OPEMUS 5

meopta

OPEMUS 5
ENLARGER

Description of Instrument

The OPEMUS 5 — an amateur enlarger designed for the enlarging of photographic pictures from negatives made on 60 and 40 mm roll films of 6×6 cm or smaller in size, or on 35 mm and/or 70 mm cine films. The Opemus 5 can be used for making black-and-source of light is an opal (frosted) lamp for white as well as colour enlargements. The enlarging instruments, of 150 W power input; the bulb is up to 70 mm in diameter and is provided with the E 27 base (112 up to 121 mm long).

High-performance enlarging lenses are supplied for the Opemus enlarger by the MEOPTA Works.

The lens of 80 mm focal distance (F = 80 mm) is intended for enlarging from negatives of 6×6 cm in size, while the lens of F = 50 mm is designed for enlarging from negatives of 24×36 mm in size.

A number of further efficient lenses is supplied by MEOPTA to the enlarging instruments; these lenses are applied for especially exacting work and/or for enlarging negatives of special sizes.

With the lens of F = 80 mm focal distance, the maximum linear magnification of about 6.2× is attainable on the baseboard; also, if required, a maximum linear reduction of approx. 1.25× con be obtained.

With the lens of F = 50 mm, a maximum magnification of approx. 11× and a reduction of about 1.4× are attainable analogically.

The Opemus 5 together with its stand can be turned round the screw in the baseboard, whereby a still higher grade of magnification can be obtained by projection outside the baseboard, e. eg., on to the floor. By turning the apparatus on the stand to its horizontal position, magnifications of arbitrarily large dimensions can be made by projection upon a vertical screen, for instance, against a wall. Partial restitution (pseudo-restitution) of the image can be also be effected with the instrument, i. e., the converging lines on the negative, frequently arising when making photographs of architectural constructions, etc., can be corrected, i.e., compensated.

The OPEMUS 5 is adjustable on its stand and the image can be focused by a mechanism which does not allow any idle run. The baseboard is 390×560 mm in size.

The supply cable (i.e., the connecting cord) is 2.2 m long and is provided with a feed-through switch and a plug.

The Opemus 5 is equipped with a metal negatives carrier fitted with a slit-line focusing system, two glasses and two adjustable stops for guiding of the film band. The negatives can be placed into the carrier either cut into the individual frames (pictures) or parts or in bands. The loose ends of the band have to be placed into specially shaped carriers in which the film band cannot suffer any damage. The masks for masking off the undesirable light are located direct in the carrier and can be shifted independently of each other. The size of the opening is arbitrarily adjustable without taking the carrier out of the instruments. The film band in the carrier is nipped firmly with two glasses by the action of springs. On lifting the upper part of the carrier, the film band can be shifted to and fro. The oblique rod of the stand is provided with a graduated scale for approximate ascertaining or adjusting of the linear magnification and for computing the exposure time when the magnification grade is being changed.

The condenser lens of the instrument is composed of two equal plano-convex lenses, set into a metal mount. The ground glass (focusing screen) can be inserted into the drawer for correction filters if it is required to work with the light which is a little diffused.

By employing special accessories which are available against a special order, the Opemus 5 enlarger becomes a universal instrument that can be employed for photographing, reproducing and other purposes.

A colour head with its own light source can be employed in conjunction with the Opemus 5 enlarger. The colour head substantially facilitates work when making enlargements on colour material. It can replace a set of 33 subtractive filters (7.5×7.5 cm or 7×7 cm). The colour head permits accurate, repeatable filtration.

Dimensions and weight of instrument:

Weight	9.3 kg
Maximum height (working height)	995 mm
Minimum height (storing height)	755 mm
Width	390 mm
Depth	615 mm

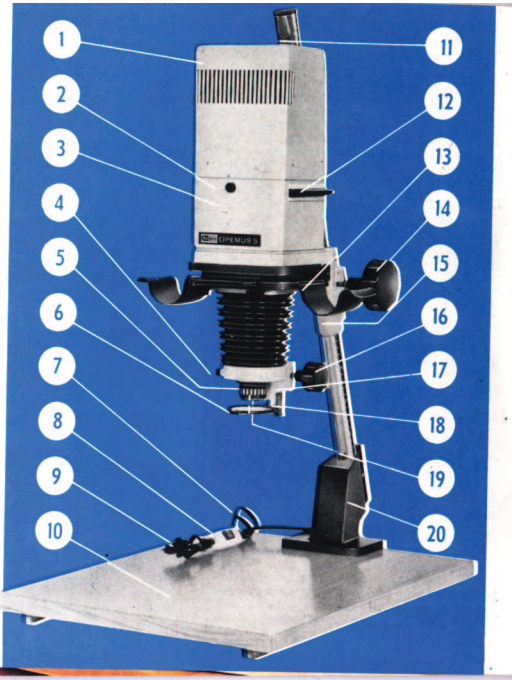
The Opemus 5 enlarger is produced in two design variants:

— The Opemus 5 provided with the colour head,
Branch No. 392 211 400 604,

— The Opemus 5 provided with an opal lamp of 150 W,
Branch No. 392 211 400 602.

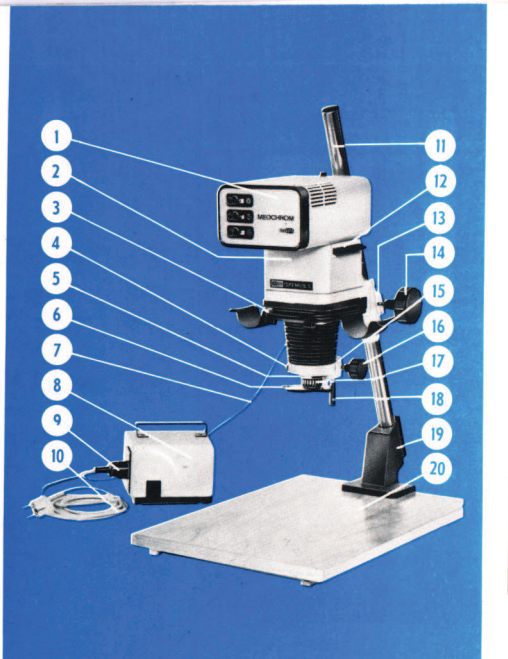
KEY to Fig. I.

1. Lamphouse
2. Screws of lamphouse
3. Condenser box
4. Turnknob
5. Lens holder
6. Filter
7. Connecting cord
8. Feed-through switch
9. Connecting cord plug
10. Baseboard
11. Oblique rod
12. Drawer for correction filters
13. Negatives carrier
14. Sliding turnknob
15. Sliding mount
16. Focusing turnknob
17. Lens carrier
18. Focusing rod
19. Lens
20. Foot (base)



KEY to Fig. II.

1. Colour head
2. Condenser box
3. Negative carrier
4. Turnknob
5. Lens holder
6. Filter
7. Connecting cord
8. Transformer
9. Connecting cord plug
10. Flexible cord
11. Oblique rod
12. Drawer for 100 % filters
13. Sliding mount
14. Sliding turnknob
15. Lens carrier
16. Focusing turnknob
17. Lens
18. Focusing rod
19. Foot (Base)
20. Baseboard



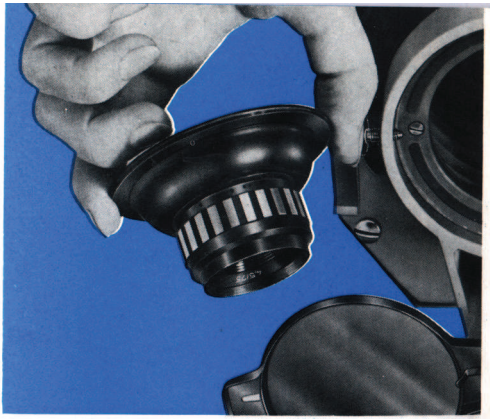
II

Instructions for Use
The Opemus 5 enlarger is supplied from the MEOPTA Works with the lamphouse (Fig. I-1) or with the colour head (Fig. II-1). The lens carrier is mounted in and locked in position with the turnknob (Fig. I-4).
The 4.5/80 lens must be screwed into the carrier in the way shown in Fig. III. The 4.5/50 lens must be screwed into the reversed carrier, as shown in Fig. IV.

1. Light Source - Lamp
An opal bulb for enlargers of up to 150 W power input is applied as the light source; the maximum diameter of the bulb is 70 mm; the bulb is provided with an E 27 base. The bulb should not bear any inscriptions on the top, nor should it show any glass unevenness.

2. Insertion and Replacement of Lamp
From the production works, the enlarger is supplied without the lamp. **The lamp may be inserted into the apparatus only in the latter is risconnected from the el. mains.**
Screw out the two screws (Fig. VIII-1) and take out the lamphouse by lifting upwards. (Fig. V-1). After having been screwed into the socket (Fig. V-2) the lamp takes up a central screwed into the socket (Fig. V-2) the lamp takes up a central position.

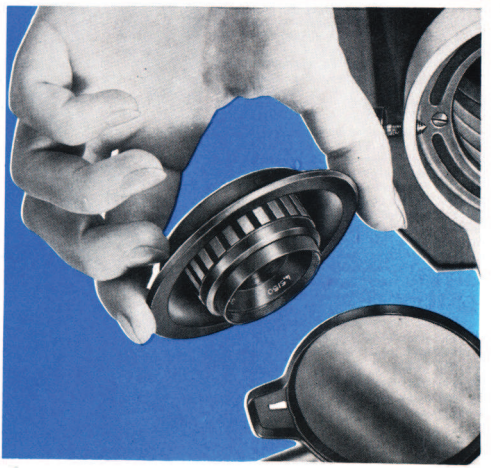
3. Connecting Enlarger to El. Mains
Insert thet plug of the connecting cord (Fig. I-9) into the socket of the el. mains; the lamp



can be switched on by operating the feed--through switch (Fig. I-8). When working with the enlarger, the venting holes of the lamp-house and of the colour head **must not be** covered.

IV

4. Insertion of Negative into Negatives Carrier
Take the negative carrier out of the apparatus. Open it and set the guiding stops (Fig. VI-3) so that they correctly guide the film band. If the stops are set to their extreme position, the nearest to the centre of the carrier, they are adjusted for a 35 mm film. The other two positions of the stops are intended for 40 and 60 mm roll films. When removing the glasses from the carrier for their cleaning or replacement, the stops have to be set to that extreme position which is the farthest from the carrier centre. The 70 mm film band is diraected by the lugs in which the bottom glass is secured. Place the film band or its cut-off part into the carrier, making use of the guiding stops, with the sensitive layer downwards, i.e., so as to face the lens, and close the carrier. Insert the coiled ends of the film band into the film holders (Fig. IX-1). Slide the carrier into the apparatus; when doing so, a slight resistance of springs (holding the two carrier halves together and thus nipping the film band between the glasses) has to be overcome. If it is desired to shift the film band into the carrier, lift the upper part of the latter (Fig. VIII-2), whereby the film band is released and can be shifted to and fro without any risk of damage. When handling the film band, be sure to hold its opposite edges carefully ith your fingers so as to avoid touching the emulsion-covered sensitive layer.



5. Adjusting of Required Magnification Ratio of Image

Open fully the objective diphragm by turning the diaphragm mount (stop ring) up to the extreme position (Fig. IX-2), so that the "4.5" stop number is set opposite the white mark. Switch on the lamp and project the image on to a sheet of auxiliary paper placed on the baseboard. By rotating the turnknob (Fig. IX-3) raise or lower the apparatus proper on the stand, untill the required magnification grade is obtained. Simultaneously, carry out rough focusing of the image on the baseboard (i.e., on the auxiliary paper) by rotating the focusing turnknob (Fig. IX-4).

6. Focusing of Image

After the required magnification has been adjusted, perform the fine focusing of the image. For this purpose, the negatives carrier is provided with a slit-line focusing system (Fig. VI-4), which is operated as follows: Pull the carrier partly out of the apparatus to the position at which the pressure springs distinctly snap into the cutouts of the carrier. The picture on the image-plane disappears, being replaced by a pattern (Fig. VII) formed by the projection of the slit-line focusing system. If the image is not focused properly, the shape of the produced pattern, will be similar to that shown in Fig. VII-a, or Fig. VII-b. Next, rotate the focusing turnknob in clockwise or anticlockwise direction until the shape of the pattern takes the form of a continuous line (Fig. VII-c). In this way also the negative is simultaneously fine-focused. By reinserting, the carrier the whole focusing procedure is completed.

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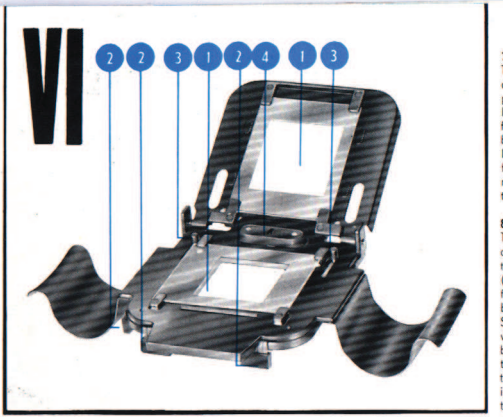

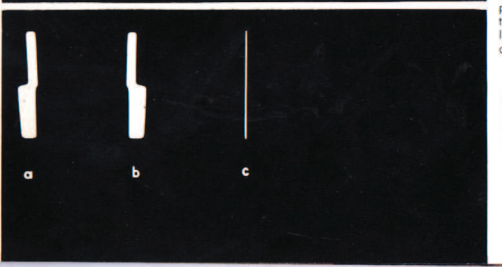

7. Masking-off of Negatives

The required magnification-grade adjusted and the image focusing procedure completed, proceed to masking the image with the auxiliary masks, leaving only the effective area free; the masks are mounted direct in the bottom part of the negatives carrier (Fig. VI-2). In this way, the disturbing light is prevented from dispersing into the ambient environment and possible deteriorating of the positive image quality is avoided.

8. Stopping-down of Lens

The focusing and masking-off procedures completed, set a suitable stopping down of the lens by rotating the diaphragm mount (stop ring) — (Fig. IX-2), marked with the figures indicating the respective stop numbers: 4.5, 5.6, 8, 11, 16, 22.

Set the selected stop number opposite the white index mark. The higher the stop number, the more stopped-down is the lens and the smaller is the amount of light passing through it. With exception of the first one, i.e., "4.5", the stop numbers are so selected that always the next higher number corresponds to half the volume of light passing through the lens. Thus, for instance, if the lens is stopped down to "8", a certain amount of light passes through it. Now, on stopping

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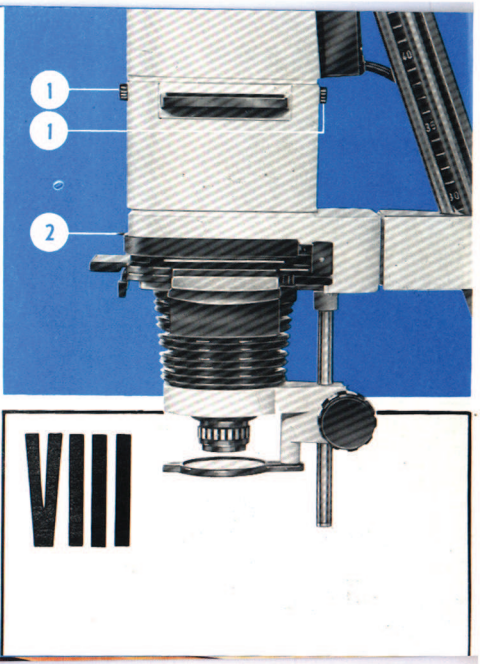
the lens down to "11", the amount of the trajected light will be equal to a half of that passed through the lens in the previous case; on the other hand, if the lens is stopped down to 5.6, the amount of the trajected light will be doubled. The stop ring is provided with a snapper device which snaps in distinctly when the stop is adjusted to the required number. This substantially facilitates the adjustment of the stop when working in a dark chamber, since it is merely sufficient to count the number of snaps and thus to set the required stop precisely and correctly. The stop ring can be adjusted arbitrarily also between the individual positions marked with the stop numbers.

9. Exposure of Sensitive Paper

When the image is correctly placed on the baseboard, focused properly and the lens stopped down as required, proceed as described below:

Switch off the lamp, place the photographic paper (with its sensitive layer towards the lens) on to the baseboard and make the exposure by lighting up the lamp. Take care not to shake the instrument and protect it against vibration, otherwise the image sharpness would be affected. Prior to making the exposure proper, a trial of the exposure time duration has usually still to be made since only a very experienced operator can estimate correctly the exposure duration. The best way is to cut off a strip of sensitive paper and to put in on to the image plane on the baseboard so that both, the bright as well as the dark portions of the picture are distinctly displayed. Next, make the exposure and after developing and short-time fixation, judge and decide whether the exposure time was correct or not. If it is found that it has not been se-



lected correctly, repeat the test, choosing another exposure time, i.e., prolonging or shortening its duration until a satisfactory result is attained.
It is advantageous to use a strip of sensitive paper, 2 up to 3 cm wide, cut along the whole length or width of the paper sheet, to make a number of exposures by subsequent covering and then to decide which of them is the best one.
The sensitive black-and-white paper can be exposed safely to the light passing through the red filter for one minute at the magnification grade 2 ×. **When working with sensitive colour material it is prohibitive to employ the red filter.**

10. Computation of Exposure Time when Changing Magnification Ratio

In order to facilitate the determination of the correct exposure time when a change of the image magnification grade has taken place, the oblique rod of the enlarger (Fig. I-11) is provided with a numerical scale; the value indicated by the scale can be read on the lower edge of the sliding mount (Fig. I-15).
In case of the change in the magnification ratio, the exposure is easily computed with the aid of the "k" coefficient which can be found in the nomogramme.

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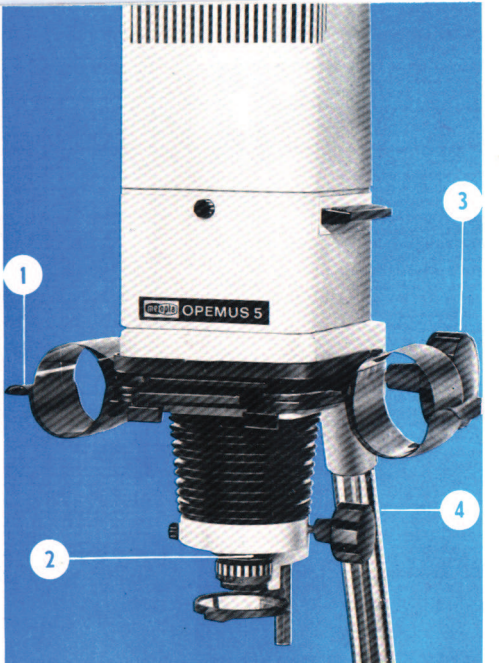


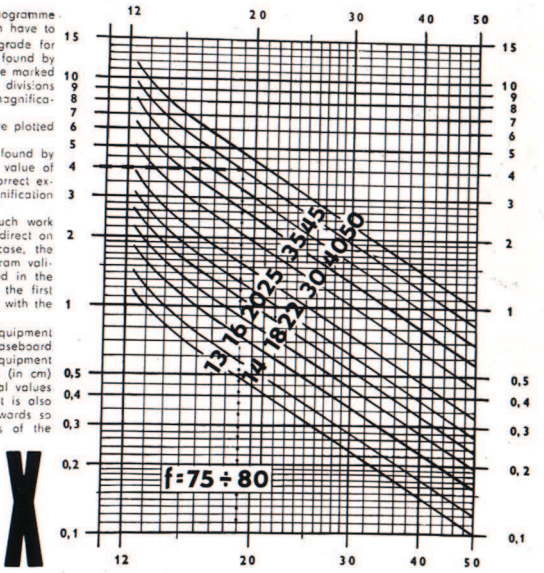
On the horizontal axis of the nomogramme are plotted the scale divisions which have to be read off at that magnification grade for which a correct exposure has been found by trial. The inclined (oblique) curves are marked with digits which correspond to the divisions read on the scale at the changed magnification ratio.

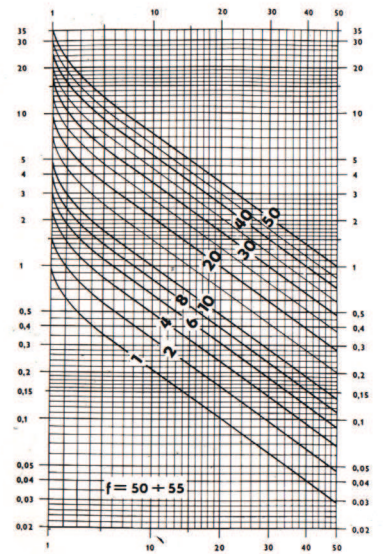
On the nomogramme vertical axis are plotted the values of the "k" coefficient.

The exposure time which has been found by checks has to be multiplied by the value of the "k" coefficient. In this way, a correct exposure value for newly adjusted magnification ratio can be computed.

The nomogram is designed for such work when the sensitive paper is placed direct on the instrument baseboard. In this case, the necessary prerequisite of the nomogram validity is that the oblique rod be fixed in the instrument foot in such a way that the first bottom index line of the scale tallies with the upper face of the foot (Fig. 1).

When employing the masking equipment which heighten the plane of the baseboard by the thickness of the aforesaid equipment pad, the value of the pad thickness (in cm) must be deducted from the numerical values read on the oblique rod scale, or, it is also possible to shift the oblique rod upwards so as to compensate for the thickness of the





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masking equipment pad and then to work with the read-off numerical values.

The nomogram shown in Fig. X applies to exposure computation when enlarging with a lens of F = 80 mm focal distance. The nomogramme shown in Fig. XI applies to exposure computation when a lens of F = 50 mm is employed.

Example No. 1

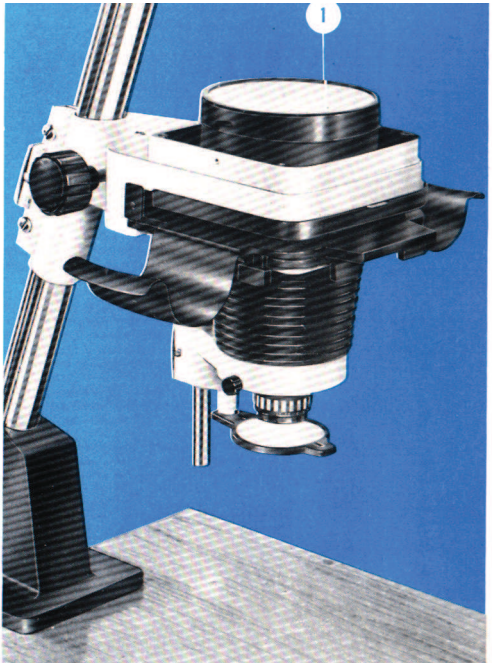
Let us assume that we are enlarging on the instrument baseboard, employing a lens of F = 80 mm. The found correct exposure for the given negative is 8 seconds. The sliding mount is in the position given by the division "19".

After the magnification ratio has been changed, the sliding mount is in the position given by the number "45" — the newly obtained image is larger.

Read the value of the coefficient k = 4 in the nomogram (Fig. X). (Plotted by a horizontal dashed line from the intersection point of the vertical dotted line from the figure "19" and the oblique curve number "45".) The new exposure time is given by the product of 8 x 4, hence, it will be longer, i.e., 32 sec.

Example No. 2

Let us start from the assumption that the enlarging procedure is performed with the



F = 80 mm lens and the pad of the employed masking equipment is 2 cm thick. The found correct exposure time for the given negative is 6 seconds. The sliding mount is in the position given by the division 22. After the magnification ratio has been changed, the sliding mount is in the position given by the division "18" — the new image is smaller. In the nomogramme (Fig. X) find the value 22 — 2 = 20 on the horizontal axis. From this point, drop a perpendicular until the value "18 — 2 = 16" is struck on the oblique curve. Lead a horizontal line from the point of intersection and read the value "k = 0.7" on the vertical axis (the value is read by approximate estimation since it is not written direct on the vertical axis in the nomogramme).

The new exposure time will be given by the product of 6×0.7, hence, it will be shorter, amounting to 4.2 seconds.

Example No. 3

The enlarging is carried out with the F = 50 mm lens and with a masking equipment, the pad of which is 2 cm thick. Adapt the position of the oblique rod in the foot so that the first lower index line is 2 cm above the upper face of the foot. Lock the rod in this position by tightening the screw (Fig. XIV-4). The exposure time that has been found by trial for the given negative is 5 seconds. The sliding mount is in the position given by the division "8".

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When the magnification ratio is changed, the sliding mount is in the position given by the division "13" — the new image is larger.
Find out value "8" on the horizontal axis in the nomogramme (Fig. XI). Drop a perpendicular from this point until the oblique curve of the value "13" is struck. Though this position is not plotted directly, the approximate position of the intersection between the curves 10 and 15 can be found easily. Lead a horizontal line from the point of intersection and read the value of k – 1.5 on the vertical axis. The new exposure time will be given by the product of 5×1.5 hence, it will be longer, i.e., 7.5 seconds.

NOTE:

As long as the curves for every indication number on the oblique rod are not plotted in the nomogrammes, the intersection point position for reading the "k" coefficient has to be determined by estimation only.
The two nomogrammes are accurate enough to yield correct values for computation of exposure times at normal enlarging procedures.

11. Enlarging with Diffused Light

If it is desired to attain an enlarged image of a softer "grain", especially if a negative having a hard gradation is to be handled, insert the ground glass (focusing screen) — See Fig XVIII-7 — into the drawer for correction filters (Fig. XVIII-8).

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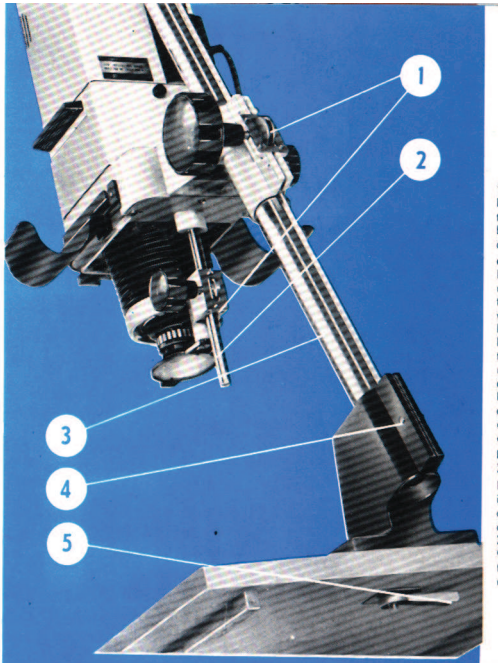

XIV

12. Enlarging Outside of Baseboard

If large-size enlargements have to be obtained, project the image outside the baseboard, i.e., either upon the floor or against a wall.

a) Projection Upon Floor (Fig. XIII)

Place the enlarger on the table sot that the rear edge of the baseboard coincides with the edge of the table. Load the baseboard with some heavy objects, for instance, heavier boocks, etc. Loosen the nut located on the bottom side of the baseboard (Fig. XIV-5), turn the apparatus together with its stand round the screw in the board through 180° and lock the position by tightening the nut. Project the image on to the floor or on to another horizontal plane, for instance, a chair. Proceed as in the case of a normal enlarging procedure.

b) Projection Against a Wall (Figs XV and XVI)

If an extraordinarily large linear enlargement is required, make use of horizontal projection against a vertical plane. Place the enlarger on the table, loosen the turnknob (Fig. XVIII-1), turn the apparatus proper through 90° to the horizontal position and lock it there by tightening the turnknob. Set the magnification ratio (i.e., the enlargement size)

by approaching the whole apparatus to the wall on which the projection is being made, or by increasing the distance between the enlarger and the wall.

13. Reduction

For making image reductions in a ratio of 1 : 1 (for instance, when making slides), proceed as follows:

Adjust the size of the image rotating the focusing turnknob (Fig. I-16) and focus the image by turning the magnification adjustment turnknob (Fig. I-14), i.e., by moving the apparatus proper on the stand. Hence, the procedure is contrary to that adopted for enlarging.

If a maximum attainable image reduction is required, set the lens carrier as far as possible from the negative. Next, by rotating the sliding turnknob, lower the apparatus proper on to the stand downwards till a sharply defined picture appears on the baseboard.

14. Restitution of Image (Fig. XVII)

Sometimes there are converging lines in the negative instead of parallel ones. Such a fault of the negative can be remedied in the way described below:

Loosen the turnknob (Fig. XVII-1) and tilt the apparatus proper as required until the converging lines of the image run in parallel. Lock the apparatus in this position by tightening the turnknob. It is advisable to tilt also the masking equipment simultaneously. Since

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the whole image field cannot be perfectly focused when the lens ditphragm is fully opened, focus the approximate centre of the image and then stop down the lens sufficiently (to obtain a sharp enough image field). Be sure to insert correctly the film band into the carrier, otherwise an entirely contrary result would be obtained.

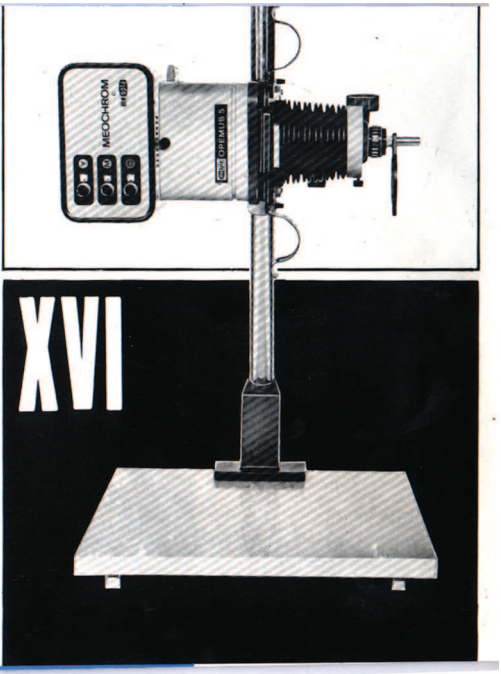
15. Enlarging on Colour Material

If colour negatives have to be enlarged on positive colour material with the aid of an elaging instrument provided with a lamphouse in which an opal bulb is used, a set of colour corrective subtractive filters has to be employed for this purpose. (The complete set comprises 33 filters).

The filters of 7.5x7.5 cm in size have to be placed into the drawer. (Fig. XVIII-8); a reduction insert (Fig. XVIII-6) has to be used for the filters of 7x7 cm in size. Up to four filters can be accommodated in the aforesaid drawer. The filters are protected against excessive heat by a heat filter (Fig. XVII-1) located above the drawer. When inserting sensitive colour material, the red filter must not be applied and the work has to be done only in the specified light of the dark chamber. The drawer can also be utilized for accommodation of additive filters (a complete set of them contains three filters) if they are available for our work. This method is somewhat more difficult and approximately the same results can be obtained by its application.

The enlarging instrument can also be used with the set-on colour head.

Unscrew the two screws (Fig. VIII-1) and slide the lamphouse with the opal lamp out of the instrument upper part. Before setting on the colour head do not fail to withdraw the heat



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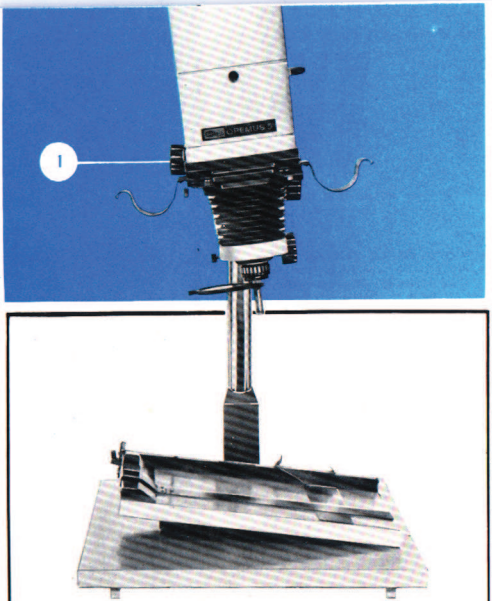
filter from the instrument (Fig. XVIII-1). Loosen the screw (Fig. XVIII-2), shift aside the sliding clamp of the filter and take the latter out of the apparatus. Next, set on the colour head and lock it in position with two screws.

The application of the colour head substantially facilitates the work when enlarging on colour material. It can replace a set of 33 subtractive filters (7.5×7.5 cm or 7×7 cm in size) and is equipped with a halogen light source.

The filters employed in the colour head are of the interference type and are made by the vacuum technique. Their great advantage in comparison with the previously used gelatine filters is their colour fastness, heat resistance and practically unlimited useful life. The colour head allows precise, continuously adjustable and repeatable filtration; it constitutes a source of mixed colour light for enlarging on colour material by adopting the subtractive method. The light source of the colour head is a halogen lamp of 100 W for low voltage of 12 V. Therefore, the instrument must be powered across a transformer of a corresponding power. A transformer (type No. 786 040) is supplied by the manufacturing



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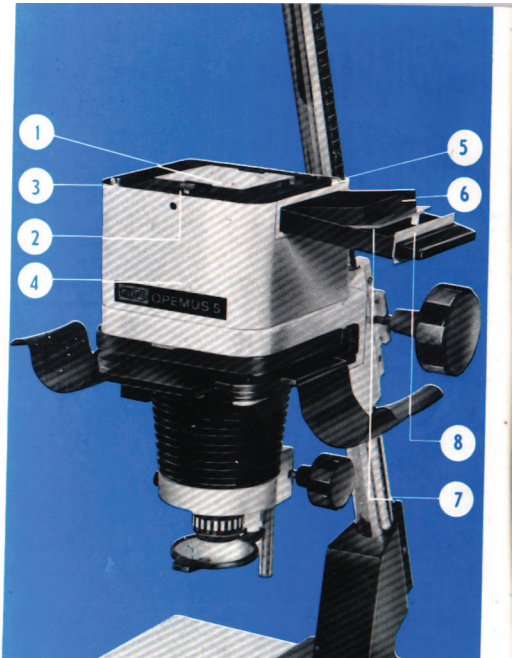
works as a special accessory item. The colour head is provided with a connecting cord terminating in a plug, for connection to low voltage.

a) Working with Meochrom Colour Head

Switch on the lamp whereby also the window for filtration reading becomes illuminated. The filtration grade is adjustable by operating the turnknobs located on the instrument front side. In the window cut-out, the values can be read in steps of 5. — The turnknobs are marked with the following letters: Y — yellow, M — magenta (purple), C — cyan (blue-green).

The required filtration can be adjusted with turnknobs, within the limits of 0 up to 150. If a negative necessitates a filtration higher than 150, an approximate additive filter of the correspanding colour has to be placed into the drawer (Fig. XVIII-8). Then, filtration from 100 up to 250 can be continuously selected by turning the appropriate turnknob. Additive filters are supplied as special accessories. A switching clock, connected between the mains voltage supply and the transformer, has to be used exclusively for measuring the exposure time.

The Meochrom colour head can operate also with the enlarging instrument slewed to the horizontal position = projection upon a vertical plane of projection (Fig. XVI).



16. Maintenance of Apparatus and Replacement of Parts

Being a precision instrument, the enlarger requires careful handling. It should be deposited in a dry room and protected against the ingress of dust with a suitable cover. Only thus can it be always ready for instataneous use without any lengthy preparations and undue delay caused by its cleaning. During the enlarging procedure, avoid touching the instrument with wet or soiled hands, especially when handling solutions and chemicals.

a) Maintenance and Replacement of Colour Head Parts

With the colour head it is only the replacement of its lamp that comes in to consideration. Filters and any other parts have to be replaced only in a specialized workshop.

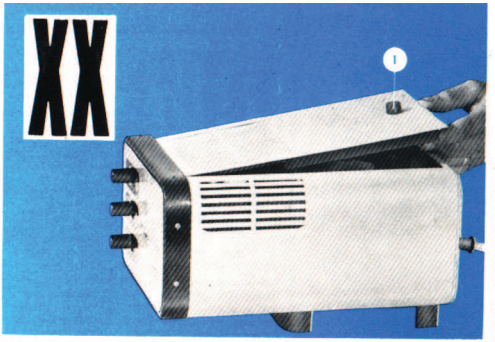
For replacement of the lamp proceed as follows:

Remove the upper cover by loosening first the plug screw fitted on the rear side of the cover; next, lift the latter and shift it backwards (Fig. XX-1). Loosen the milled screw (Fig. XXI-1) and carefully withdraw the whole mirror holder from the instrument (Fig. XXII-1). Now, the lamp is easily accessible: slide it out its cap and replace it by a new one. When exchanging the halogen lamp, it is recommended to follow the instructions given by the producer.

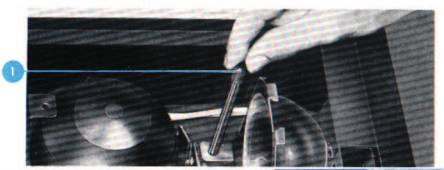
(Remember, that the halogen lamp bulb must not be touched with a bare hand.)

Slide back the mirror holder (together with the mirror), set it to its initial position and lock it there with a screw. It goes without saying that during the replacement procedure, the instrument must be disconnected from the el. mains.

XX



XXI



The colour head does not necessitate any other special maintenance. Clean only its surface and, if necessary, wipe its ground glass with a piece of dry cloth.

b) Cleaning of Condensers

Unscrew the two screw (Fig. VIII-1) and remove the lamphouse together with the opal lamp (Fig. V-1). Next, screw off two screws (Fig. XVIII-3 and 5) and withdraw the condenser box (Fig. XVIII-4). Slew the condenser mount (Fig. XII-1) and take it out from the grooved closure by lifting it upwards. Clean the outer surfaces of the condenser lenses from dust with a soft dust brush or with a fine, clean piece of cloth. If also the inner lens surfaces have to be cleaned, slew the condenser lid and remove it (Fig. XIX-1) and then withdraw the upper lens. The bottom lens is fixed fast in the condenser mount.

c) Cleaning of Lens (Objective)

Hold the lens (objective) with the fingers of your right hand and, with your left hand, loosen the screw (Fig. I-4). Withdraw the carrier with the lens by pulling it downwards; Clean the dust from the outer faces of the lenses with a clean and fine hairbrush or with a soft cotton-batiste cloth.

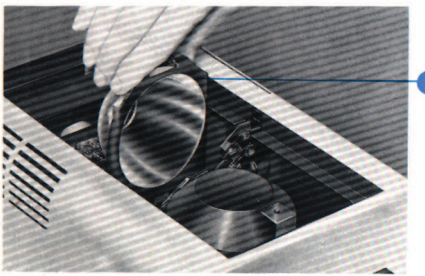
d) Cleaning and Replacement of Negative Carrier Glasses

Set the guiding stops (Fig. VI-3) for directing the film to the extreme position in the direction towards the slit-line focusing system. Shift the glasses out of the carrier (in lateral direction) and clean them thoroughly. (Fig. VI-1).

e) Maintenance of Friction Mechanisms

The oblique rod of the stand (Fig. XIV-3) must not be lubricated and has to be cleaned with a piece of dry cloth only. The focusing system rod (Fig. XIV-2) must be kept clean

XXII



and, if necessary, wiped off from time to time with a piece of cloth imbued with a small quantity of machine oil, vaseline or tallow. If after a longer time of service, the turnknobs move too freely, adjust their correct run by tightening the screws which hold the springs (Fig. XIV-1). The run of the friction mechanism must be smooth and continuous.

The complete OPEMUS 5 enlarger provided with lamphouse for a 150 W lamp consists of:

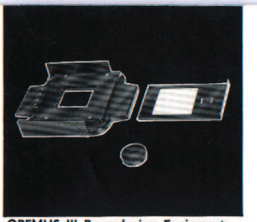
a) Enlarging apparatus proper with stand and baseboard
b) Lamphouse for an opal lamp
c) Lens 4.5/80 with a cap
d) Condenser of 105 mm in diameter
e) Negatives carrier
f) Ground glass (focusing screen)
g) Heat filter
h) Reduction insert (adapter) for filters 7×7 cm
ch) Instructions for Use (one copy) and Guarantee Certificate
i) Storing case

The complete OPEMUS 5 enlarger provided with the MEOCHROM colour head consists of:

a) Enlarging apparatus proper with stand and baseboard
b) Meochrom colour head
c) Lens (objective) 4.5/80 with a cap
d) Condenser of 105 mm in diameter
e) Negatives carrier
f) Ground glass (focusing screen)
g) Reduction insert (adapter) for filters 7×7 cm
h) Instructions for Use (one copy) and Guarantee Certificate
ch) Storing case

OPEMUSE
MEDCHROM

Special Accessories to OPEMUS 5 Enlarging Apparatus:

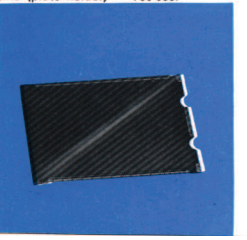


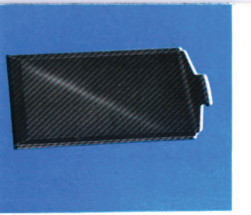
OPEMUS III Reproducing Equipment — Cat. No. 784 250 — Branch No 392 812 520 061

Designed for photographing of patterns or various objects placed on to the baseboard. It can be inserted into the apparatus instead of the negatives carrier. Photographic plates or sheet films of 6.5×9 cm in size, placed into the magazines, are employed for photographing.

Magazine Inset — Cat No. 736 070 — Branch No. 392 812 590 071

A metal insert for sheet films 6.5×9 cm, to be placed into the 6.5×9 cm magazine (plate holder) — 736 060.



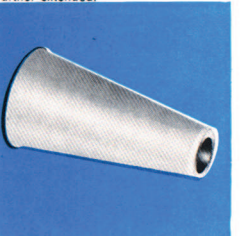


Magazine 6.5×9 cm — Cat. No. 736060 — Branch No. 392 812 590 061

This is a metal magazine for photographic plates of 6.5×9 cm. The magazines are placed into the Opemus III reproducing equipment. — Cat. No. 784 250.

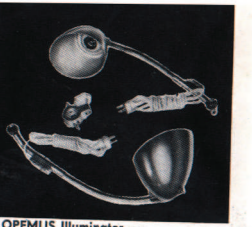
OPEMUS III Macro-Adapter — Cat. No. 784 270 — Branch No. 392 812 330 041

This accessory item is used at photographing of small objects or reproducing of small-sized pattern. By aplication of this adapter, the lens extension is still further extended.



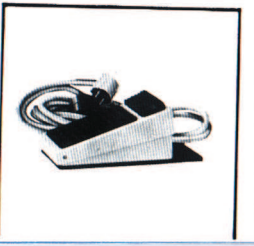
Stand Reduction Unit —
Cat. No. 784 280 —
Branch No. 392 812 590 091
With the aid of the above — mentioned unit, the apparatus head can be clamped to a photographic stand. (tripod).

Restitution Ring — Cat. No. 782 280 —
Branch No. 392 812 310 261
This is an auxiliary item for carrying out true restitution of the image.

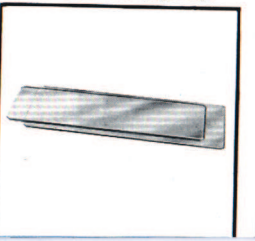


OPEMUS Illuminator —
Cat. No. 784 110 —
Branch No. 392 812 540 021
This is a useful supplementory accessory item of the apparatus serving for illumination of protographic pictures placed on to the baseboard.

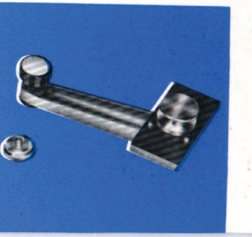
Foot Switch — Cat. No. 789 032 —
Branch No. 392 812 890 035
With the aid of this foot switch, the enlarger lamps can be controlled by depressing a pedal.

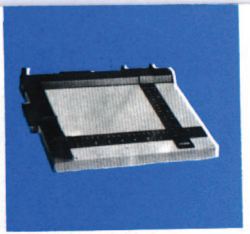


Glasses for Individual Negatives —
Cat. No. 781 170 —
Branch No. 392 923 900 111
This is a useful aid allowing easy manipulation with the negative in the carrier when handling a film band cut into the individual frames (negatives).

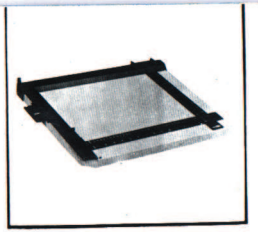


Reproducing (Copying) Arm —
Cat. No. 784 240 —
Branch No. 392 812 550 061
This attachment is designed for fixing a photographic or a cine camera on to the enlarger stand when reproducing, filming of film captions, etc.

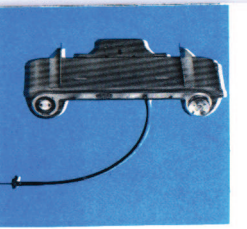




Masking Equipment 18×24 —
Cat. No. 783 082 —
Branch No. 392 812 720 064
This device is intended for easy fixing of the sensitive material of up to 18×24 cm in size and for simultaneous framing of the images being enlarged with white border. The width of the white border is adjustable.

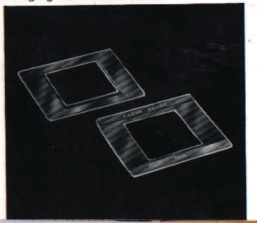


Masking Equipment 30×40 —
Cat. No. 783 072 —
Branch No. 392 812 720 054
This masking equipment is intended for easy fastening of the sensitive photographic material uf up to 30×40 cm in size and for providing the enlargements with white border, the width of which is variable.

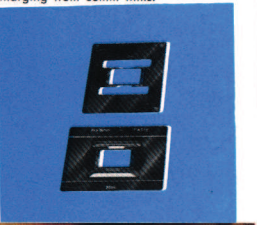


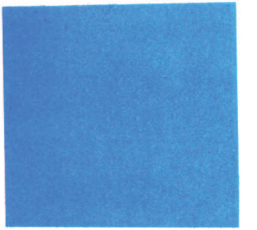
Reproducing Equipment 35mm —
Cat. No. 784 140 —
Branch No. 392 812 520 031
This equipment allows making of reproductions, macrophotographs, etc., on a 35 mm cine film, wound in magazines (film holders) or on special reels taking 5 metres of film (each). The picture size is 24×36 mm. The size of the pattern is defined by luminous marks, when focusing with the slit-line focusing system.

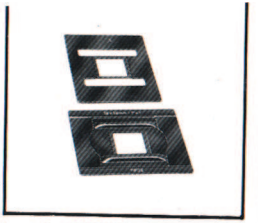
Inserts 6×6 without glasses —
Cat No. 781 250 —
Branch No. 392 812 430 061
Metal inserts to be placed into the negatives carrier in place of glasses when enlarging from 60mm films.



Inserts 6×6/24×36 —
Cat. No. 781 140 —
Branch No. 392 812 430 021
Metal inserts to be placed into the negative carrier in place of glasses when enlarging from 35mm films.

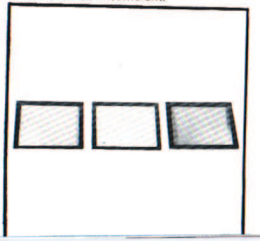


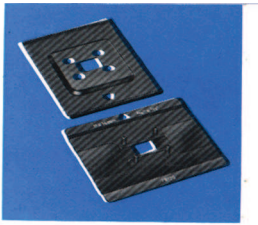




Inserts 6×6 / INSTAMATIC —
Cat. No. 781 290 —
Branch No. 392 812 430 091
Metal inserts to be placed into the negatives carrier instead of glasses when enlarging from KODAK - Instamatic films.

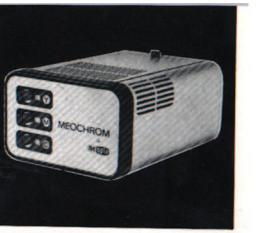
Additive Correction Interference Filters — Cat. No. 785 180 —
Branch No. 392 812 610 081
The set of three subtractive filters is employed if the filtration grade "150" is found to be insufficient.





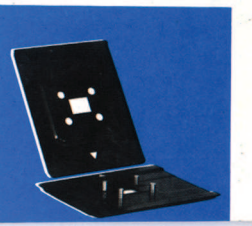
Inserts 6×6/11×14 —
Cat. No. 781 200 —
Branch No. 392 812 430 031
Metal inserts placed into the negatives carrier in place of glasses when enlarging from 16mm films; the negative size 11×14 mm.

Powering Transformer —
Cat. No. 786 040 —
Branch No. 392 812 890 121
This small-sized transformer is intended for powering of the 12 V, 100 W halogen lamp, employed in the Meochrom colour head.



MEOCHROM Colour Head —
Cat. No. 785 130 —
Branch No. 392 812 620 081
The Meochrom colour head replaces a set of 33 subtractive filters. It constitutes a source of colour light for enlarging by subtractive method

Inserts 6×6/13×17 - Cat. No. 781 440 - Branch No. 392 922 901 401
Metal inserts placed into the negatives carrier in place of glasses when enlarging from 16 mm films; the negative size 13×17 mm — POCKET.



MEOPTA Lenses and Supplements to Lenses Intended for Enlarging Instruments

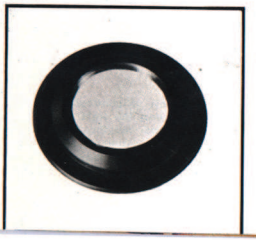
ANARET 4.5/30 mm Lens - No. 703 440 - Branch No. 392 812 110 271
Intended for enlarging of negatives of 11×16 mm and 13×17 mm in size.
Mounting thread . . . M 23.5×0.5.

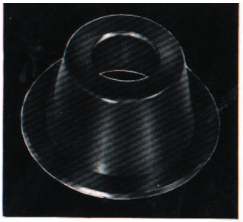
ANARET 4.5/50 mm Lens - Cat. 703 412 - Branch No. 392 812 110 232
This is an enlarging lens for enlarging of negatives made on a 35mm film.
Mounting thread . . . M 23.5×0.5.

Meogon 5.6/50 mm Lens - No. 703 470 - Branch No. 392 812 110 311
has a symmetrical optical construction and is composed of six elements in four groups. It is determined for advanced amateurs and photo laboratories and enables enlarging from 24×36 negatives. Its attaching thread is M39×1Sh4.

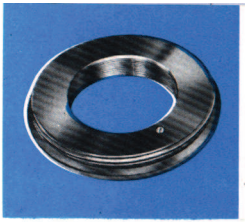
Meogon 5.6/60 mm Lens - Cat. 703 460 - Branch No. 392 812 110 291
has a symmetrical optical construction and its composed of six elements in four groups. It is determined for advanced amateurs and photo laboratories and enables enlarging from 24×36 mm negatives. Its attaching thread is M39×1Sh4.

M 39×1 Ring - Cat. No. 782 530 - Branch No. 392 927 900 101
This is a lens carrier with an M 39×1 thread for MEOPTA enlarging instruments.





Recessed Ring F = 30 mm —
Cat. No. 782 510 —
Branch No. 392 025 304 411
The ring applied for fastening the 4.5/30mm Anaret lens in the MEOPTA enlarging instruments.

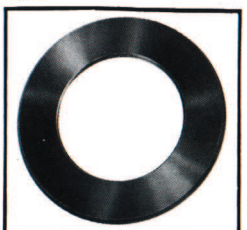


Threaded Reduction Adapter
M 39×1/M 23.5×0.5 —
Cat. No. 849 310 —
Branch No. 392 812 310 311
For screwing on to the lenses of the MEOPTA trade mark, for aplication in the instruments having an M 39×1 mounting thread.

Meogon 5.6/80 mm Lens —
Cat. No. 703 450 —
Branch No. 392 812 110 302
has an asymmetrical optical construction and is composed of six elements in four groups. It is determined for advanded amateurs and photo laboratories and enables enlarging from 6×6 cm negatives. Its attaching thread is M39×1Sh4.

M 39×1 Ring — Cat No. 782 490 —
Branch No. 392 812 310 321
This is a lens carrier with an M 39×1 thread for MEOPTA enlarging instruments.

M 42×1 Ring — Cat. No. 782 470 —
Branch No. 392 812 310 361
This is a lens carrier having an M 42×1 thread, for use with the MEOPTA enlargers.



Note:

In the interest of continuous development we reserve the right to carry out alterations and modifications without notice. In consequence, the actual supplied apparatus may show minor deviations from the text and pictorial part of the present manual.

meopta

meopta

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