OPEMUS 6

meopta

Enlarger **OPEMUS 6**
392 211 400 903

Description of apparatus

OPEMUS 6 is an enlarger for amateurs designed to enlarge photographic pictures from roll film negatives 60 mm, size 60x60 mm or smaller or from film format 35 mm. **OPEMUS 6** can be used for both black-and-white and colour blow-ups. The light source is provided by an opal lamp. The instrument is designed for intermittent operation current in function of any enlarger. But even a continuous operation can never damage the apparatus. Lens with focal length f = 80 mm is designed for enlargement from negative format 60 x 60 mm, lens with focal lenght f = 50 is designed to enlarge from negative format 24 x 36 mm.

Together with the enlargers the **Meopta** Co. supplies a series of high performance lenses designed either for exceptionally demanding function or for enlargement from quite special negative formats. When using a lens with focal length of f = 80 mm it is possible to achieve the largest linear magnification of about 7.5 x or a picture reduction down to 1.25 x max.

When using a lens of f = 50 mm it is possible to achieve a corresponding enlargement of about 13 x and a reduction of about 1.4 x. The apparatus is equipped with a lens mount, thread M 39 x 1.

OPEMUS 6 together with the stand can be turned by 180° round the foot screw in the baseboard. In that way it is possible to obtain an even larger enlargement 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 restituting 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, etc.

The shift of the apparatus along the bar is facilitaded by the shift turnknob with a handle and by the gear moving along the rack. The friction mechanism ruling out idling enables lens carrier shift when focusing.

The baseboard size is 420 x 590 mm. The supply cord is 2.2 m long; it is provided with a switch and plug.

OPEMUS 6 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. Further on it is provided with a system keeping the open position of the negative carrier when introducing the negatives. 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 the spring pressure. After lifting and securing the upper carrier part the film strip can be moved. The stand tube is provided with a scale to determine approximately or to adjust linear enlargement according to the table on the stand's movable mount, and to calculate the exposure time when changing the enlargement.

The condenser of the instrument consists of two identical plano-convex lenses. By using special accessories which can be purchased together with the apparatus, the **OPEMUS 6** enlarger becomes universal: it can take photographic pictures, it can reproduce, etc. In the **OPEMUS 6** enlarger it is possible to use the colour head **Color** with its own light source; this facilitates extremely enlargement on colour material.

The **OPEMUS 6** enlarger is manufactured in two versions; it can be supplied either with a lamp house for opal lamp and with a condenser lighting system or with a colour head

Color provided with a halogen lamp and a diffuse lighting system.

Technical data

OPEMUS 6	with lamp house	with **Meopta COLOR 3**	with **Color 4-ES**
Negative format	max. 60 x 60 mm	max. 60 x 60 mm	max. 60 x 60 mm
Light source	opal lamp 220 V/150 W	reflector halogen lamp 12 V/100 W	reflector halogen ESJ 82 V/85 W
Lens for negative 60x60 mm	f 80	f 80	f 80
Enlargement on baseboard for f 80	max. 7.5 x	max. 7.5 x	max. 7.5 x
Max. work height	1.095 mm	980 mm	980 mm
Min. work height	790 mm	790 mm	790 mm
Baseboard size	420x790 mm	420x790 mm	420x790 mm
Weight	10.9 kg	10.7 kg	10.7 kg

OPEMUS 6 - OPEMUS 6a
Use of the **OPEMUS 6a** enlarger is similar as with the **OPEMUS 6** enlarger. In addition the **OPEMUS 6a** is equipped with advanced focusing system microfeed **OP** - with possibility of attaching flexible shaft for controlling from the working plane.

Operating instructions

The apparatus has to be assembled using individual parts and assemblies in the package.
Using the lever **(Fig. B)** fix the stand foot to the base-board. Introduce into it the stand tube with rack **(Fig. C)** and safeguard the assembly by screw tightening **(Fig. C-1)**. The lug on the rack must fit into the recess in the stand foot.
Introduce the body of the instrument by its pin into the opening in slide mount **(Fig. D)** and safeguard the assembly with stop turnknob **(Fig. A-2)**. Slide the negative carrier into the instrument body. The film carriers in the box can be screwed on the negative carrier. By means of a coin or a similar object loosen two screws **(Fig. E-1)** in the condenser and the illuminating system, separate the condenser part from the lamp house Screw into the lamp house a lamp for the enlargers according to **Table 1**. Once again screw together the lamp house with the condenser one, install the condenser by a slight turning it away from the grooves and safeguard the whole with screws **(Fig. E-3)**. Place the whole illumination system on the body **(Fig. A-3)** and fix by means of two screws **(Fig. A-1)**.
Slide into the condenser house the correction filter drawer **(Fig. A-5)** and the enlarger is ready for work. The lens carrier accommodates the lens ring which is safeguarded by a screw **(Fig. A-6)**. The basic lens f = 80 must be screwed into the lens mount on its convex part. The lens f = 50 must be screwed into the the reverse lens ring **(Fig. F)**.

1. Light source - lamp

For enlargers a special opal lamp with maximum input 150 W max., bulb diameter 70 mm and base E 27, see **Table 1**, 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	Type number
Tungsram	721, 724
Osram	4613, 4633
Philips	PF 603, 605
Thorn	P 3/3, P 3/4
Tesla	138 0125

2. Lamp 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 composition.

Before lamp handling let cool down the instrument!

3. Enlargement connection to mains

Introduce the supply cord into the mains socket and light up the lamp by the switch. When operating the instruments the vent holes of the lamp house or of the **Color** must not be closed!

4. Negative placing in the carrier

Remove the negative carrier from the instrument. Open it and adjust the guide stops **(Fig. G-3)** so that the film strip be guided correctly by them. By moderate depressing and by stop shift we may change their position. If the stops in extreme position are the nearest to the centre of the carrier, they are adjusted for a 35 mm film. The upper stop position corresponds to the 60 mm film. Place the film strip into the carrier by 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. CH-1)**. In that way the strip can be released and can be moved and shifted without any damage danger. In all these cases the film strip should be picked cautiously by two fingers on edges in order to prevent emulsion contacting.
The negative carrier can boast of a device safeguarding the open position of the carrier.
If we want to have a negative carrier safeguarded in open position, we must lift the upper carrier part till stop by pressure until it snaps in. The carrier should be returned to its working position by depressing moderately the lever **(Fig. CH-2)**. In that way the carrier can be released from the stopped position and the upper carrier part will clamp the film strip in its working position. The film carriers can be screwed on the negative frames **(Fig. G-5)**.

5. Adjustment of the required image enlargement

Open fully the lens aperture by turning the aperture mount **(Fig. A-7)** until the lowest aperture number appears. Switch on the lamp and project the image on the auxiliary paper ready on the baseboard.

By turning the shift turnknob with handle **(Fig. A-8)** lift or descend the apparatus along the stand until the required enlargement is reached. At the same time, continue rough picture focusing on the baseboard by turning the focusing knob **(Fig. A-4)**. Since the shift turnknob is controlled by the righthand and since the focusing knob is adapted for lefthand turning, we can monitor and follow the same focused picture and its size.

6. Image focusing

Adjust the required enlargement and focus the image accurately. The carrier is provided with a split-line focusing system **(Fig. G-2)** 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 pattern will apear which is caused by the split-line focusing system projection. If the image is not correctly focused, the pattern will look as **(Fig. H-a)** or as **(Fig. H-b)**. Turn the focusing turnknob in one or another sense until a continuous line is projected **(Fig. H-c)**. In that way the negative is accurately focused too. Slied the carrier back. The entire focusing operation is completed. When the negative carrier inserts are used we do not recommend to focus the image by means of the split-line focusing system.

7. Negative masking

Having adjusted the required enlargement and focused the image proceed to image masking outside the efficient area using the slide slats in the lower part of the negative carier **(Fig. G-4)**. In that way you can avoid diffusion of the undesired light into adjacent area and the possible impairment of the positive image quality.

8. Lens aperture

After focusing and negative cutout masking set the

convenient lens aperture by turning the aperture mount **(Fig. A-7)** 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 lamp glowing this number will be well illuminated.) The numbers are selected (with the exception of the firs number 4.5) in such a way that the subsequent higher number signifies half light quantity passing through 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 during dark chamber work: it is sufficient to count the number of snap-ins. In that way it is possible to set accurately the required aperture. In **ANARET** lenses (variant **S**) the aperture ring can be also set between individual aperture number positions by pulling the aperture ring down. In that way individual snap-ins for individual positions are ruled out.

9. Exposure of sensitive paper

If the image on the baseboard is correctly placed, focused and the lens properly screened, proceed in the following way. Switch off the lamp, put the photographic paper in the focused image plane with the sensitive layer towards the lens and expose it by lighting up the lamp. After exposure, development and fixation assess whether the exposure is correct or not and/or repeat the test with a different exposure time until a correct result is achieved. It is convenient to use the equipment for strip exposure and carry out several exposures by gradual masking. These tests should then lead to the correct exposure. The sensitive black-and-white paper can be left exposed to the light passing through the red filter for 30 s with the enlargement 2x. When using the sensitive colour paper the red filter cannot be used! Apart from turning the red filter can also be shifted. Depending on the lens used place the red filter in optimum position under the lens.
For measurement of different illumination levels during the enlargement process it is advisable to use the exposure system **MEOSIX 1** - 392 821 890 192. This apparatus allows for optimum exposure of the photographic 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 blow-ups, project the image outside the baseboard either on the floor or on the wall.

a) Florr projection (Fig. L)

Put the enlarger on the table so that the baseboard rear edge be on the tableedge. The baseboard should be conveniently loaded, e.g. with books, etc. Release the lever on the lower side of the baseboard **(Fig. B-1)**, turn the apparatus together with the stand round the baseboard bolt by 180° and lock the position by lever tightening. Project the picture on the floor or on any other suitable support. Proceed then as in normal illumination.

b) Wall projection (Fig. I)

If we want to achieve an even higher linear enlargement, enlarge by horizontal projection on a vertical wall. Put the enlarger on a table, release the stop turnknob **(Fig. A--2)**, turn the instrument proper by 90° into the horizontal position and block it by turnknob tightening. Enlargement determination should be carried out by approaching or removing the apparatus from the wall on which the enlargement should be obtained.

11. Reduction

When making reductions or pictures at a scale 1 :1 (e.g. slide making) proceed in the following way.
Set the image size by turning the focusing turnknob **(Fig. A-4)** and focus the image by turnknob turning in order to adjust the enlargement **(Fig. A-8)**, i.e. by the motion of the instrument along the stand.
Thus the work is the opposite of enlargement operations. 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 turnknob downwards until a sharp picture appears on the baseboard.

12. Correction of concurrent lines

It the camera is tilted during picture taking, concurrent 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. J-1)** and tilt the instrument until you get parallel lines on the parallel plane. Using the stop turnknob **(Fig. J-1)** fix the instrument in this position. Focus the negative centre by shifting the instrument along the shift pipe using the shift turnknob **(Fig. J-2)**.
After screw loosening **(Fig. J-3)** the lens carrier should be tilted; at the same time it should be moved until the picture is focused uniformly all over the surface area and until the lens axis passes through the negative centre. After that, tighten the screw **(Fig. J-3)**. Focus the image by moving the instrument along the tube. If, after the first adjustment, the line balancing is not satisfactory, correct the instrument inclination and repeat the procedure. If you are satisfied with the adjustment, screen the lens at least to aperture number 8. In that way you can make up for possible minor unsharpness. The image has, by now, parallel lines, but part of the picture is illuminated more intensely. For that reason it has to be partially screened during exposure. It is always possible to return to the original position thanks to the lens carrier scale and to the instrument scale which enable value records.

13. Enlargement on colour material

a) by condenser illuminating system

If you want to enlarge colour negatives in a system provided with a lamp house and an opal lamp, use for that purpose a set of correction filters. The filters 7.5 x 7.5 cm should be placed into the filter drawer **(Fig. K-3)**; for filters 7 x 7 cm a reduction insert should be used **(Fig. K-2)**. The maximum number of filters that can be used is 4.
They are protected from excessive heating by a heat filter **(Fig. K-1)** fixed above the drawer. When sensitive colour paper is to be threaded the red filter must not be used. Operations can be carried out only under prescribed light in the dark chamber.

b) by colour head Color

For a lens f = 80 complete the colour head **Color** with a mixing chamber 60 x 60 - 392 821 620 102. If lens f = = 50 is used (for format 24 x 36 mm) the colour head **Color** should be completed with a mixing chamber 24 x 36 - 392 821 620 101 in order to utilize better the light flux of the halogen lamp.
The colour photograph head facilitates substantial corrections of colour filtres or slides by enabling continuous setting of the colour subtractive filtration. Especially in connection with the system for exposure measurement **MEOSIX 1** - 392 821 890 192 and with the colour analyzer

MEOSIX COLOR 1 - 392 821 890 174 it is possible to adjust optimum colour component relations in the enlarger lens beam.
The mixing chambers do not form part of the basic accessories; they are supplied as special equipment.
Detailed description of operating the colour photograph **Color** is indicated in the separate operating instructions of this apparatus.

Enlarger maintenance

The enlarger is a precise product requiring precise servicing. It should be stored in a dry premise and protected from dust by a suitable cover. Wet or soiled hands should never touch the instrument. This rule is even more valid when we work with solutions and chemicals.

a) Condenser cleaning

By releasing the two screws **(Fig. A-1)** the condenser and the lamp house can be pulled out of the instrument. By looseing the screws **(Fig. E-3)** and turning the condenser mount the entre condenser can be removed. Using a fine hair brush or a fine clean cloth remove dust from the outside condenser lens surfaces. If even the inside surfaces of the lens are to be cleaned, remove by turning the condenser lid **(Fig. E-2)** and take the upper lens out. The lower lens is firmly fixed in the condenser mount.

b) Lens cleaning

Pick the lens with your right hand fingers and loosen the screw **(Fig. A-6)** with your left hand. Pull downwards the lens ring **(Fig. F)** 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 and 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 dovetail fixing. Push the glass out upwards. Clean the glass wih a fine dust brush or with a fine clean cloth. Install the cleanned 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 mechanisms

The stand tube including the rack and the focusing system 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.
The friction mechanism run must be continuous and smooth.

Complete assembly of the OPEMUS 6 with lamp house for 150 W lamp

a) enlarger with stand and baseboard
b) condensor and lamp house
c) negative carrier
d) complete film carrier 60
e) ground glass
f) correction filter drawer
g) operating instructions and warranty certificate
h) store box

The instrument is supplied in the following versions:
392 211 400 903 - **OPEMUS 6** without lens
392 211 400 902 - **OPEMUS 6** with lens **ANARET 4.5/80**

Complete assembly of OPEMUS 6 with colour head Color

a) enlarger with stand and baseboard
b) colour head **Meopta COLOR 3 or Color 4-ES**
c) mixing chamber 60 x 60
d) negative carrier
e) complete film carrier 60
f) operating instructions and warranty certificate
g) store box

Special accessories for the OPEMUS 6 enlarger

1. **Strip exposure system**
   392 821 890 091

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 x 14.8 cm. One processing can give us a viev of values necessary for further work in enlarging.

2. **Masking equipment 18 x 24 cm**
   392 821 720 063

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

3. **Masking equipment 30 x 40 cm**
   392 821 720 054

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

4. **Reproduction system 35 mm**
   392 821 520 101

It facilitates reproductions, macropictures etc. on 35 mm films wound in magazines or in special spools for 5 m film.

5. **Reproduction equipment**
   60 x 60
   392 821 520 061

The equipment is designed ot take pictures of originals or of different objects on photographic plates or on sheet films 6.5 x 9 cm

6. Magazine 6.5 x 9 cm
392 821 590 061
Magazine for photographic plates 6.5 x x 9 cm. The magazines are placed into the reproduction system 60 x 60.

7. Magazine insert
392 821 590 071
Insert for sheet films 6.5 x 9 cm to be placed in magazines 6.5 x 9 cm.

8. UNIVERSAL illuminating device
392 821 540 074
Suitable accessory to the instrument for illuminating photographic originals - with four lighting units.

9. UNIVERSAL illuminating device
392 821 540 075
Suitable accessory to the instrument for illuminating photographic originals - with two lighting units.

10. UNIVERSAL illuminating device
392 821 540 076
Suitable accessory to the instrument for illuminating photographic originals - complementary lighting unit.

11. Repro arm
392 821 550 091
The repro arm is designed to fix the photographic or movie camera on the enlarger stand during reproduction, credits filming, etc.

12. Macroadapter OPEMUS
392 821 330 081
It is used when taking pictures of small objects or when reproducing small originals. It also extends the lens pullout.

13. MEOGRADE
392 821 620 151

14. Tripod reduction
392 821 590 121
By means of the tripod reduction it is possible to fix the enlarger head on the tripod. In that way the **OPEMUS 6** can be transformed into a simple photographic camera by adding the reproduction equipment.

15. Focusing system
392 821 290 021
This system serves for accurate focusing of the projected negative picture on photographic paper.

16. Negative carrier inserts
60 x 60/60 x 60
392 821 430 181
With glasses removed place the inserts into the negative carrier by pushing in the insert protrusions using a moderate pressure under the folds of flexible clamps. Use of inserts rules out representation of impurities, dust, etc. on glasses. The insert with a deeper recess should be placed in the upper carrier part. The inserts are used when enlarging from 60 mm films.

17. Inserts in negative carriers
60 x 60/60 x 45
392 821 430 182
The inserts are used when enlarging from 60 mm films.

18. Negative carrier inserts
60 x 60/24 x 36
392 821 430 183
With glasses removed place the inserts into the negative carriers by pushing in the insert protrusions under the folds of flexible clamps using moderate pressure. The insert with the deeper recess should be placed in the upper carrier part. The inserts are used when enlarging from 35 mm films.

19. Negative carrier inserts
60 x 60/18 x 24
392 821 430 184
The inserts are used when enlarging from 35 mm films.

20. Negative carrier inserts
60 x 60/28 x 28
392 821 430 185
The inserts are used when enlarging from 35 mm one side perforated films.

21. Negative carrier inserts
60 x 60/13 x 17
392 821 430 186
The inserts are used when enlarging from 16 mm films.

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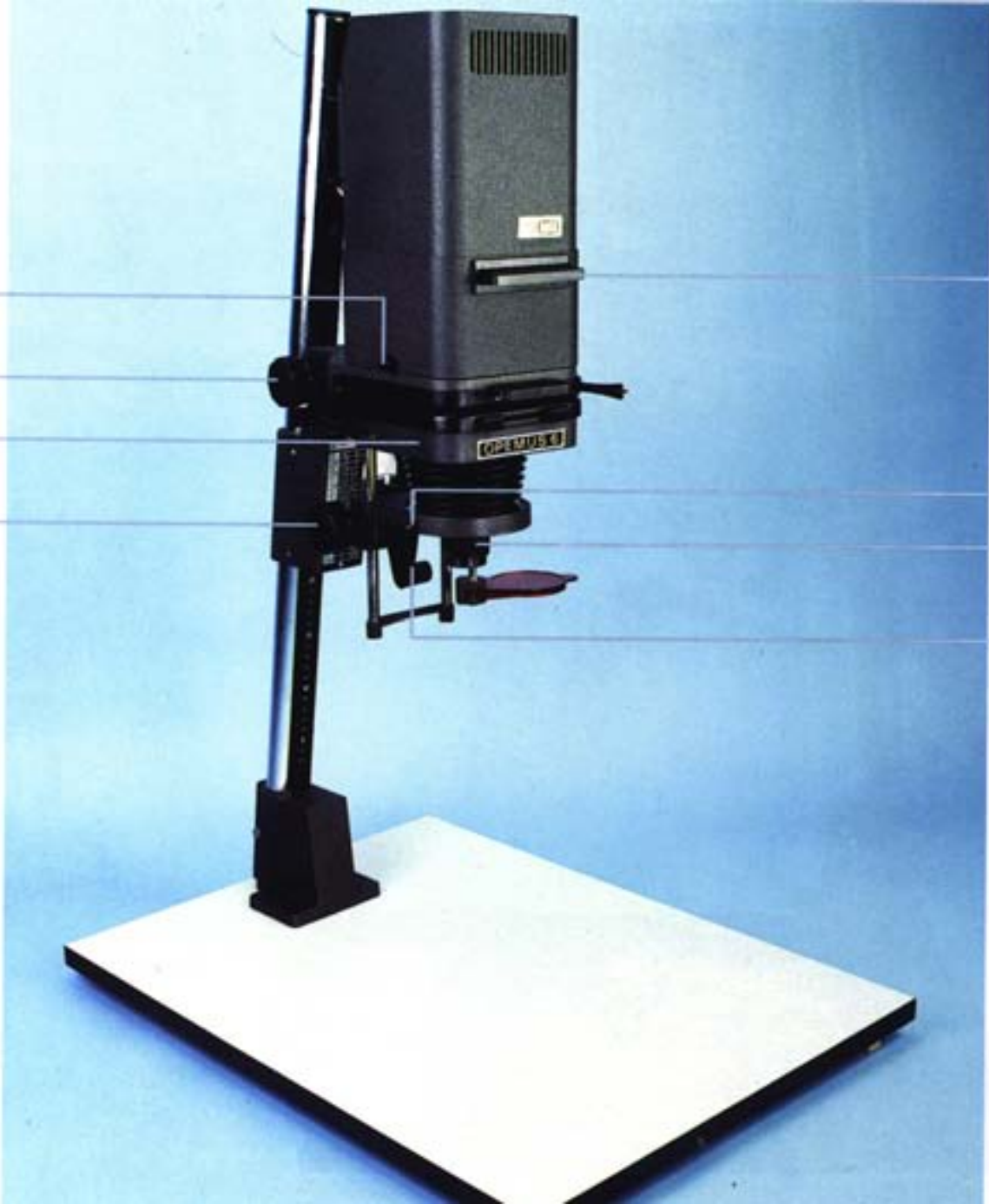

22. Negative carrier inserts
60 x 60/11 x 14
392 821 430 187
The inserts are used when enlarging from 16 mm films.

23. Negative carrier inserts
60 x 60/DIA 5 x 5
392 821 430 188
With the 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.

24. Negative carrier inserts
60 x 60/DIA 3 x 3
392 821 430 189
With the 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.

25. Ring for f = 30
392 821 310 391
For **ANARET 4.5/30** fixing. The lens is screwed into the ring inside.

26. Ring M 42 x 1
392 821 310 381
The lens ring with thread M 42 x 1.

27. Thread reduction
M 39 x 1/M23.5 x 0.5
392 821 310 311
When using the lenses **ANARET 4.5/50, BELAR 4.5/50** and **ANARET 4.5/80** every lens must be screwed into this reduction and safeguarded by a screw.

28. ANARET 4.5/30
392 821 110 271
Enlarging lens for enlarging negatives, formats 11 x 14 mm and 13 x 17 mm. Mounting thread M 23.5 x 0.5. Used in conjunction with ring for f = 30, branch No. 392 821 310 391.

29. BELAR 4.5/50
392 821 110 262
Enlarging lens for negative enlarging, formats 24 x 36 mm and smaller. Mount thread M 23.5 x 0.5. For screwing into the lens basic in necessary to use the thread reduction M 39 x 1/ M 23.5 x 0.5, branch No. 392 821 310 311.

30. ANARET 4.5/50
392 821 110 236
Enlarger lens to enlarge negatives, formats 24 x 36 mm and smaller. Mount thread M 23.5 x 0.5. For screwing into the lens basic ring it necessary to use the thread reduction M 39 x 1/M 23.5 x 0.5, branch No. 392 821 310 311.

31. ANARET S 2.8/50
392 821 110 391
Enlarging lens for enlarging of 24 x 36 mm sized and smaller negatives with illuminated scale of diaphragm members. Mounting thread M 39 x 1.

32. ANARET S 4.5/50
392 821 110 343
Enlarging lens for negative enlarging, formats 24 x 36 mm and smaller, with illuminated aperture number scale. Mount thread M 39 x 1.

33. MEOGON S 2.8/50
392 821 110 361
Enlarging lens for negative enlarging formats 24 x 36 mm and smaller with illuminated aperture scale. Mount thread M 39 x 1.

34. ANARET 4.5/80
392 821 110 245
Enlarging lens for enlarging negatives, formats 60 x 60 mm, and smaller. Mount thread M 23.5 x 0.5. For screwing into the lens ring it is necessary to use the thread reduction, M 39 x 1/ M 23.5 x 0.5 branch No. 392 821 310 311.

35. ANARET S 4.5/80
392 821 110 248
Enlarging lens for enlarging negative formats 60 x 60 mm and smaller with illuminated aperture scale. Mount thread M 39 x 1.

36. MEOGON 2.8/80
392 821 110 371
Enlarging lens for enlarging of 60 x x 60 mm sized negatives. The diaphragm cetting is carried out continually or with locking of the diaphragm numbers. Mounting thread M 39 x 1.

37. MEOGON S 4/80
392 821 110 351
Enlarging lens for enlarging negative formats 60 x 60 mm and smaller with illuminated aperture scale. Mount thread M 39 x 1.

38. Colour head Meopta COLOR 3
392 821 620 091
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.

39. Transformer TRONIC
392 821 890 133
The transformer is designed to feed the halogen lamp 12 V/100 VA in the colour head **Meopta COLOR 3.**

40. Colour head Color 4-ES
392 821 621 061
Enables continuously adjusting the desired density of the correction filter. It operates with subtractive mixing method. The filtration range is 0 ÷ 200 filtration units.

41. Mixing chamber 24 x 36
392 821 620 101
When working with a lens, focal distance f = 30÷50 mm, the mixing chamber is complementary to the colour head **Meopta COLOR 3** or **Color 4-ES.**

42. Mixing chamber 60 x 60
392 821 620 102
When working with a lens, focal distance f = 80÷90 mm, the mixing chamber is complementary to the colour head **Meopta COLOR 3** or **Color 4-ES.**

43. ARBRE FLEXIBLE
392 821 550 106

44. Focusing micromotion device OP (AX)
392 821 830 251
The manipulation during fine focusing of an image can be improved so that the micromotion device is replaced by the focusing knob.

45. DIFFUSER
392 821 290 031
The diffusion focusing screen for exposition time measurements is replaced by the focusing knob.

46. Reproholder OP (AX)
392 821 550 122
The repro-holder is a device for fixing an arbitrary photographic or cine camera and other taking apparatus featuring a weight lees than 2 kg.

47. 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

48. **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:
„ 1x" 0.2 ÷ 6 sec.
„10x" 2.0 ÷ 60 sec.

Dimensions:
98×140×78 mm

49 **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 dark-room 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

50. **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:
3A/220 V ac
or upon desire
3A/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

Caution

In the interest of continuous development the manufacturer reserves the right to carry out changes and modifications of the product and, consequently, deviations from the text or illustrations of the operating instructions.


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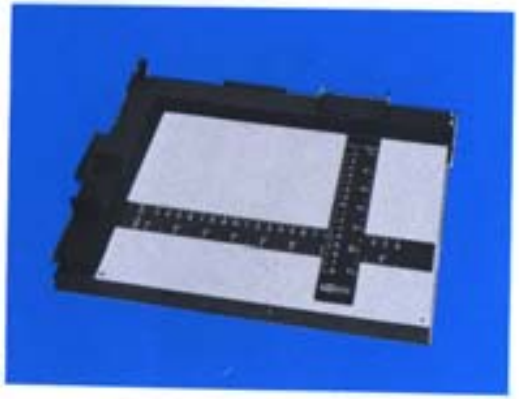
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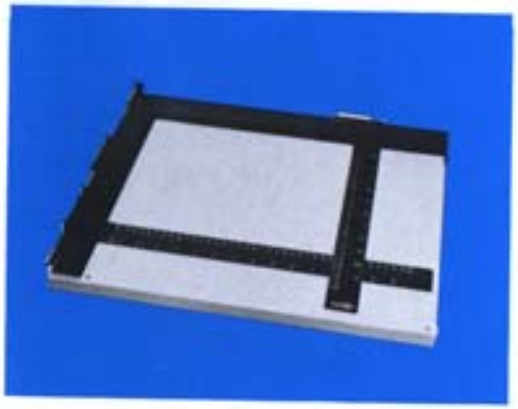
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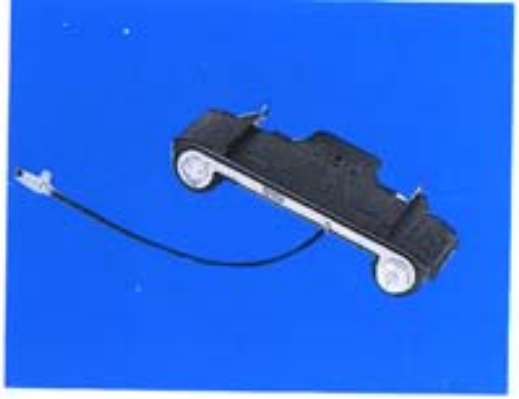
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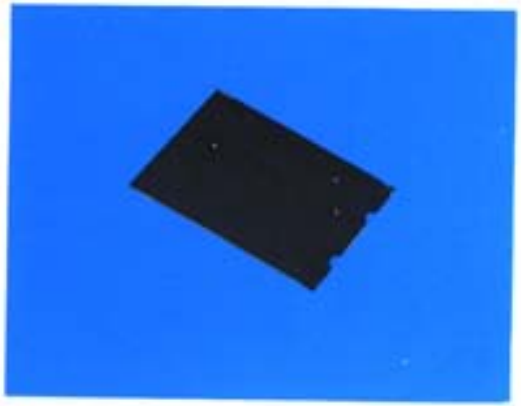
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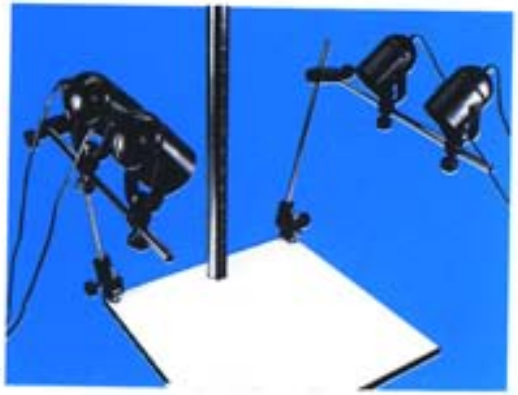
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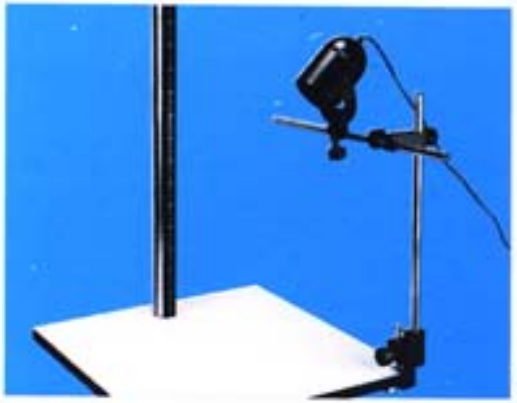

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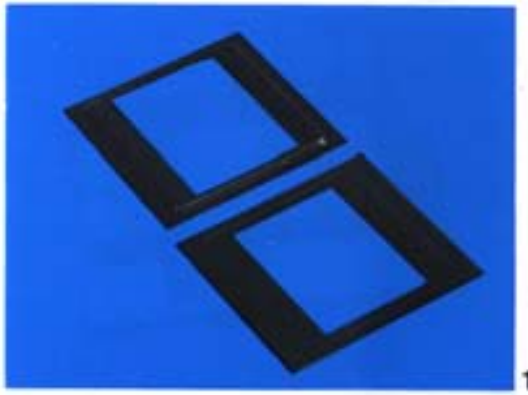

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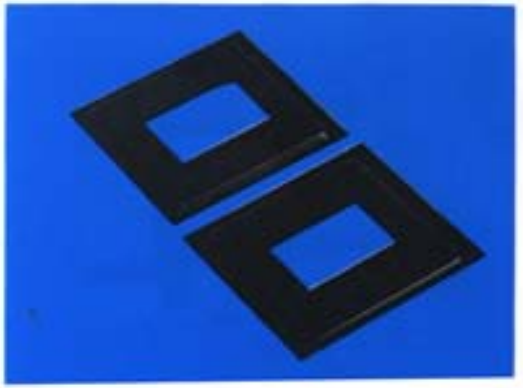

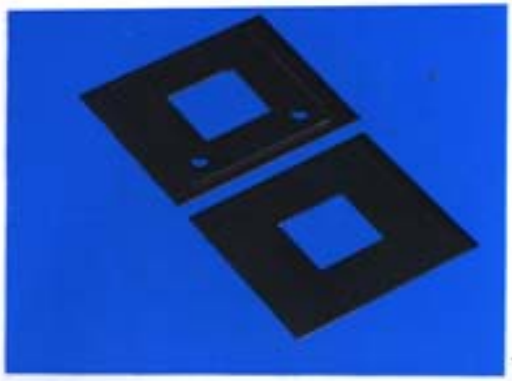
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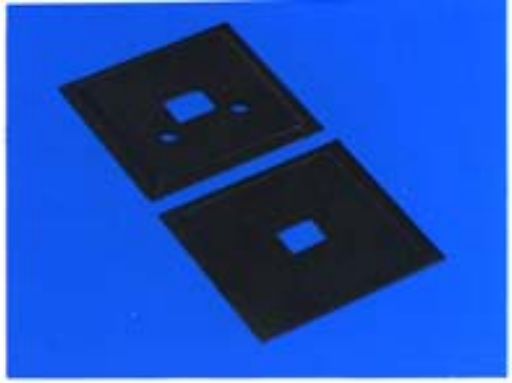
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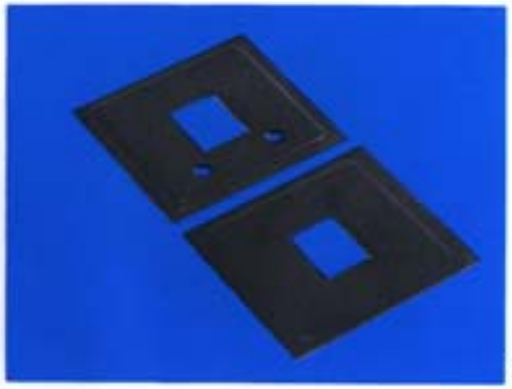
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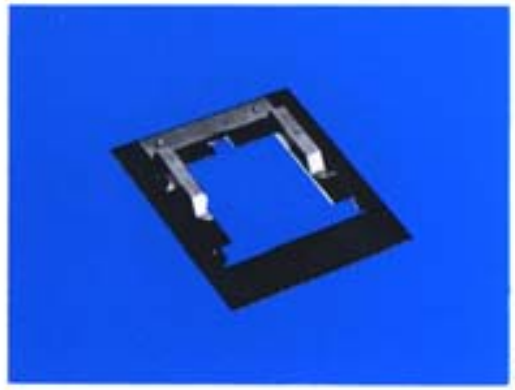
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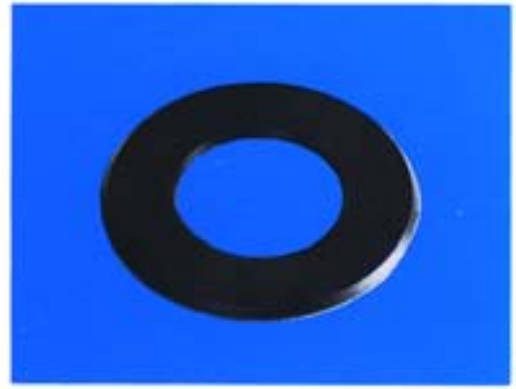
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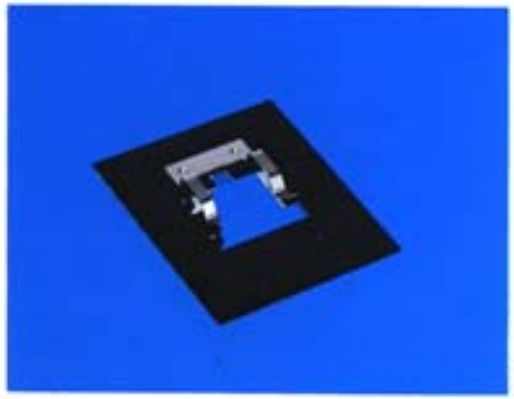
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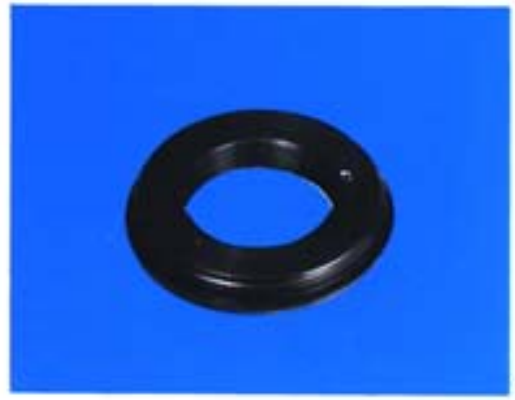
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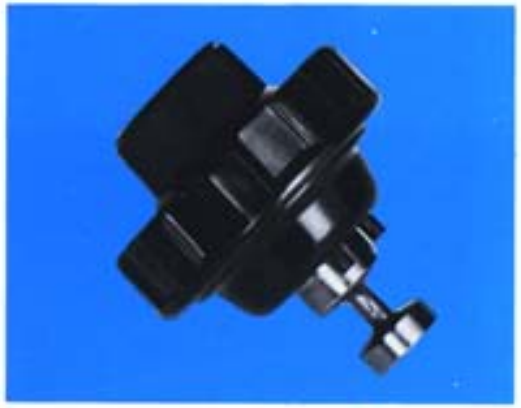

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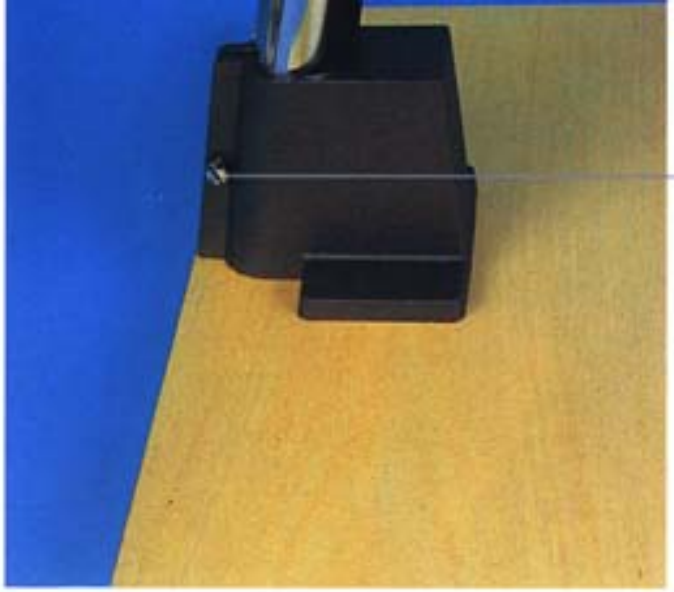

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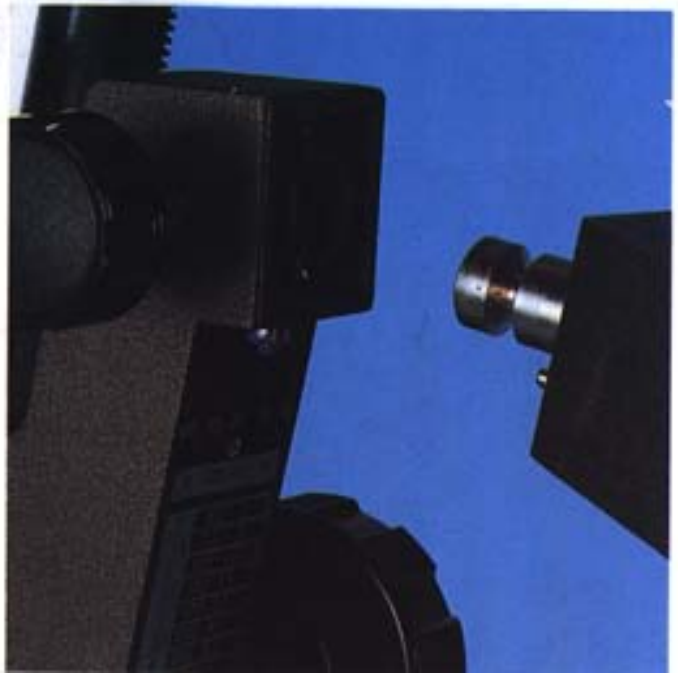

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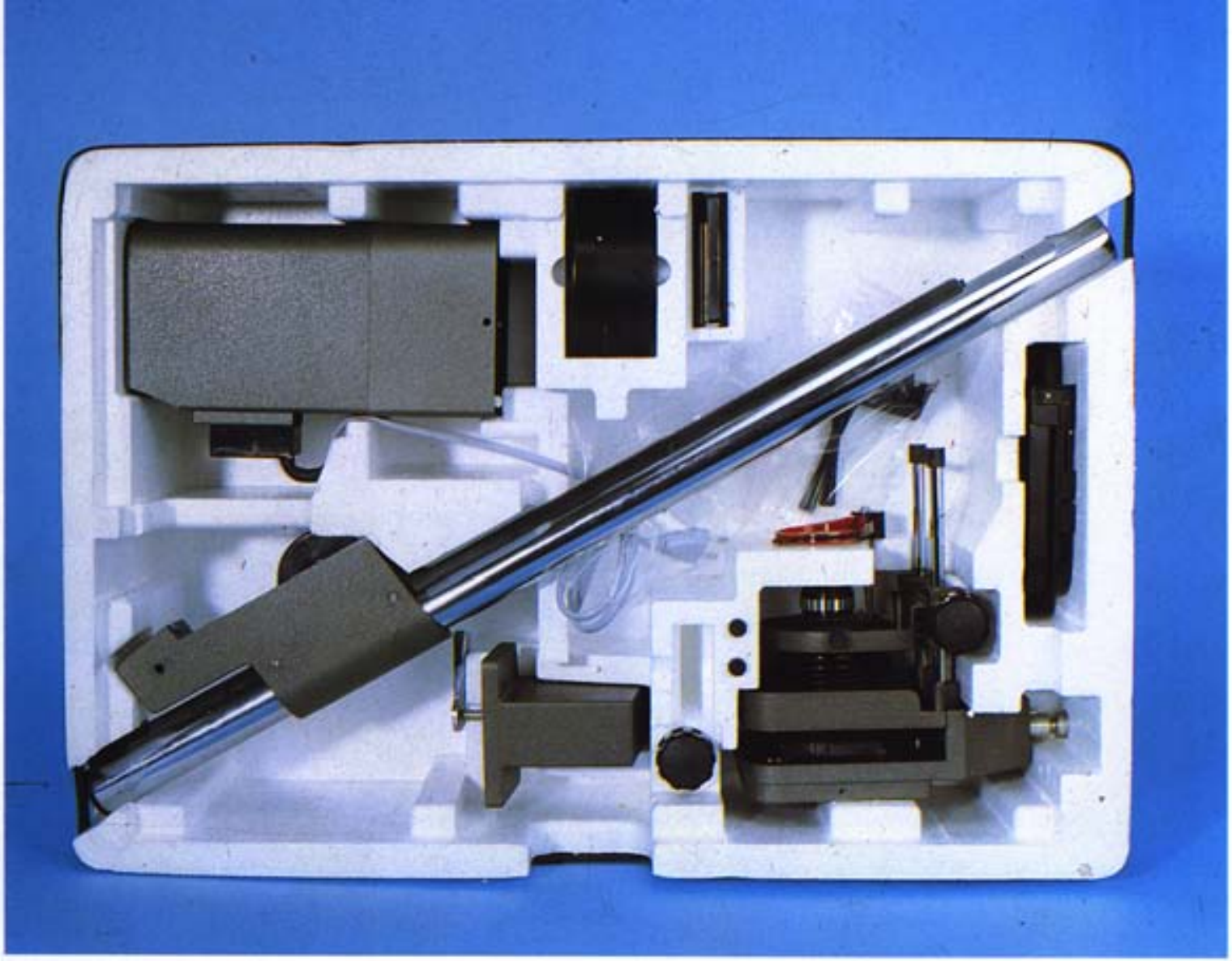

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Kabelíkova ul. 1
750 02 Přerov
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392 211 400 902-N-02/Č

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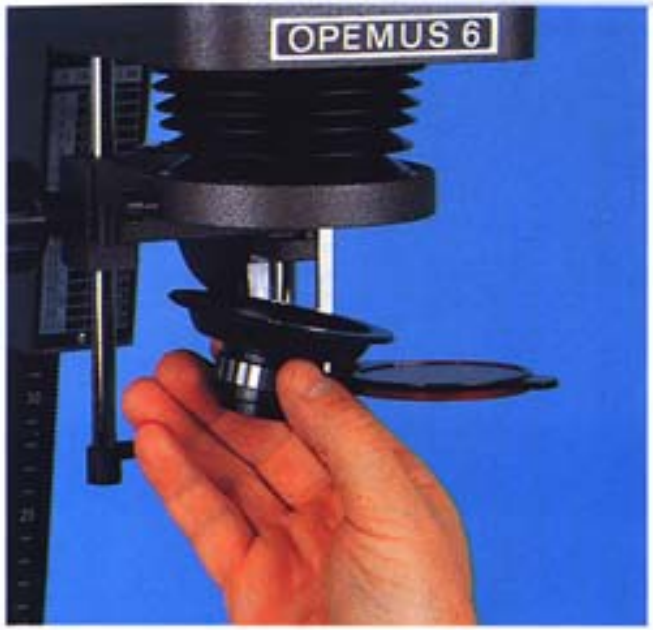

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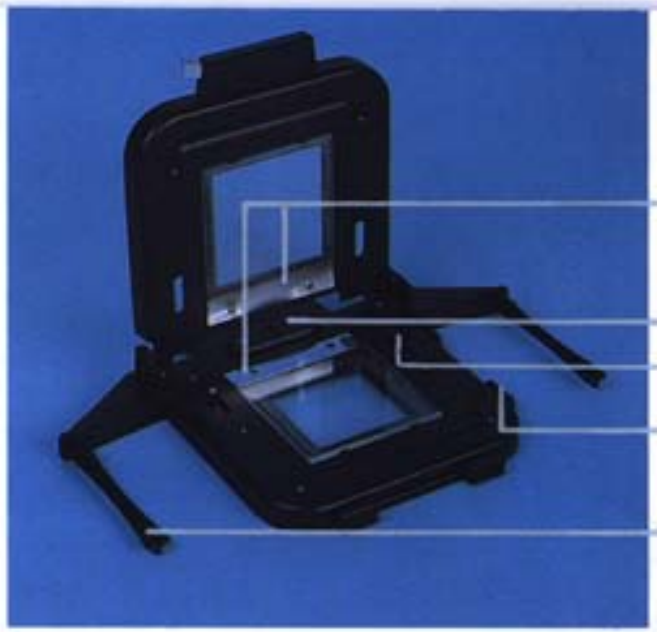

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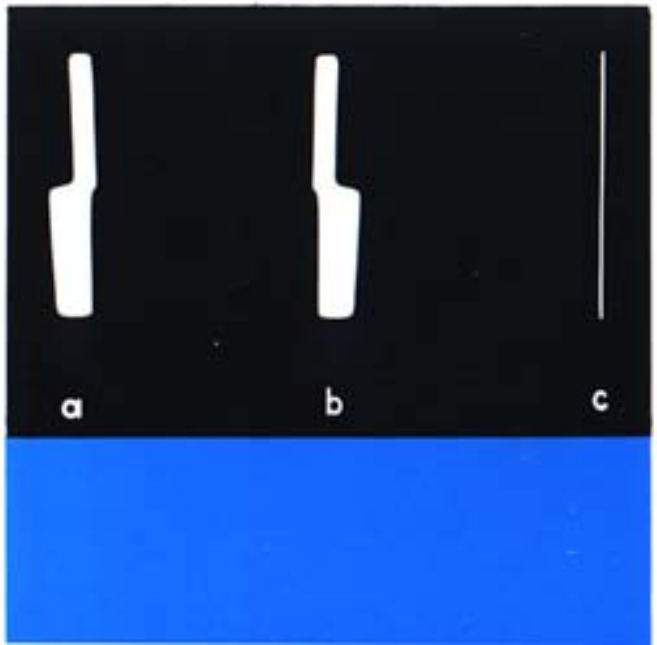

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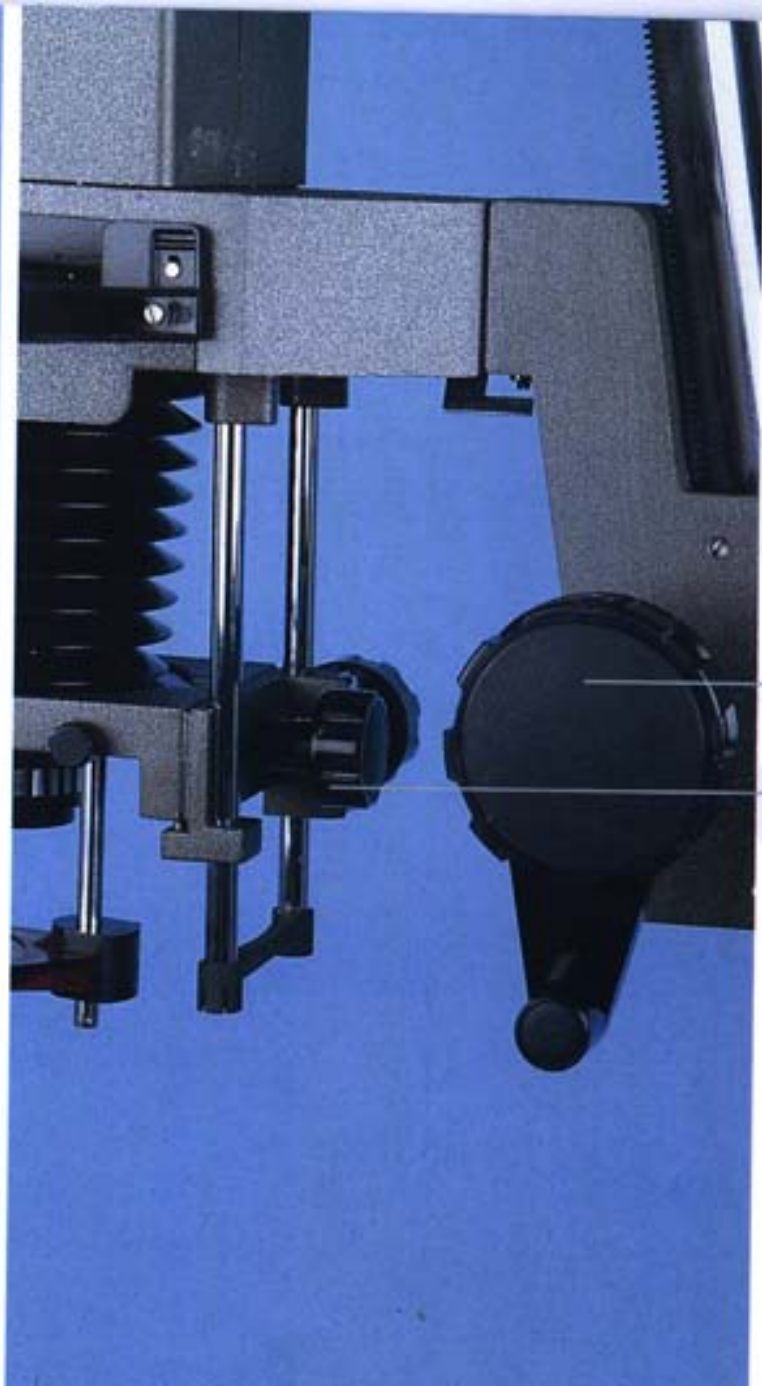

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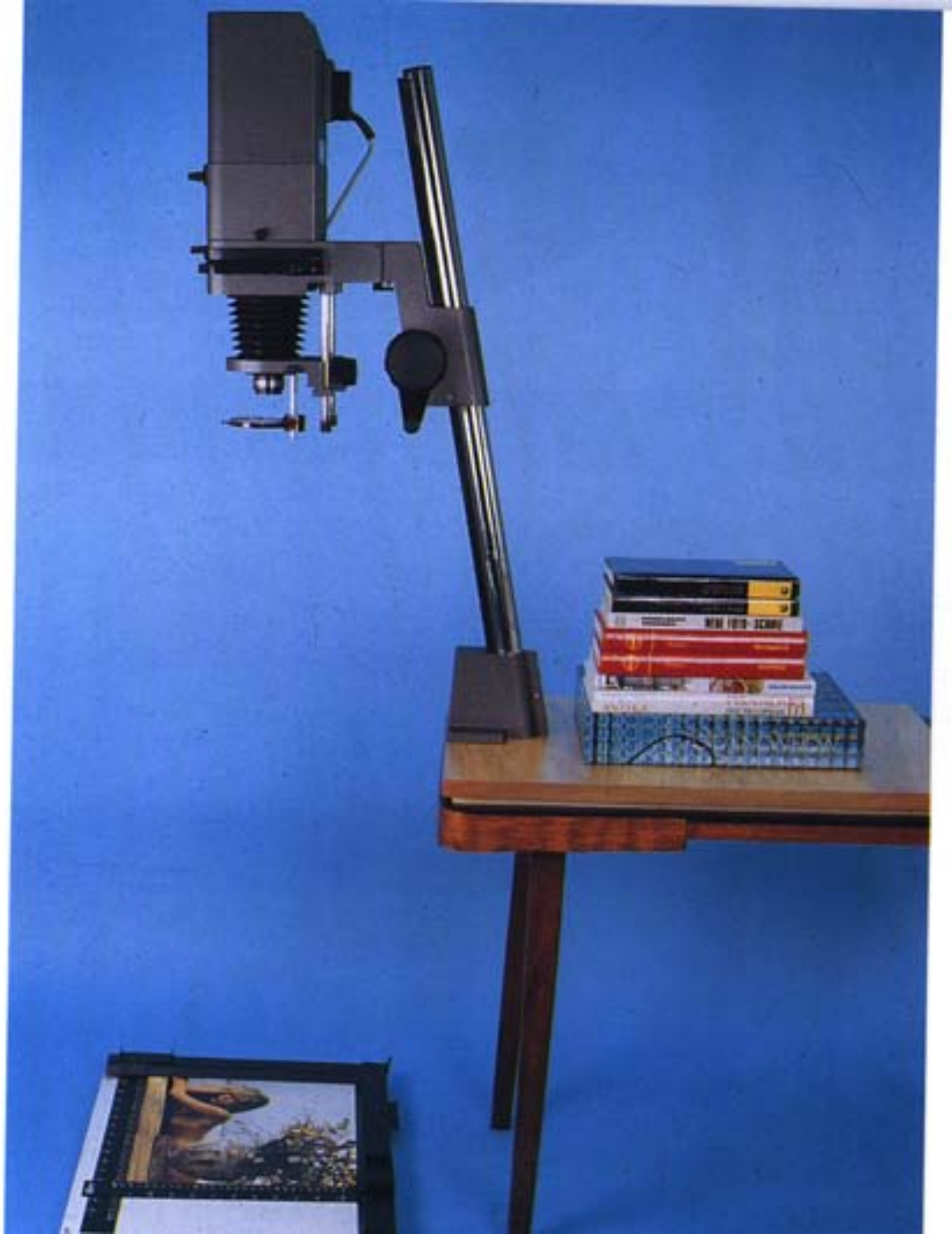

OPEMUS 6

Legend to Fig. A

1 - screws
2 - body
3 - turnknob, stopping
4 - focusing turnknob
5 - drawer for correction filters or for ground glass
6 - shift turnknob
7 - lens
8 - screw