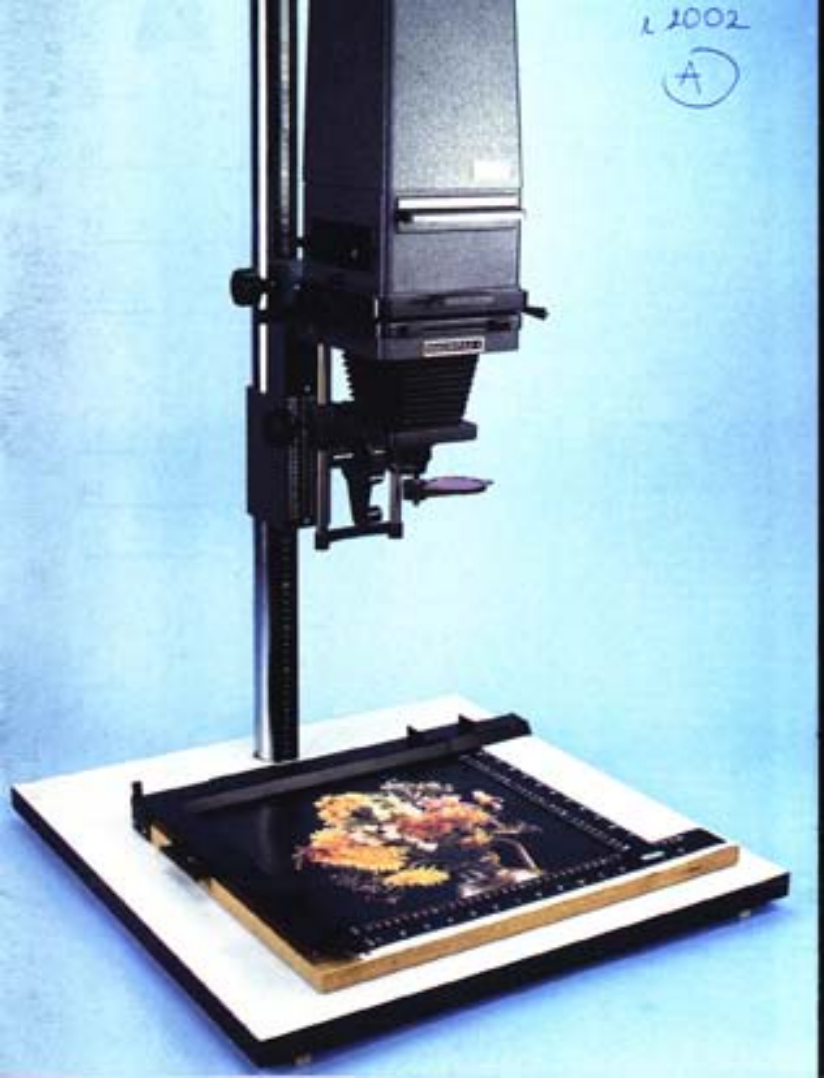
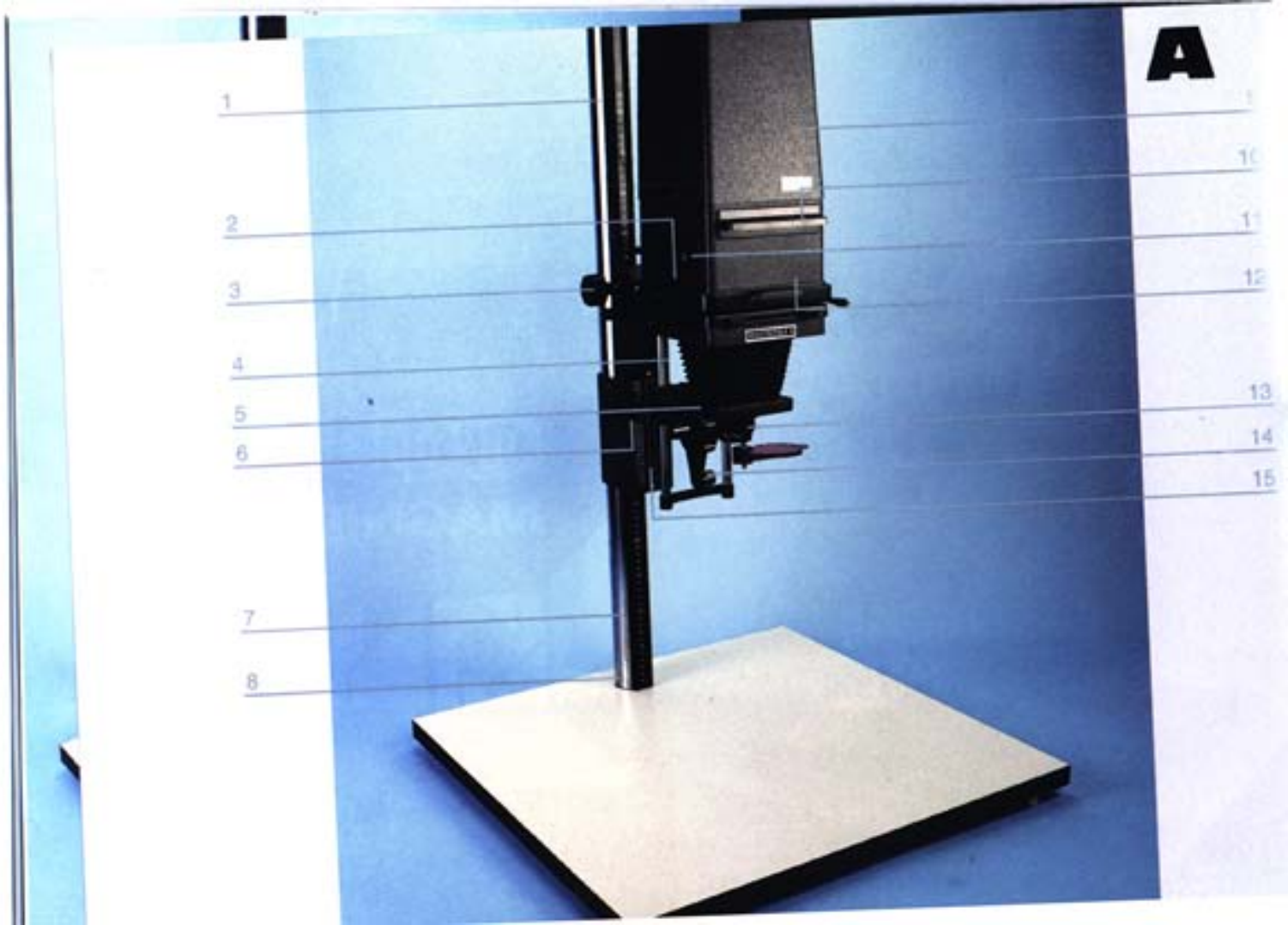


meopta

MAGNIFAX 4


A
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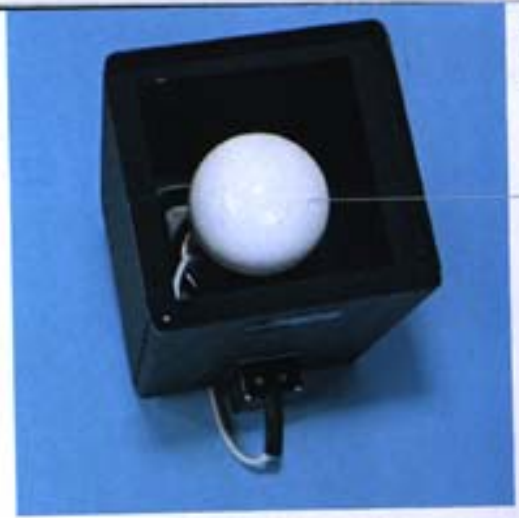

E

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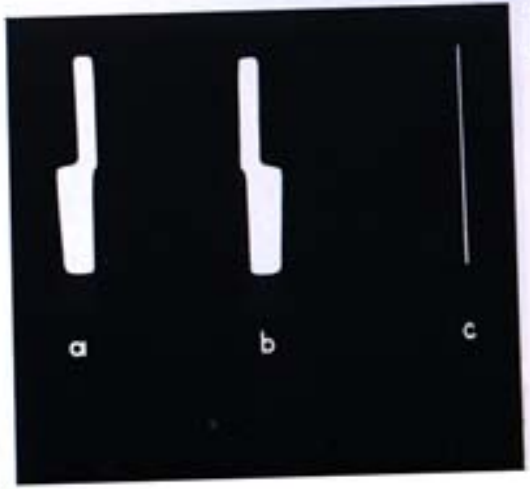
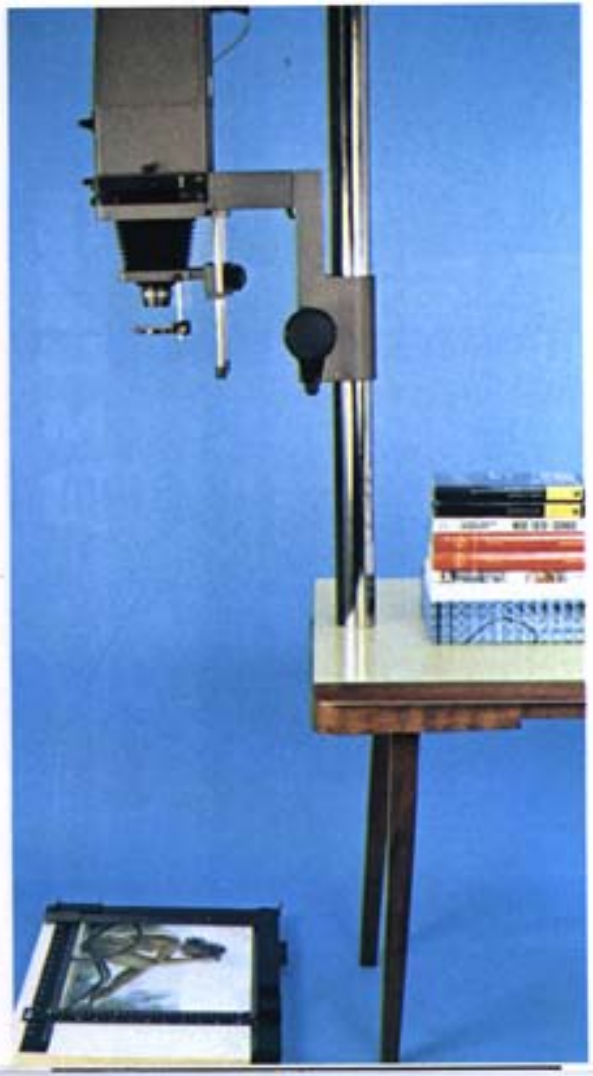
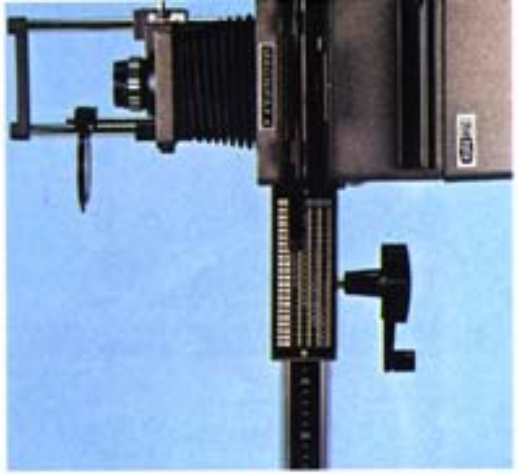
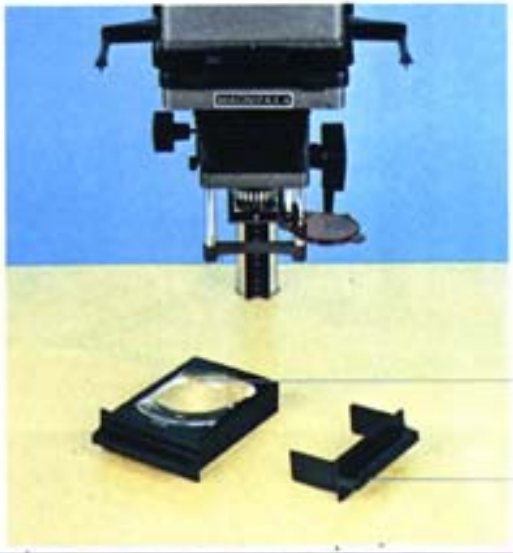
F







A



CH

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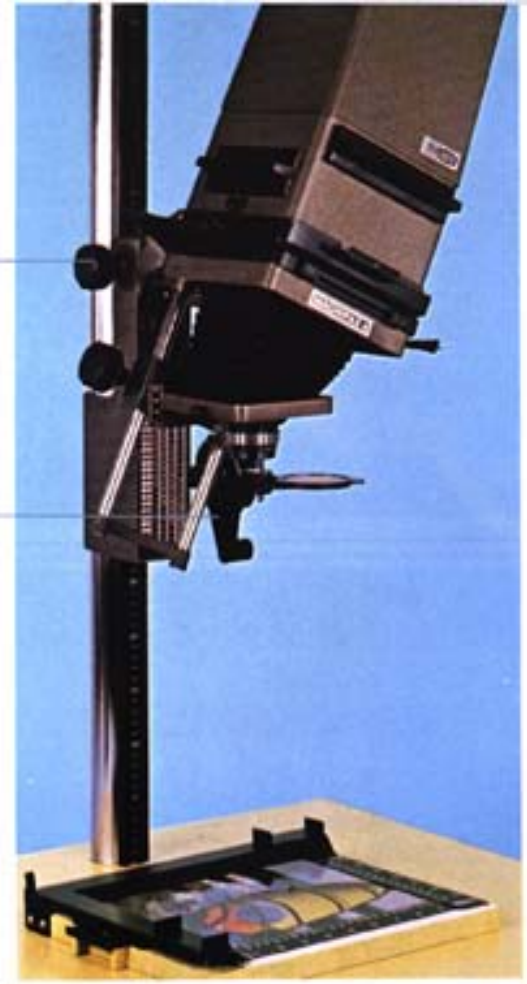
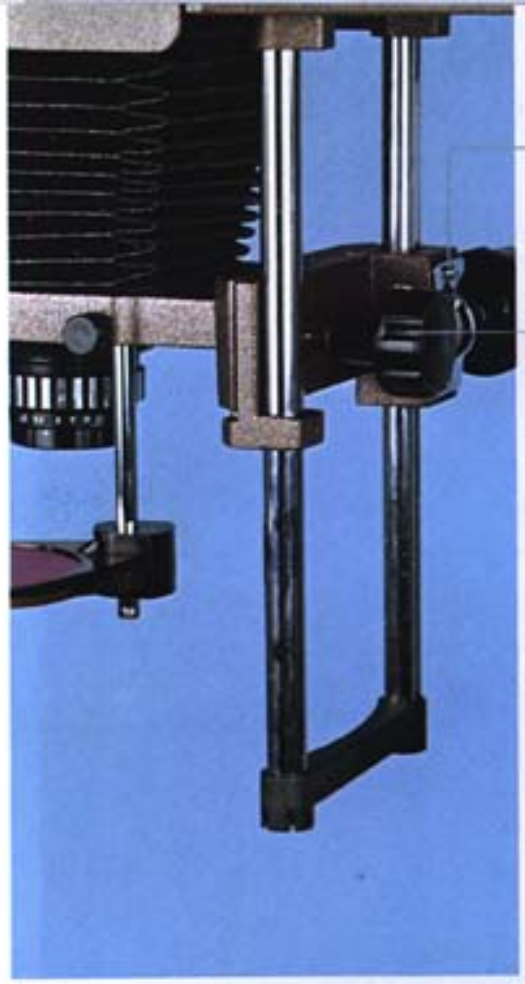




MAGNIFAX 4

meopta

Enlarger
MAGNIFAX 4a
392 2115 02615

Description of apparatus

The **MAGNIFAX 4** enlarger is designed to enlarge both black-and-white and colour pictures from negative formats up to 65 × 90 mm on 60 mm roll film negatives or on cine film 35 mm and/or on 70 and 16 mm films. The light source is provided by an opal lamp. The instrument is designed for intermittent operation which is quite normal in enlarger function. But even a continuous operation can never damage the apparatus.
MAGNIFAX 4 is provided with the **ANARET 4.5/105 mm** lens. The lens is screwed into a threaded mounting ring M 39 × 1. With the lens f 105 mm the biggest linear enlargement achieved on the baseboard is approx 7.3 ×; the image can also be reduced 0.9 ×. Together with the enlargers the **Meopta Co.** supplies a series of high performance lenses designed either for exceptionally demanding function or of enlargement from special negative formats. The instrument can be turned on the baseboard round the vertical axis by 180°. In that way it is possible to obtain even larger magnification when projecting outside the baseboard, for instance on the floor. By turning the instrument by 90° round the stand in horizontal position it is possible to achieve enlargements of any size by projecting on a vertical plane of projection and/or on a wall.
The apparatus is also capable of restitung pictures; in that way it is possible to make up for the convergent lines on the negative brought about when taking pictures of different works of architecture, streets, etc.

The shift of the apparatus along the bar is facilitated by a gear moving along the rack. The lens focusing shift is mediated by a friction mechanism ruling out idling.
The stand tube is provided with a scale to determine approximately or to adjust linear enlargement according to the table on the stand's moveable mount, and to calculate the exposure time when changing the enlargement.
The baseboard size is 600 × 600 mm. The double flex is provided with a switch and plug.
MAGNIFAX 4 is provided with a metal negative carrier with split-line focusing. It has two glasses, two adjustable stops for film strip guiding and a film carrier placed in a box. The upper glass is specially arranged to prevent creation of Newton's rings.
Sliding slats to mask undesired light are placed right in the carrier. They can be shifted independently of one another. The cutout size can be adjusted without removing the carrier from the apparatus. The film strip in the carrier is clamped between the two glasses by spring pressure. After lifting and securing the upper carrier part the film strip can be moved. The carrier is equipped with a device securing its open position. The condenser consists of two plano-convex lenses. One lens is firmly fixed in the instrument, the second one is in the drawer and is replaceable. By using special accessories which can be purchased together with the apparatus, the **MAGNIFAX 4** enlarger becomes universal. It can take photographic pictures, reproduce, take macrophotographs, etc.

MAGNIFAX 4 - MAGNIFAX 4a
Use of the **MAGNIFAX 4a** enlarger is similar as with the **MAGNIFAX 4** enlarger. In addition the **MAGNIFAX 4a** is equipped with advanced focusing system microfeed **MAG.** - with possibility of attaching flexible shaft for controlling from the working plane.

Technical data

negative format	max. 65 × 90 mm
light source	opal lamp 220 V/150 W
lens for negative 65 × 90 mm	f 105
enlargement on baseboard for f 105	max. 7.3 ×
max. working height	1 375 mm
min. working height	943 mm
baseboard size	600 × 600 mm
weight	18.8 kg

Legend to Fig. A

1 - stand tube
2 - screws
3 - turnknob, stopping
4 - focusing system rods
5 - screw
6 - focusing turnknob
7 - stand tube cutout
8 - safeguarding pin
9 - lamp house
10 - drawer of correction filters
11 - drawer of condenser No. 1
12 - condenser box
13 - aperture mount
14 - shift turnknob
15 - sliding mount

The **MAGNIFAX 4** enlarger is supplied by the **Meopta** manufacturer in polystyrene box lining.
Slide the stand tube with sliding mount on the baseboard pin. Introduce the body of the instrument by its pin into the opening in the sliding mount and safeguard the assembly with the stop turnknob. Slide the negative carrier into the instrument body. The film carriers in the box can be screwed on the negative carrier. Loosen two screws **(Fig. A-2)** and separate the lamp house **(Fig. A-9)** and the condenser box **(Fig. A-12)** from the apparatus. By means of a coin or similar object unscrew the screws **(Fig. C-1)**, separate the lamp house from the condenser box and screw the lamp **(Fig. D-1)** into the lamp house according to **Table No. 1**. Once again, connect, the lamp house with the condenser box by screws. Place the entire illumination system on the body of the instrument and fix it by screws **(Fig. A-2)**.
Introduce the drawer with the second part of the condenser No. 1 **(Fig. A-11)** into the side opening in the condenser box. Introduce the correction filters drawer **(Fig. A-10)** into the front opening. The lens ring (mount) in the lens holder is safeguarded by a screw **(Fig. A-5)**. The basic lens f 105 mm must be screwed into the lens mount - into its convex part (the lenses f 50 mm+90 mm must be screwed inside the lens mount - **Fig. B**).

1. Light source

For enlargers a special opal lamp with maximum input 150 W, bulb diameter 70 mm and base E 27 is used. On the bulb top the lamp must not be provided with any inscriptions; it must have no glass surface uneveness.

Table 1

Designation of the lamp	Type number
Tungsram	721; 724
Osram	4613; 4633
Philips	PF 603; 605
Thorn	P 3/3; P 3/4
TESLA	138 0125; 261 7125

2. Lamp installation and replacement

The enlarger is supplied without a lamp. **The lamp can be installed in the instrument only provided the apparatus is disconnected from the mains.** Replacement is carried out in the same way as described in instrument assembly.

3. Connection of enlarger to the mains

Introduce the supply cord plug into the mains socket and light up the lamp by the switch. When operating the apparatus the vent holes of the lamp house must not be covered!

4. Installation of negative in the carrier

Remove the negative carrier **(Fig. E)** from the instrument. Open it and adjust the guide pins **(Fig. E-4)** so that the film strip be guided correctly by them. If the stops are set in a position nearest to the centre of the carrier, they are adjusted for a 35 mm film. The next two stop position are designed for roll films 40 and 60 mm. The furthest extreme position from the carrier centre is for stops when working with a 70 mm film. Place the film strip into the carrier with emulsion downwards, i.e. towards, the lens, and close the carrier. Introduce the carrier into the apparatus and overcome, at the same time, the moderate spring resistance pressing the two carrier halves one against the other and maintaining the film strip firm between the glasses. If the film strip is to be moved or shifted in the carrier, the upper carrier part has to be lifted **(Fig. E-2)**. In all these cases the film strip should be picked cautiously by two fingers on edges to prevent contact with the emulsion. The negative carrier has a device safeguarding the open position of the carrier. If the negative carrier is to be safeguarded in open position, the upper carrier **(Fig. E-2)** part should be lifted till stop by pressure until it snaps in. The carrier can be released from the stop position by moderate pressure on the lever **(Fig. E-1)**. The upper carrier part will clamp the film strip in its working position. The film holders **(Fig. E-5)** can be screwed on the negative carrier.

5. Adjustment of the required image enlargement

Open fully the lens aperture by turning the aperture mount **(Fig. A-13)** until the lowest aperture number appears against the white mark. Switch on the lamp and project the image on the auxiliary paper ready on the baseboard. By turning the shift turnknob **(Fig. A-14)** lift or descend the apparatus along the stand until the required enlargement is reached. At the same time continue the picture focusing on auxiliary paper by turning the focusing knob **(Fig. A-6)**. Since the shift turnknob is controlled by the right hand and since the focusing knob is adapted for left-hand turning, it is possible to follow the focused picture and its size. The two turnknobs turn always in the same sense - either towards maximum enlargement by turning the two knobs in one sense, or towards minimum enlargement by turning the two knobs in the opposite sense. The apparatus is provided with a table form rough orientation. It indicates enlargement in function of the scale divisions on the stand tube for different lenses.

6. Image focusing

If the required enlargement has been reached, focus the image accurately. The carrier is provided with a split-line focusing system to be operated in the following way. Pull the carrier out of the instrument into a position when the thrust springs snap in the cutout. The image in the image plane will disappear and instead a pattern will appear caused by the split-line focusing system projection. If the image is not correctly focused, the pattern will look as **(Fig. F-a)** or **(Fig. F-b)**. Turn the focusing **(Fig. A-6)** knob in one or in the other sense until a continuous line is projected **(Fig. F-c)**. In that way the negative is accurately focused too. Slide the carrier back. The entire focusing operation is completed.

7. Negative masking

Having adjusted the required enlargement and focused the image proceed to image masking outside the effec-

tive area using the slide slats in the lower part of the negative carrier. In that way you can avoid diffusion of undesired light into the adjacent areas and possible impairment of the positive image quality.

8. Lens aperture

After focusing and negative cut-out masking set the convenient lens aperture by turning the aperture mout **(Fig. A-13)** with aperture numbers indicated 4.5, 5.6, 8, 11, 16, 22. From the point of view of optimum illumination and pattern uniformity it is recommended to screen the lens to working aperture 5.6 or 8. The selected aperture number should be set against the white mark. (In case of **ANARET S 4.5/80** or **ANARET S 4.5/50** the selected aperture number will be indicated in the little frame; with the enlarger lamp glowing this number will be well iluminated). The numbers are selected (with the exception of the first number 4.5) in such a way that the subsequent higher number signifies half light quantity passing througt the lens. The aperture ring has a snap-in device indicating the correct adjustment of the required aperture number. The snap-in sound facilitates accurate aperture adjustment durint dark chamber work: it is sufficient to count the number of snap-ins. In **ANARET S** lenses the aperture ring can also be set between individual aperture number positions by pulling the aperture ring down. In that way individual snap-ins for individual snap-ins for individual positions are ruled out. The more the lens is screened, the greater the pattern depth.

9. Exposure of photosensitive paper

The photosensitive paper is exposed by lighting the lamp. The photosensitive paper can be left exposed to light passing through the red filter for 30 s with a normally covered introduced negative. When using the sensitive colour paper the red filter cannot be used! Depending on the lens used place the red filter in optimun position under the lens. For measurement of different illumination levels during the enlargement proces it is advisable to use the exposure. This apparatus allows for optimum exposure of the photosensitive paper and for achievement of a high degree of reproducibility in black-and-white and colour photograph.

10. Enlargement outside the baseboard

If you want to obtain big blouw-ups, project the image outside the baseboard either on the floor **(Fig. G)** or on the wall **(Fig. H).**

a) Floor projection (Fig. G)

Put the enlarger on the table so that the baseboard rear edge be on the table edge. The baseboard should be conveniently loaded, e.g. with books, etc. Slightly lift the tube with the enlarger until the cutout **(Fig. A-7)** on the lower stand tube end is pulled out above the safeguarding pin **(Fig. A-8).** Turn the assembly by 180° round the axis. Descend the stand tube so that the cutout at its lower end fits on the safeguarding pin. Project the image on the floor or on other any suitable support.

b) Wall projection (Fig. H)

If very great enlargement is to be achieved, enlarge by horizontal projection on a vertical wall. Put the enlarger on a table, release the stop turnknob **(Fig. A-3),** turn the instrument proper by 90° to the left into the horizontal position and block it by stop turnknob tightening **(Fig. A-3).** Enlargement is controlled by approaching or

removing the apparatus from the wall on which the enlargement should be obtained.

11. Reduction

When reducing in a range of 0.9÷1.4 × it is necessary to pull out the drawer **(Fig. A-11)** with the condenser lens No. 1 and to cover the opening with a hood **(Fig. CH-1).** Set the image size by turning the focusing knob **(Fig. A-6)** and focus the image by turnknob turning in order to adjust the enlargement **(Fig. A-14)**, i.e. by moving the apparatus along the stand. The work procedure is therefore opposite to that in enlargement. If you want to achieve the largest possible reduction, set the lens carrier as far as possible from the negative. Descend now the instrument along the stand by turning the shift turnknob downward until a sharp picture appears on the baseboard.

12. Correction of concurrent lines

If the camera is tilted during picture taking, concurent instead of parallel lines are obtained on the negative. During enlargement operations the correction can be carried out in the following way. Set the negative into the negative carrier in such a way so that lines concur right of the negative; set the required enlargement. Release the stop turnknob **(Fig. I-1)** and tilt the apparatus until you get parallel lines on the parallel plane. Using the stop turnknob **(Fig. I-1)** fix the instrument in this position. Focus the negative centre by shifting the instrument along the tube using the shift turnknob **(Fig. I-3).** After screw loosening **(Fig. I-2)** tilt the lens carrier; at the same time it should be moved until the picture is focused uniformly all the surface area and until the lens axis passes through the negative centre. Using the screw **(Fig. I-2)** safeguard the lens carrier and carry out final image focusing by moving the apparatus along the tube. If, after the first adjustment, the line correction is not satisfactory, tilt the apparatus to a new position and repeat the entire procedure. If the adjustment gives satisfactory results, screen the lens at least to aperture number 8. In that way you can make up for possible minor unsharpness. Thus the picture has already parallel lines, but one part of it is illuminated more intensely. It is necessary, therefore, to screen it partially during exposure.
Thanks to the scale on the lens holder and on the apparatus it is possible to return always to the original position having recorded the adjusted values and after enlargement.

13. Enlargement on colour material

a) With the use of the condenser illuminating system

If colour negatives are to be enlarged on positive colour paper, it is possible to use the harmonizing correction filters, size 12 × 12 cm. Colour correction filters are put in the drawer **(Fig. A-10).** They are protected from excessive heat by a heat filter fixed above the drawer. When introducing the photosensitive paper the red filter must not be used. Work should be carried out only under the prescribed dark chamber illumination.

b) With the use MEOPTA-COLOR colour head

Correction of colour negatives or slides is made far easier, since the colour head facilitates continuous adjustment of the colour subtractive filtration. Especially in connection with equipment for exposure measure-

ment colour analyzer the colour head allows for adjustment of optimum ratios of light colour components in the outqoing beam of the enlarger lens .
The head for colour photograph **MEOPTA-COLOR** should be completed with a mixing chamber in function of the focal lenght of the lens used in the apparatus. In the **MAGNIFAX 4** apparatus it is possible to use lenses f = 30 to f =105 mm. For

f = 30÷50 mm - **Mixing chamber 24 × 36 mm** is designed branch No. 392 8216 20101

f = 60÷90 mm - **Mixing chamber 60 × 60 mm** is designed branch No. 392 8216 20102

f = 105 mm - **Mixing chamber 65 × 90 mm** is designed branch No. 392 8216 20103

The mixing chambers are not supplied as standard accessories. They can be delivered as special accessories. Detailed description of the operations carried out with the head of colour photograph can be found in the separate operating instructions for the **MEOPTA-Color** colour head.

14. Condenser

The basic set of condensers is suitable for lenses f =105 mm, f = 90 mm, f = 80 mm and f = 60 mm. The replaceable condenser lens **(Fig. CH-2)** is added when working with lenses f =50 and f = 30. Slide the replaceable upper condenser lens No. 2 fixed in the drawer into the condenser box instead of the original condenser lens No. 1 **(Fig. A-11)**

15. Enlargement scale for general orientation

On the front side of the sliding mount **(Fig. A-15)** is a table serving for determination of the enlarger's orientation. The orientation position is indicated in scale divisions on the stand tube for lenses f = 105, 80, 50 and 30 mm respectively. The sliding mount should be set against the corresponding scale division by its lower edge. The scale serves for orientation only.It facilitates fast preliminary adjustment if the required enlargement is known.

16. Enlarger maintenance and parts replacement

a) Condenser cleaning

Pull the drawer out of the condenser box **(Fig. A-11)** for upper condenser lens cleaning. The lower lens can be cleaned after unscrewing the condenser box and the lamp house.Clean the lens surfaces with a fine hair brush or use a fine clean cloth.

b) Lens cleaning

Pick the lens with your right hand fingers and loosen the screw **(Fig. A-5)** with your left hand. Pull downwards the lens ring and the lens and remove dust from the two lens outside surfaces with a fine hair brush or with a fine clean cloth.

c) Cleaning an replacement of negative carrier glasses

Take the negative carrier glasses out by pressing against the glasses towards the flexible clamp **(Fig. G-1)**. In

that way the other glass side will be slid out of the dove-tail fixing. Push the glass out upwards. Clean the glass with a fine dust brush or with a fine clean cloth. Install the cleaned glasses back in the carrier. When replacing and cleaning the glasses it is recommended to work in fabric gloves. Don't mistake one glass for another. The upper glass is provided with a special protection against the Newton's rings.

d) Maintenance of the shift and friction mechanism

The stand tube including the rack **(Fig. A-1)** and the focusing system **(Fig. A-4)** rod should be kept clean. If necessary, wipe the rod with a cloth saturated with machine oil or vaseline.
If, after a longer time, the focusing turnknob run is too rigid or too easy, adjust it by tightening the screws which hold the spring **(Fig. I-4).**

The friction mechanism run should be cintinuous and smooth.

Complete assembly of the MAGNIFAX 4 apparatus - 392 2115 02615

a) Enlarger proper with stand and basebcard
b) Condenser (one lens firmly fixed, the other lens fixed in the drawer)
c) Negative carrier with glasses
d) Drawer for correction filters
e) Ground glass
f) Complete film carrier
g) Operating instructions and warranty certificate
h) Storage box

Complete assembly of the MAGNIFAX 4 with the use MEOPTA-COLOR colour head

a) Enlarger proper with stand and baseboard
b) The use **MEOPTA-COLOR** colour head
c) Mixing chamber 65 × 90
d) Negative carrier with glasses
e) Complete film carrier
f) Operating instructions and warranty certificate
g) Storage box

The instrument is supplied in the following versions:

392 2115 02615 – **MAGNIFAX 4** without lens
392 2115 12624 – **MAGNIFAX 4** with colour head **Color 4-ES** without lens
392 2115 02614 – **MAGNIFAX 4** with colour head **Color 3** without lens
392 2115 02616 – **MAGNIFAX 4** with colour head **Meograde** without lens

Caution
In the interest of continuous develcpment the manufacturer deserves the right to carry out changes and mocifications of the product and, consequently, deviations from the text or illustrations of the operating instruction.

SPECIAL ACCESSORIES FOR THE MAGNIFAX 4 ENLARGER

1. Strip exposure equipment
392 8218 90091

This equipment facilitates positive process tests, both in black-and-white and in colour photograph. Up to 5 exposures can be exposed on one photographic paper, max. size 10.5 × 14.8 cm. One processing can give us a view of values necessary for further work in enlarging.

2. Masking equipment
18 × 24 cm
392 8217 20053

The masking equipment serves for fast sensitive paper adhesion and for photographic picture framing with white frame.

3. Masking equipment
30 × 40 cm
392 8217 20054
The masking equipment serves for fast sensitive paper adhesion and for photographic picture framing with white frame.

4. Magazine insert
392 8215 90071
Insert for sheet films 6.5 × 9 cm to be placed in magazines 6.5 × 9 cm.

5. Macroadapter MAGNIFAX
392 8213 30061
It is used when taking pictures of small objects or when reproducing small originals. It also extends the lens pullout.

6. Reproduction equipment
65 × 90
392 8215 20082
The equipment is designed to take pictures of originals or of different objects on photographic plates or on sheet films 6.5 × 9 cm.

7. UNIVERSAL Illuminating device
392 8215 40074
A suitable accessory to illuminate the photographed originals - with four lighting units.

8. UNIVERSAL Illuminating
392 8215 40075
A suitable accessory to illuminate the photographed originals - with two lighting units.

9. UNIVERSAL Illuminating
392 8215 40076
A suitable accessory to illuminate the photographed originals - complementary lighting unit.

10. Transformer TRONIC
392 821 890133
The transformer is designed to feed the halogen lamp 12 V/100 VA in the colour head **Meopta Color 3**.

11. Magazine 6.5 × 9 cm
392 8215 90061
Magazine for photographic plates 6.5 × 9 cm. The magazine is placed into the reproduction equipment.

12. Repro - holder MG
392 8215 50121
Device for attaching an arbitrary photographie, filming or other picture taking instrument up to mass of 2 kg.

13. Tripod reduction
392 8215 90131
By means of the tripod reduction it is possible to fix the enlarger head on the tripod. In that way the **MAGNIFAX 4** can be transformed into a simple photographic camera by adding the reproduction equipment.

14. Focusing system
392 8212 90021
It serves for accurate focusing of the projected negative image on photographic paper.

15. Negative carrier inserts
65 × 90/60 × 60
392 8214 30212
The inserts are used when enlarging from 60 mm films.

16. Negative carrier inserts
65 × 90/13 × 17
392 8214 30215
The inserts are used when enlarging from 16 mm films.

17. Additional condenser No. 2 for f = 50 and 30 resp.
392 8212 20131
This additional condenser is used together with lenses of focal distances f = 50 and f = 30 resp.

18. Negative carrier inserts
65 × 90/24 × 36
392 8214 30213
The inserts are used when enlarging from 35 mm films.

19. Negative carrier insert
65 × 90/DIA 7 × 7
392 8214 30222
With glasses removed place the insert into the lower part of the negative carrier by pushing in the insert protrusions under the folds of the flexible clamps using moderate pressure. In this case the split-line focusing system cannot be used.

20. Negative carrier inserts
65 × 90/60 × 70
392 8214 30211
With glasses removed place the inserts into the negative carriers by pushing in the insert protrusions under the folds of the flexible clamps using moderate pressure. Use of inserts prevents representation of impurities, dust, etc. deposited on glasses. The insert with the deeper recess should be placed in the upper carrier part. The inserts are used when enlarging from 60 mm films.

21. Negative carrier inserts
65 × 90/28 × 28
392 8214 30214
The inserts are used when enlarging from single-side perforated 35 mm films.

22. Negative carrier insert
65 × 90/DIA 5 × 5
392 8214 30221
With glasses removed place the insert into the lower part of the negative carrier by pushing in the insert protrusions under the folds of the flexible clamps using moderate pressure. In this case the split--line focusing system cannot be used.

23. Negative carrier insert
65 × 90/DIA 3 × 3
392 8214 30223
With glasses removed palce the insert into the lower part of the negative carrier by pushing in the insert protrusions under the folds of the flexible clamps using moderate pressure. In this case the split--line focusing system cannot be used.

24. Thread reduction
M 39 × 1/M 23.5 × 0.5
392 8213 10311
When using the lenses **ANARET 4.5/50, BELAR 4.5/50** and **ANARET 4.5/80**, each of these lenses has to be screwed into this thread reduction and fixed woth a screw.

25. ANARET 4.5/80
392 8211 10245
Enlarging lens for negative enlarging, formats 60 × 60 mm and smaller. Mount thread M 23.5 × 0.5. For screwing into the lens basic ring it is necessary to use the thread reduction M 39 × 1/ /M 23.5 × 0.5, branch No. 392 8213 10311.

26. Ring for f = 30
392 8213 10391
It is used to fix the **ANARET 4.5/30** lens. The lens is screwed into the ring.

27. ANARET 4.5/30
392 8211 10271
Enlarging lens for enlarging negatives, formats 11 × 14 mm and 13 × 17 mm. Mounting thread M 23.5 × 0.5. Used in conjunction with ring for f = 30, branch No. 392 8213 10391.

28. ANARET S 2.8/50
392 8211 10391
Enlarging lens for negative enlarging, formats 24 × 36 mm and smaller with illuminated aperture scale. Mount thread M 39 × 1.

29. Ring M 42 × 1
392 8213 10381
The lens ring with assembly thread M 42 × 1.

30. ANARET 4.5/50
392 8211 10236
Enlarger lens to enlarge negatives, formats 24 × 36 mm and smaller. Mount thread M 23.5 × 0.5. For screwing into the lens basic ring it is necessary to use the thread reduction M 39 × 1/M 23.5 × 0.5, branch No. 392 8213 10311.

31. ANARET S 4.5/50
392 8211 10343
Enlarging lens for negatives, enlarging, formats 24 × 36 mm and smaller, with illuminated aperture number scale. Mount thread M 39 × 1.

32. MEOGON S 2.8/50
392 8211 10361
Enlarging lens for negative enlarging, formats 24 × 36 mm and smaller with illuminated aperture scale. Mount thread M 39 ×1.

33. ANARET 4.5/90
392 8211 10334
Enlarging lens for negative enlarging, formats 60 × 70 mm. The lens is supplied together with thread reduction, mount thread M 39 × 1.

34. Mixing chamber 65 × 90
392 8216 20103
When working with a lens, focal distance f = 105 mm, this mixing chamber is complementary to the colour head **MEOPTA-COLOR.**

35. BELAR 4.5/50
392 8211 10262
Enlarging lens for negatives, enlarging, formats 24 × 36 mm and smaller. Mount thread M 23.5 × 0.5. For screwing into the lens basic ring it is necessary to use the thread reduction M 39 × 1/M 23.5 × × 0.5, branch No. 392 8213 10311.

36. MEOGON S 2.8/80
392 8211 10371
Enlarging lens for negative enlarging, formats 60 × 60 mm. Continuous aperture adjustment and/ /or with aperture number stopping. Mount thread M 39 × 1.

37. Mixing chamber 60 × 60
392 8216 20102
When working with a lens, focal distance f = 80÷90 mm, this mixing chamber is complementary to the colour head **MEOPTA-COLOR.**

38. ANARET S 4.5/80
392 8211 10242
Enlarging lens for negative enlarging, formats 60 × 60 mm and smaller with illuminated aperture scale. Mount thread M 39 × 1.

39. Colour head Color 4-ES
392 8216 21061

Enables continuously adjusting the desired density of the correction filter. It operates on basis of subtractive mixing method. The filtration range is 0÷200 filtration units.

40. Colour head
MEOPTA-COLOR 3
392 8216 20091

Light source enabling continuously adjustable subtractive filtration in values 0÷200 in filtration units as well as a continuously adjustable density screen in a range of two lens aperture numbers.

41. Mixing chamber 24 × 36
392 8216 20101

When working with a lens, focal distance f = 30÷50 mm, this mixing chamber is complementary to the colour head **MEOPTA-COLOR.**

42. DIFFUSER
392 8212 90031

The diffusion focusing screen for exposition time measurements is replaced by the focusing knob.

43. Focusing micromotion device MG 4
392 8218 90252

This devices enables the focussing not only by direct drive on the friction puiley but also by a reduction gear featuring a change ratio of 1 : 5.60.

44. VIPONEL-NOVEX
Darkroom Clock,
Type Student

The double-range darkroom clock is used for precise measuring of the switching-on time of the connected electric consumer, especially enlarging apparatus. Owing to the possibility of precise repeating of the switching-on time it is suitable for work with black-and-white as well as colour photographic material. Furthermore it may be used for work in laboratories and others like that.

Switching current:
6 A/220 V ac
upon desire 6 A/110 V

Switching range:
*10 × * 2 ÷ 60 sec.

Dimensions:
98 × 140 × 78 mm

45. VIPONEL Darkroom Clock, Type S 15

The double-range darkroom clock is used for precise measuring of the switching-on time of the connected electric consumer, particularly enlarging apparatus. Owing to the possibility of precise repeating of the switching-on time it is suitable for work with black-and-white as well as colour photographic material. Furthermore it may be used for work in laboratories and others like that.

Switching current:
6 A/220 V ac
upon desire 6 A/110 V

Switching range:
"1 × " 0.2 ÷ 6 sec.
"10 × " 2.0 ÷ 60 sec.

Dimensions:
98 × 140 × 78 mm

46. VIPO COMBI Darkroom Clock, Type B 6

The three-range darkroom clock is used for precise measuring of the switching-on time of the connected electric consumer, particularly enlarging apparatus. Owing to the possibility of precise repeating of the switching-on time the darkroom clock is suitable for work with black-and-white as well as colour photographic material. Furthermore it may be used for work in laboratories and others like that.

Switching current:
6 A/220 V ac
upon desire 6 A/110 V

Switching range:
"1" 0.2 ÷ 6 sec.
"10" 2.0 ÷ 60 sec.
"60" 0.2 ÷ 6 min

Dimensions:
113 × 161 × 85 mm

47. VIPONEL electronic Darkroom Clock, Type E 01

The digital darkroom clock is used for precise measuring of the switching-on time of the connected electric consumer, particularly enlarging apparatus. It is equipped with reversing socket. Use of this clock is inevitable in laboratories and darkrooms when making black-and-white and color photographs.

Switching current:
3 A/220 V ac
or upon desire 3 A/110 V

Switching range:
10 s 0.1 ÷ 9.9 sec.
100 s 1.0 ÷ 99.0 sec.
1000 s 10.0 ÷ 990.0 sec.

Dimensions:
150 × 165 × 84 mm

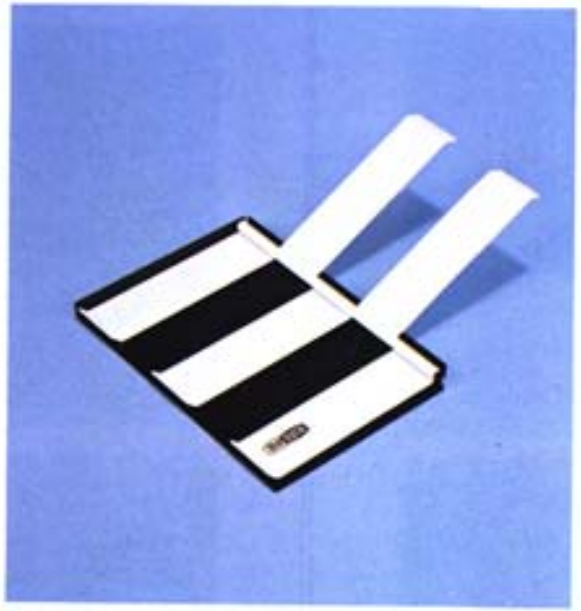
48. MEOGRADE
392 8216 20151

Universal light source enebling to show the light and shadow scale with different steepness gradation of the ILFORD MULTIGRADE type.

392 2115 02615-N-02/A

MAGNIFAX 4

meopta



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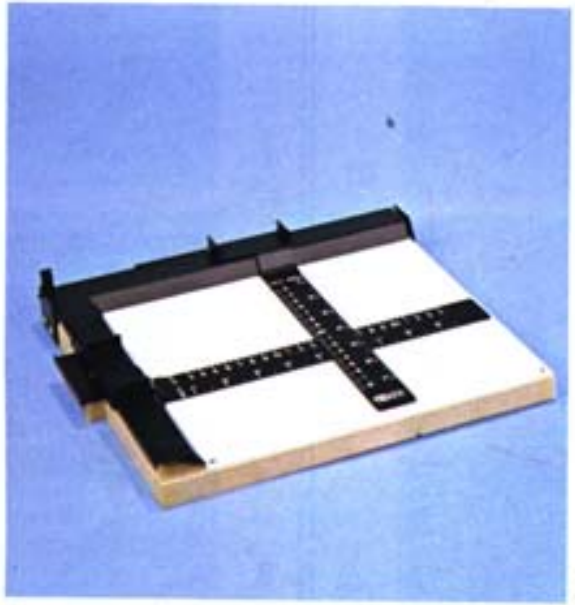

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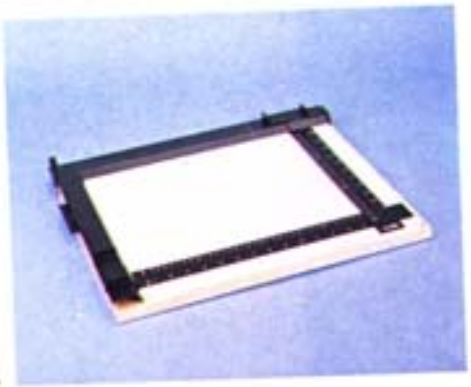

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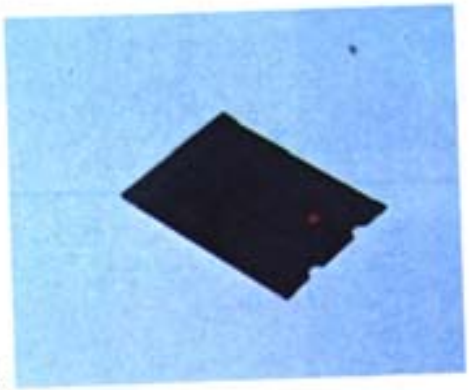

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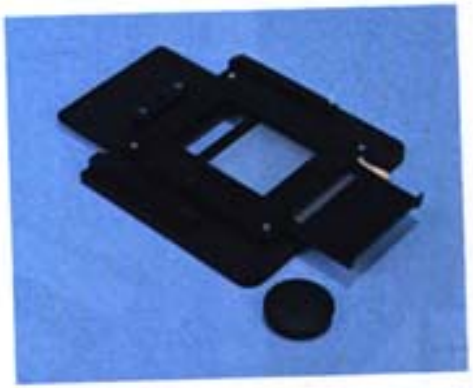

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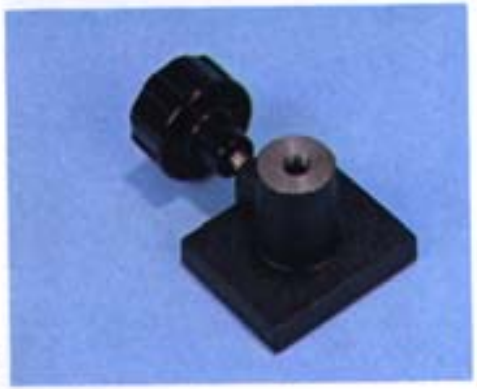

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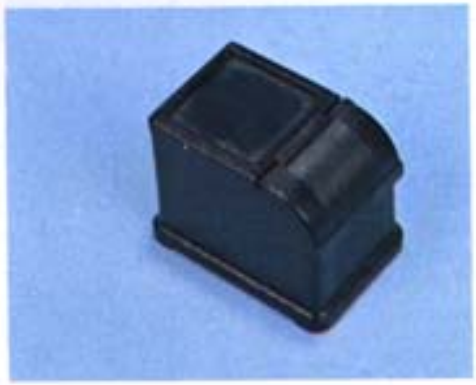

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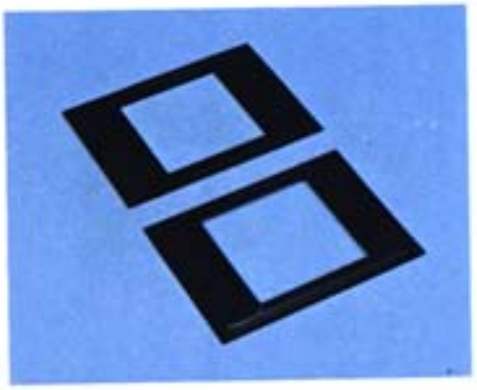

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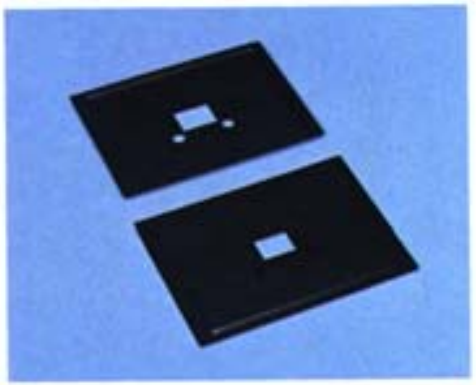

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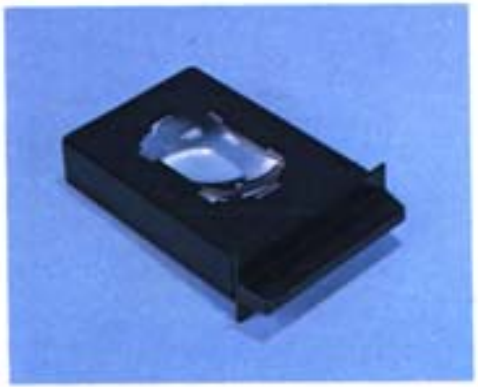

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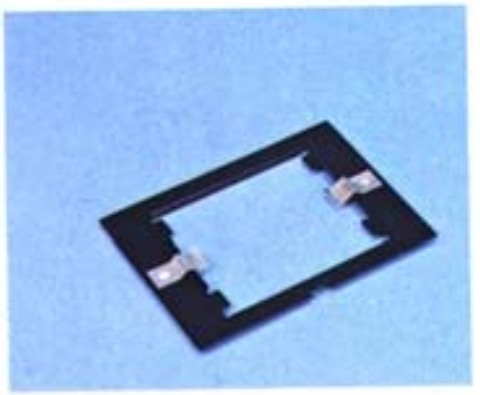

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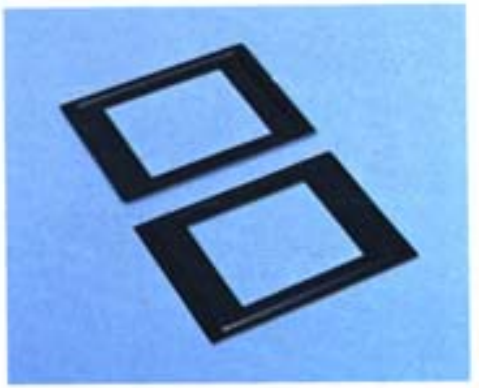

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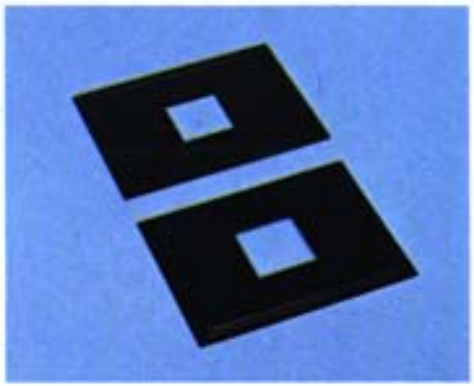
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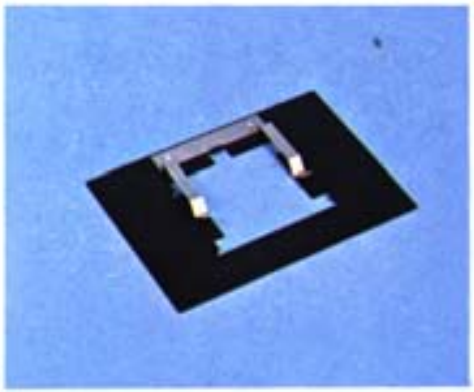
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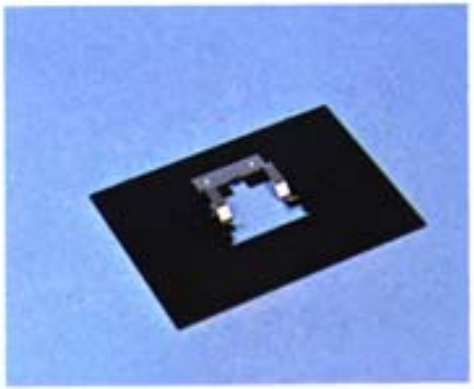
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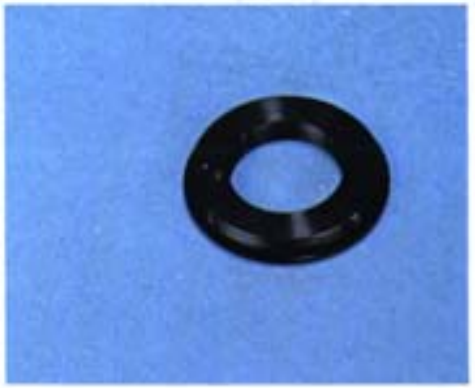
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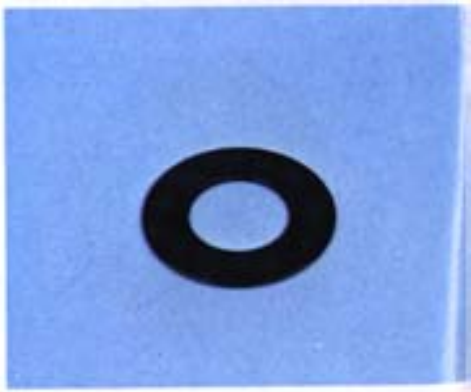
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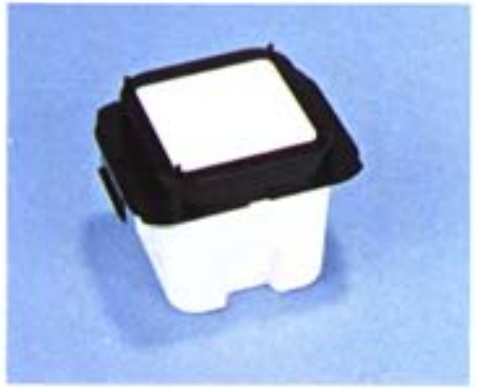

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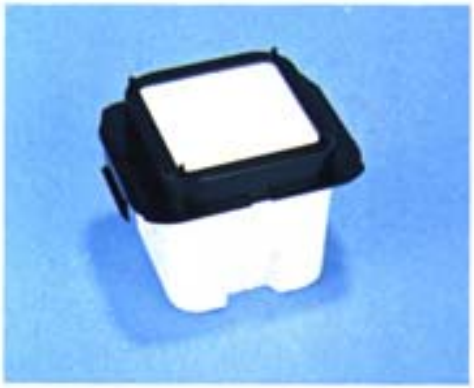

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MEDGRADE

MAGNIFAX 4

meopta

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