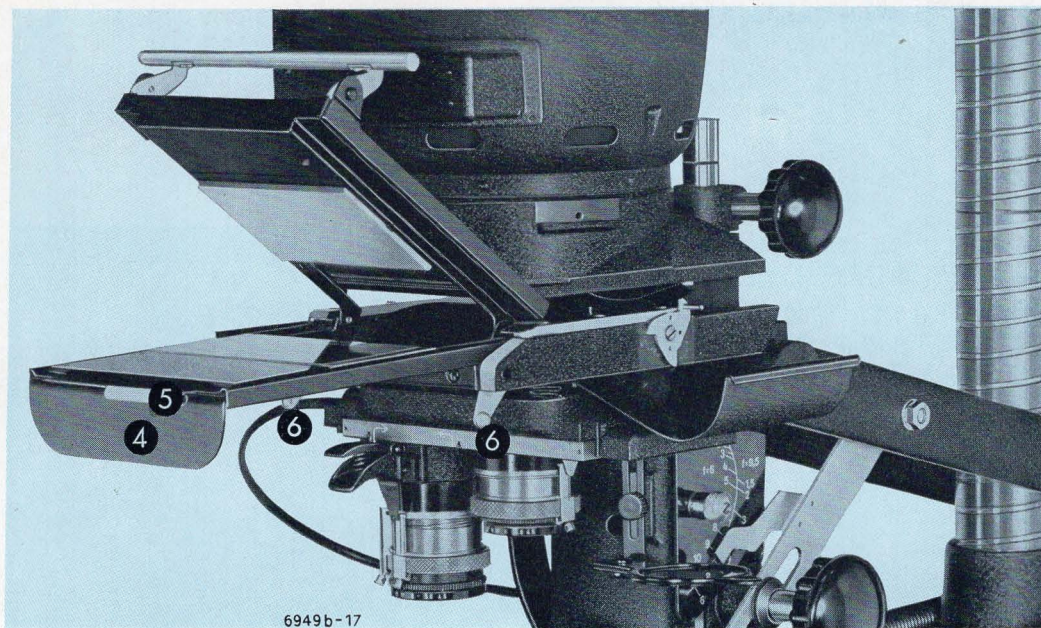
For color printing or enlarging very dense negatives the FOCOMAT can be equipped with a powerful 250-watt lamp. Since the burning life of this lamp at rated voltage is only three hours, it is advisable to use a dimmer switch with a variable resistor and voltmeter (see special leaflet No. 17-11). During adjustment of the desired picture size and framing the lamp is under-run. Full voltage, which is variable, is applied only during exposure. For color work, use of an automatic voltage stabilizer with dimmer switch and a regulation accuracy of $\pm 1\%$ is recommended. The use of one of these accessories will increase the life of the 250-watt lamp considerably. To enable these accessories to be employed in conjunction with the FOCOMAT II c, a special enlarging timer for the dimmer switch (Cat. No. 17 804) is required.

Filter drawer

The color version of the FOCOMAT II c has a filter drawer taking the 12 x 12 cm color-correction filters needed for enlarging color negatives by the negative-positive process. The filter drawer can be completely removed from the lamphouse and the slot closed by a light-tight cover.

Negative stage and carrier

The precision-built negative stage guarantees that the negative lies perpendicular to the optical axis — one of the most important conditions for uniform sharpness over the entire picture area. Even short strips of film can be easily manipulated during insertion, without pulling out the negative carrier.



6949b-17

Negative carrier ④

The negative carrier supplied with the basic equipment accepts all standard negative sizes from 12 x 17 mm to 2 1/4 x 3 1/4" (6 x 9 cm). A special negative carrier with a single glass pressure plate (Cat. No. 17 876) is also available for handling 35 mm negatives.

Masks of different sizes ⑤ serve to mask the negative (the 6 x 9 cm mask is permanently mounted). In practice, the system of individual negative masks has proved the fastest and easiest method. The masks are easily inserted into the negative carrier, whether it be open or closed. For cleaning, the negative carrier can be pulled out to the stop and opened. The stops ⑥ can be simply withdrawn for easy removal of the negative carrier from the FOCOMAT II c. Re-insertion automatically restores the function of the stops. Exchange of negative masks does not affect focusing; refocusing is therefore unnecessary.

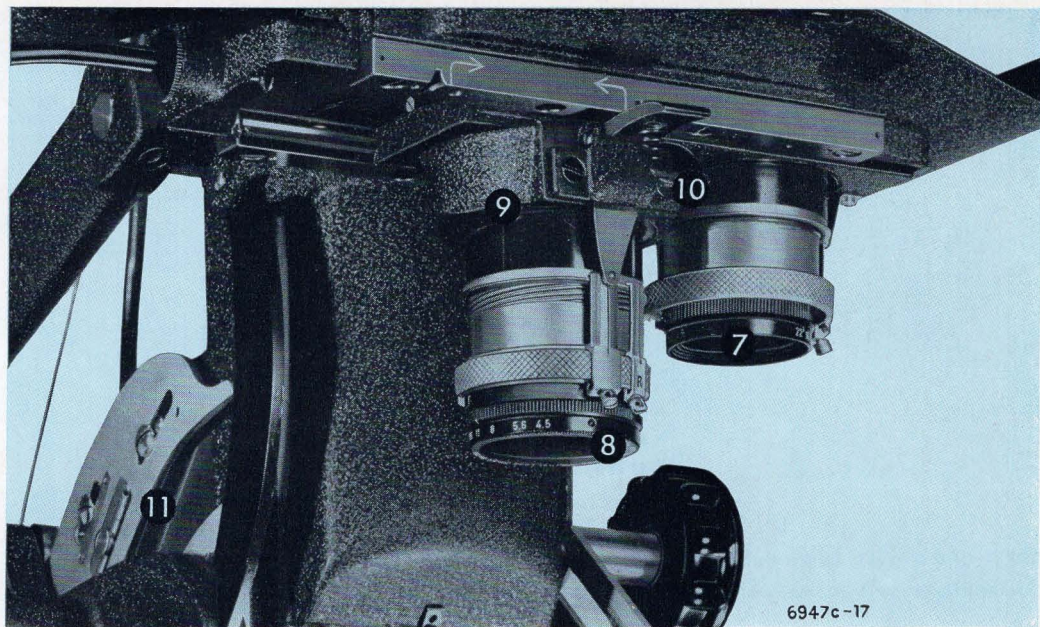
A special carrier is available for 6.5 x 9 cm and 7 x 7 cm glass negatives. The adapters for the 6 x 6 cm and 5 x 5 cm sizes are identical with those of the copying magazine. Single negatives may also be inserted in a glass sandwich. The adapter used then replaces the negative carrier. The 62 x 65 mm mask can only be used in con-

junction with the 10 x 22 cm glass sandwich and the adapter with enlarged cutout accepting the sandwich.

Optical equipment, lens change, and auto-focusing mechanism

The LEITZ FOCOMAT II c is equipped with the 60 mm FOCOTAR f/4.5 ⑦ and 100 mm V-ELMAR f/4.5 ⑧ lenses, which are specially corrected for close-range work. They are equally well suited for color and black-and-white. Both lenses are mounted on a sliding changer ⑨ and are automatically set for sharpest focus throughout the entire motion range of the enlarger head. They need not be removed from their helical focusing mounts except for cleaning.

The lens carrier guides and sliding changer are mounted on roller bearings. Lens change is therefore accomplished quickly and easily, with the aid of a click-stop clamping lever ⑩. This **simultaneously** brings about the **automatic focusing switch-over**, because the changing slide and the focusing cam feeler are coupled by means of a control cable.



Lens change and automatic focusing switch-over are therefore achieved in a single, swift movement. The weight of the lens carrier is partly absorbed by a torsion spring.

For special purposes, such as the correction of converging verticals, the automatic focusing mechanism can be disconnected by a knurled knob. The vertically adjustable lens carrier has three click stops to afford the largest possible range of non-automatic settings. Damage to the disconnected auto-focusing mechanism is prevented by a spring catch.

Automatic focusing range

The range of automatic focusing extends from approximately 2 x to 11 x with the 60 mm FOCOTAR f/4.5, and from about 1.4 x to 5.7 x with the 100 mm V-ELMAR f/4.5 lens.

Same-size reproductions and reductions down to 1:2.5 can be obtained with manual focusing. This makes for particularly easy

reduction of 6 x 9 cm pictures to LEICA® size (24 x 36 mm). The auxiliary focusing mechanism provided for this purpose has proved of particular value for fast and efficient work in this reduction range. Enlargements beyond the limits of automatic focusing can be obtained manually by raising the enlarger head further on the column. The maximum enlargement with the 60 mm FOCOTAR is then 16 x, and 8.6 x with the 100 mm V-ELMAR.

Focusing cams

The focusing cams 11 for both focal lengths are fixed on the FOCOMAT II c, and are sensed by a lever. The ingenious design of the cam end prevents hard impact and damage to the cam or cam-roller at the moment of connecting or disconnecting the automatic focusing mechanism during rapid adjustment of the enlarger head in the lower setting range.

Column

The sturdy column 12 is made of stout-walled brass tubing of 2.4" (60 mm) external diameter (corrosion resistant).

Vertical adjustment of enlarger head

After releasing the screw 13, the enlarger head can be vertically adjusted on the column by means of the large knurled collar 14.

Vertical adjustment

The adjustment ring 15 with indicator scale rests firmly on a supporting lug in the column. It permits six different settings to compensate for varying height of individual enlarging easels or originals in copy work. Automatic focusing remains unaffected over the entire motion range.

Enlargement indicator

On the right-hand side of the FOCOMAT II c is an enlargement indicator for the automatic focusing ranges of the 60 mm FOCOTAR and 100 mm V-ELMAR lenses.

The FOCOMAT II c model for color work has a transilluminated enlargement indicator located on the left-hand side of the enlarger head.

Baseboard

The baseboard measures 21¹/₄ x 26¹/₂ inches (54 x 67.5 cm) and is given added rigidity by strong reinforcing beams. The enlarging lamp is switched on and off by the baseboard switch (K). **If an exposure timer is used, it must be inserted between the power supply and the enlarger.**

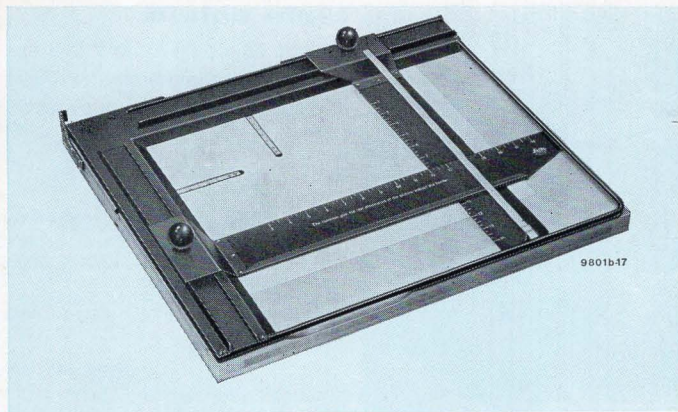
The easel clamping device on the left-hand side of the baseboard allows easy movement of the masking frame and permits rigid clamping in any position.

Box for negative masks

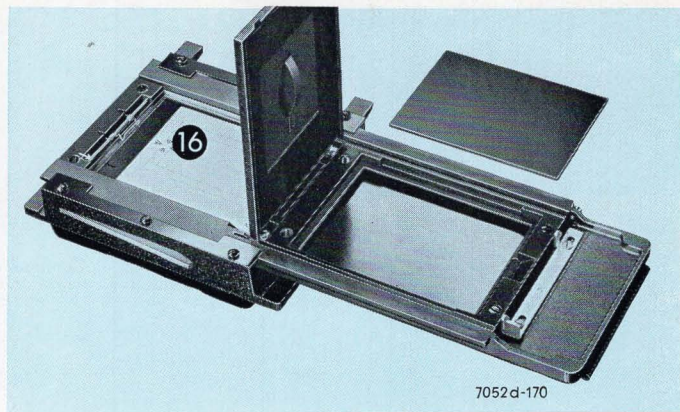
This box (N) is located under the right-hand front edge of the baseboard and has five compartments for various negative masks. These have white handles to facilitate identification and handling.



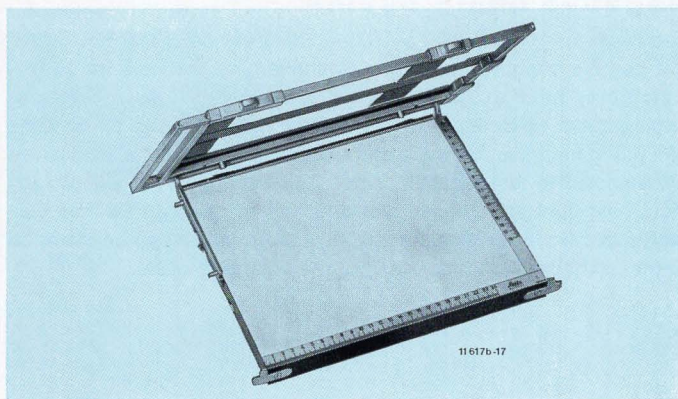
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7052d-170



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Enlarging easels

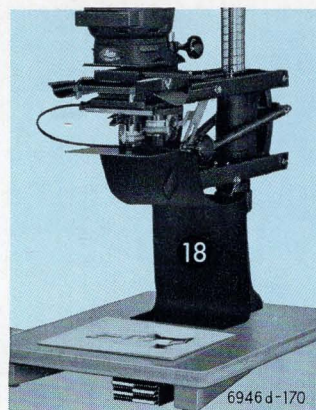
can be supplied in various sizes for all formats up to 5 x 7" (18 x 24 cm) or 12" x 16" (30 x 40 cm); see booklet No. 17-5. They ensure accurate masking and fast working. The sensitized paper is automatically gripped when the frame is lowered. LEITZ enlarging easels can be fixed on the baseboard by means of the clamping device.

Copying cassette

The copying cassette is designed as a metal slide changer and takes the place of the negative carrier for copy work. Automatic focusing can be used throughout the movement range of the enlarger head. The difference in height between the film holder and the copying magazine is compensated by setting the vertical adjustment ring 15 to „Repro“. The 100 mm lens used for this type of work must be engaged in the clickstop position marked „R“. The necessary notched piece is supplied together with the copying magazine.

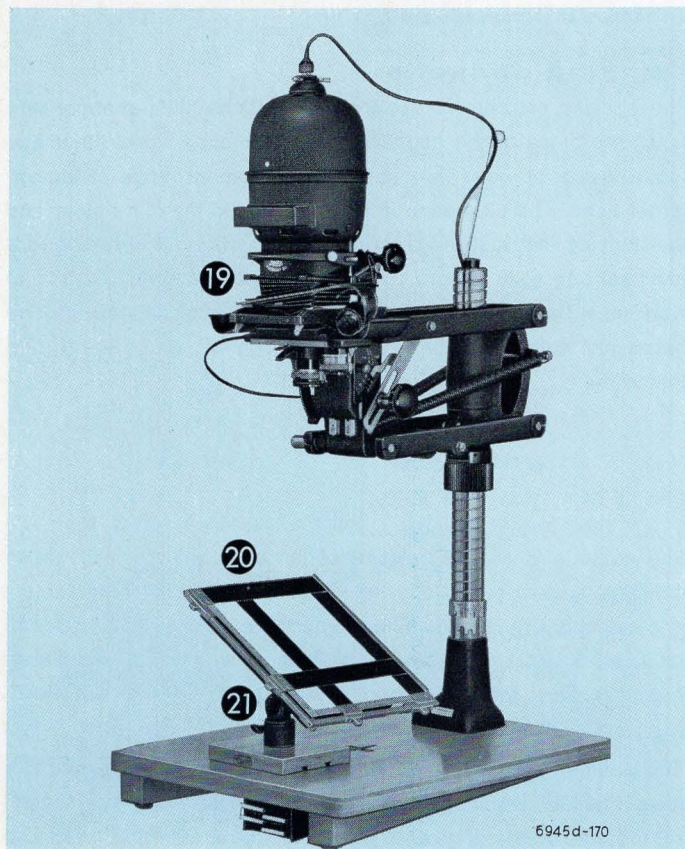
The cassette is an integral part of the slide changer which also contains a clear-glass focusing screen 16 with focusing targets and indicator lines for the different negative sizes. Adapters accommodate 6.5 x 9 cm plates and sheet films, as well as 7 x 7 cm plates. Adapters allow the insertion of 1 1/4 x 2 1/4" (6 x 6 cm) and 2 x 2" (5 x 5 cm) slides.

The size of the object field is determined by projected indicator lines. Inside these lines appear focusing targets which are sharply reproduced on the original to be copied.



Light shield

A light shield **18** below the enlarger head eliminates stray light and reflections during copy work.



Negative tilting device

Used with the 100 mm V-ELMAR, the tilting device of the FOCOMAT II c permits effective correction of converging verticals for all formats from 35 mm to 6 x 9 cm by tilting the negative **19** and the enlarging easel **20** in opposite directions. The tilting device consists of a tilting negative carrier, a glass sandwich and two bellows which are attached to the negative stage. This arrangement prevents any disturbing light spill; hence, **converging verticals can also be corrected in color negatives**. An angle joint **21**, which can be clamped to the baseboard, permits tilting of the enlarging easel.

Electrical equipment

The wiring of the LEITZ FOCOMAT II c conforms to German safety regulations. (The upper part of the lamphouse remains grounded even when it is lifted.)

Specification FOCOMAT IIc

Dimensions: width 27.4" (69.5 cm); depth 29.3" (74.5 cm); height 62.5" (158.5 cm) (maximum extension)

Weight: approx. 84 lbs (38 kg)

LEITZ FOCOMAT II c with 21.3 x 26.5" (54 x 67.5 cm) base board, 31.5" (80 cm) column of 2.4" (60 mm) diameter, parallel-gram arms, double condenser, special 60 mm FOCOTAR f/4.5 and 100 mm V-ELMAR f/4.5 enlarging lenses with sliding lens changer and automatic change-over of auto-focusing mechanism, 24 x 36 mm and 6 x 6 cm negative masks; with 150-watt opal enlarging lamp (indicate line voltage)

For color printing:

Enlargement indicator with interior illumination, including glow lamp
Filter drawer for 12 x 12 cm color printing filters

FOCOMAT II c Color, complete

Accessories:

Amateur masking frame, 18 x 24 cm
Metal masking frame, 18 x 24 cm, for the professional darkroom, with four adjustable masking slides
Masking frame, 30 x 40 cm
Auxiliary focusing mechanism for 1:1 and reductions
Extension tube for above, for 60 mm FOCOTAR, for reductions down to 1:2.5, i. e. from 6 x 9 cm to 24 x 36 mm size
Extension tube for above, for 100 mm V-ELMAR, for same-size reproductions
Film holder: with single glass pressure plate, for 24 x 36 mm negatives
Single negative holder
Glass sandwich for above
Glass negative carrier for 6.5 x 9 cm and 7 x 7 cm
Adapter for above, for 6 x 6 cm plates
Adapter for above, for 5 x 5 cm plates
Swing-out orange filter for direct focusing on light-sensitive paper in monochrome work
Dust cover

Negative masks

for 12 x 17 mm size 17 897
for 18 x 24 mm size 17 899
for 24 x 24 mm size 17 887
for 26 x 26 mm size 17 898
for 24 x 36 mm size 17 888

for 3 x 4 cm size 17 889
for 4 x 4 cm size 17 890
for 4.5 x 6 cm size 17 891
for 4 x 6.5 cm size 17 892
for 6 x 6 cm size
(as spare) 17 893

(The 6 x 9 cm mask is permanently mounted)

For single negatives of electron micrographs:
62 x 65 mm size 17 803
(must be used with glass sandwich 17 710 and adapter 17 716)

Copying magazine with light shield

Adapter for 6 x 6 cm lantern slides
Adapter for 5 x 5 cm lantern slides

Tilting device, consisting of:

tilting negative carrier with additional bellows, angle joint with base plate; tilting device, complete

Dimmer switches

To increase the life of the 250-watt enlarging lamp, we recommend: dimmer switch for framing and focusing at reduced voltage, for 110/220 volts (indicate desired voltage), and for exposure with full line voltage, for connection to AC. For color printing, we recommend automatic voltage stabilizers with a dimmer switch, which may be obtained directly from the manufacturer, Zählerwerkstätten K. Biesinger, 6932 Hirschhorn (Neckar), West Germany. To obtain a voltage stabilizer with a suitable secondary outlet from Messrs. Biesinger, specify "for LEITZ enlarger" in orders to that company.

Special model of enlarging timer for use with dimmer switch

Cat. No.

17 860

17 862

17 864

17 870

17 596

17 588

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17 861

16 617

16 615

17 876

17 712

17 710

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17 881

17 882

17 875

17 606

17 880

17 881

17 882

17 885

17 697

17 804

FOCOMAT[®] II c

the universal enlarger

unequalled for performance and ease of operation

**Enlarging
Reducing
Correcting
converging
verticals
Copying**

**negative sizes
up to 6 x 9 cm
(2 $\frac{1}{4}$ x 3 $\frac{1}{4}$ ")**

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