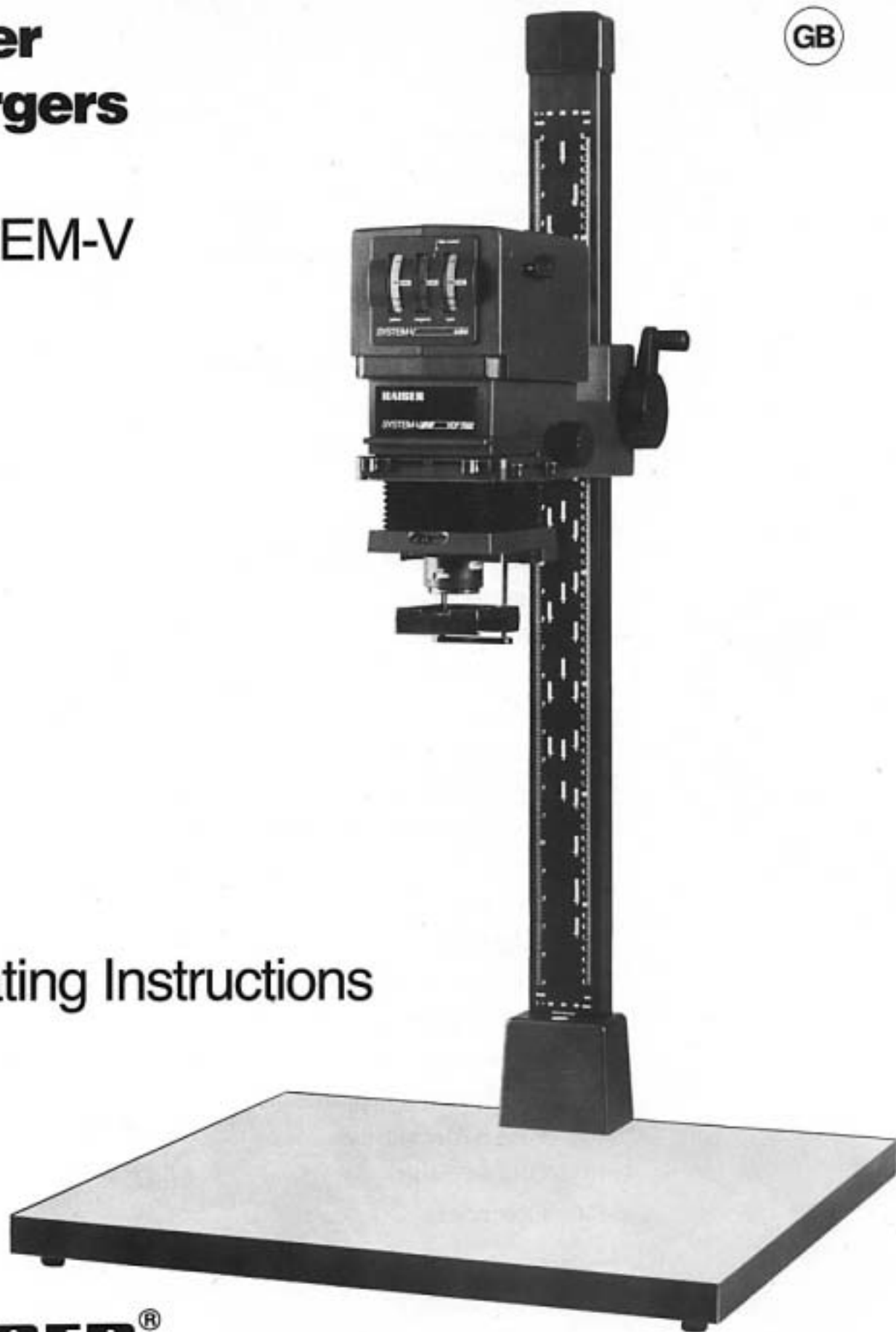


Kaiser Enlargers

GB

SYSTEM-V



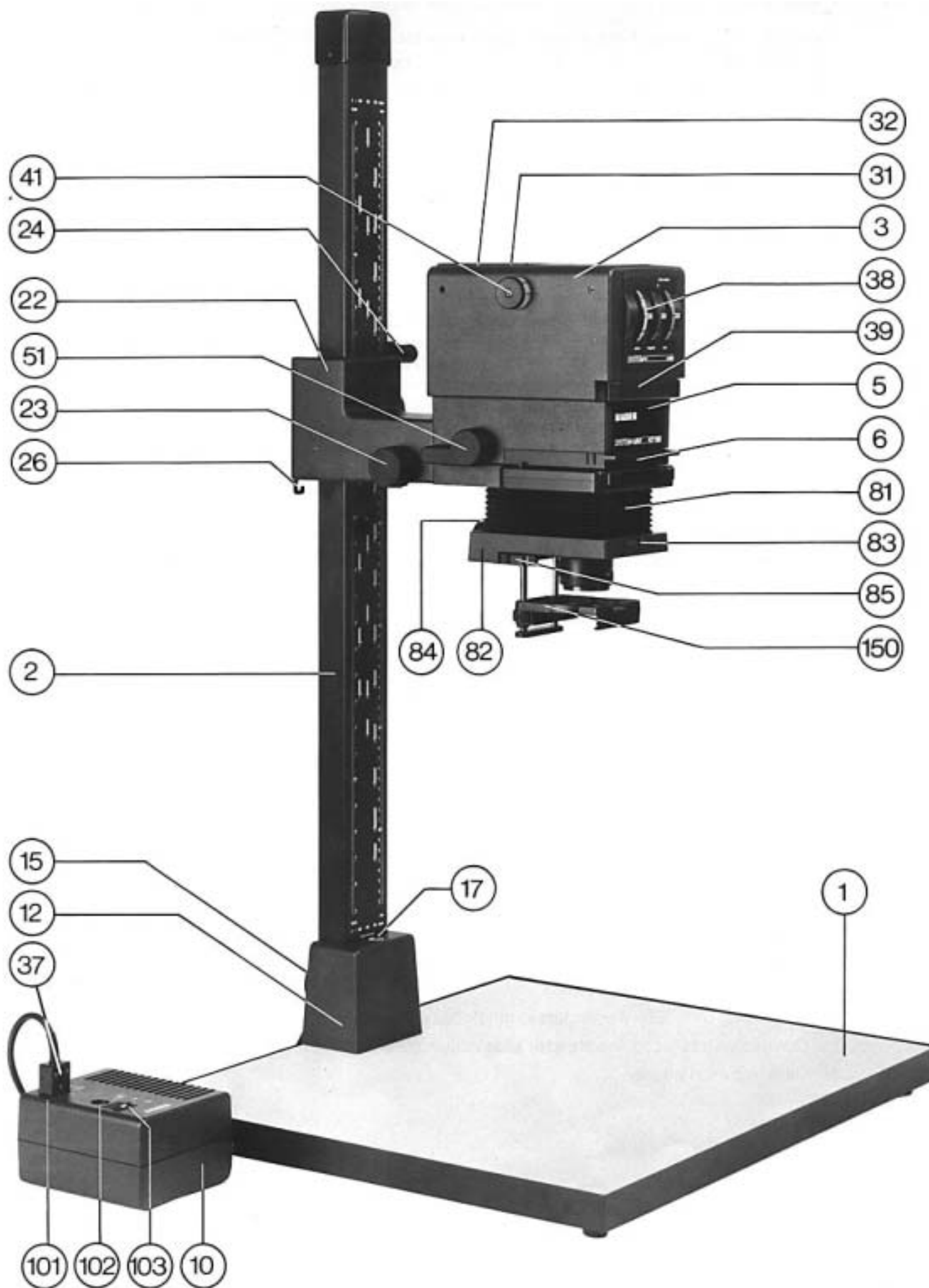
Operating Instructions

KAISER[®]
FOTOTECHNIK

These Operating Instructions provide information for operating the enlarger correctly. Even though the instructions are detailed, they cannot be a guide to enlarging. Study these Operating Instructions carefully, and keep them in a safe place for future reference.

VCP 7002	4480	Colour Enlarger for all sizes up to 6 × 7 cm (2.4 × 2.8 in.)
VCP 6002	4460	Colour Enlarger for all sizes up to 6 × 6 cm (2.4 × 2.4 in.)
VPM 6002	4530	Multigrade-Enlarger for sizes up to 6 × 6 cm (2.4 × 2.4 in.)
VP 6002	4465	B & W Enlarger for all sizes up to 6 × 6 cm (2.4 × 2.4 in.)
VCP 3502	4420	Colour Enlarger for sizes up to 24 × 36 mm (.9 × 1.4 in.)
VP 3502	4425	B & W Enlarger for sizes up to 24 × 36 mm (.9 × 1.4 in.)

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- 1 Baseboard
- 12 Column base
- 15 Clamping screw for the column
- 17 Circular level in the column base
- 2 Column
- 22 Supporting arm
- 23 Clamping screw for enlarger head
- 24 Knob with crank drive
- 26 Cable guide
- 3 Colour-mixing head
- 31 Head grille
- 32 Fastening screws for head grille
- 37 Appliance plug
- 38 Filter dial-in wheels
- 39 Drawer for additional colour filters
- 41 Density aperture
- 5 Condensor housing
- 51 Swivel knob
- 6 Compound negative carrier
- 81 Lens bellows
- 82 Lens panel
- 83 Spirit level
- 84 Clamping screw for lens panel
- 85 Slide for red safelight filter
- 10 Transformer
- 101 Inlet socket for appliance plug
- 102 Fuse holder with fuse
- 103 ON/OFF switch
- 150 Filter holder



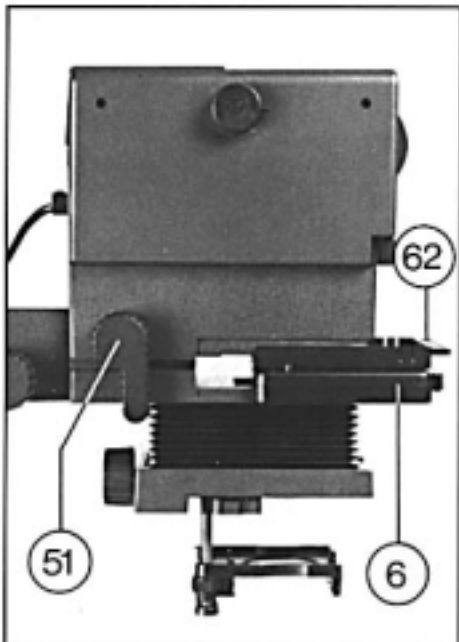
1. Assembly Instructions

All enlarger components are stowed in a crush-proof, reusable Polystyrene container.

Open the outer wrap and start with removing the Baseboard (1) – with the Column base (12) already fitted – from the package and place the baseboard assembly on a suitable surface. Remove the top section of the Polystyrene container and remove the Column (2) along with the enlarger head and insert the column from behind in the Column base (12), making certain that the two Locating Pins (13) engage properly in the Locating Bores (14) provided in the column. Continue with holding the column upright, insert the Column Locking Screw (15) in the center Bore (16) and tighten the locking screw. Take care during the process that the column is properly seated and check the joint – between column and mount – for stability.

Place the enlarger on a level base. This can be checked with the circular level (17) in the column base. Adjust the feet (11) accordingly if the enlarger is not standing perfectly level, and to compensate any unevenness of the supporting surface.

Precise alignment of the enlarger head is checked with the spirit level (83) on the lens panel (82).



Insert the Negative Carrier (6) whilst pushing the Mounting Lever (51) downwards. This action will raise the upper section of the enlarger head to provide ample space for easy insertion of the negative carrier. Make certain that the Handle (62) of the upper section of the negative carrier is located uppermost and points forward.

2. Connection of the Enlarger to the power supply unit and Preparation for Work

VCP/VPM-Models: The operation of the enlarger requires the use of a Kaiser Mains Voltage Transformer.

Route the Lamp Power Lead (36) through the Power Lead Support Bracket (26) attached to the Head Mounting Bracket (22) and insert the Connector Plug (37) in the Socket (101) of the Mains Voltage Transformer (10).

Check that the available Mains Voltage is identical with the Operating Voltage called out on the Type Plate of the transformer.

Connect the mains Power Lead (104) of the transformer to the mains power outlet – across an exposure timer if you have one available.

The enlarger is switched ON and OFF across the Transformer Power Control Switch (103).

Caution: Never operate the transformer in unloaded condition, i. e. without the enlarger connected.

VP-Enlargers: Connect the enlarger directly – or across a timer – to the mains.

Check that the available Mains Voltage is identical with the Operating Voltage called out on the Type Plate.

Available Kaiser Mains Voltage Transformers:

4451 Transformer, 220 Volts/12 Volts* with Electronic Voltage Stabilizer

4453 Transformer, 220 Volts/12 Volts* without Electronic Voltage Stabilizer

*Also Available as Export Models with ratings of 110 Volts/12 Volts and 240 Volts/12 Volts

3. Enlarging lenses

Only lenses that were specifically designed for enlarging should be used. This is because their definition and contrast has been matched to finite linear magnifications.

Enlarging lenses in focal lengths of 50 mm, 80 mm and 90 mm can be used for autofocus operation; enlarging lenses in focal lengths of between 35 mm and 105 mm can be used for manual focusing.

The following rule of thumb applies to the correct choice of focal length for a given negative size:

- I: The enlarging lens should, at least, be of the same focal length as the standard lens that is customary for the given negative size.
- II: The focal length of the enlarging lens should equal, or be longer than the negative diagonals.

Only the wide-angle enlarging lenses (WA) form an exception to this rule. These wide-angle lenses can also be used for manual operation.

The only exception to the above rulings are the wide-angle enlarging lenses (identified by WW below), which may also be used.

Table 1 lists focal lengths which may be used and calls out the relevant maximum linear magnification ratios. The attainable maximum magnification format on the baseboard is 30 × 40 cm (pocket film size: 24 × 30 cm). Depending on the various lens designs, the linear magnification ratios may deviate slightly from the values called out in Table 1.

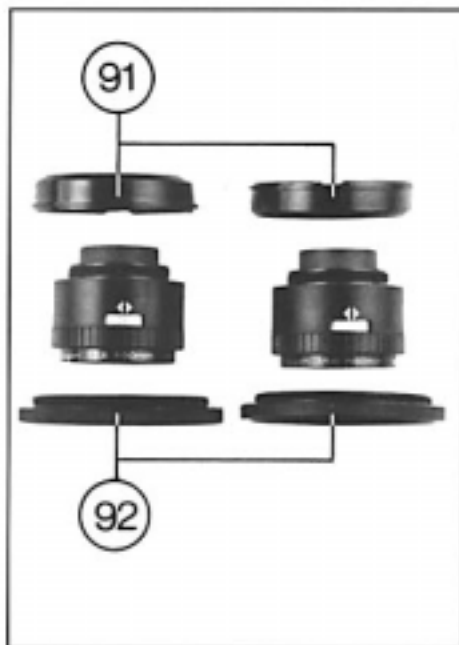
Table 1

Negative Format (in mm)	Focal Length of Lens	Maximum Linear Magnification Ratio
13 × 17 18 × 24 24 × 24	35 mm	21-fach
28 × 28 24 × 36	50 mm (AF)	14-fach
24 × 36	WW 40 mm	18,5-fach
40 × 40	60 mm	12-fach
45 × 60	75 mm	8,8-fach
60 × 60	80 mm (AF)	8,2-fach
60 × 60	WW 60 mm	11,2-fach
60 × 70	90 mm (AF)	7,1-fach
60 × 70	WW 80 mm	8,1-fach

The following lenses are available:

4368	Rodenstock Rogonar-S	4,0/35
4363	Rodenstock Rodagon WA	4,0/40 (WW)
4469	Rodenstock Apo-Rodagon	2,8/50
4355	Rodenstock Rogonar	2,8/50
4365	Rodenstock Rogonar-S	2,8/50
4367	Rodenstock Rodagon	2,8/50
4364	Rodenstock Trinar	3,5/50
4366	Rodenstock Rodagon	4,0/50
4359	Rodenstock Trinar	4,5/75
4360	Rodenstock Rogonar-S	4,5/75
4340	Rodenstock Apo-Rodagon	4,0/80
4341	Rodenstock Rodagon	4,0/80
4361	Rodenstock Rodagon	5,6/80
4357	Rodenstock Rogonar-S	4,5/90
4358	Rodenstock Rogonar-S	4,5/105

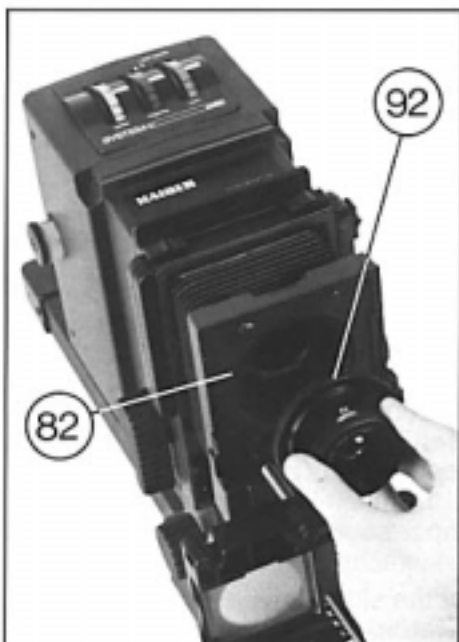
4336	Schneider Apo-Componon	4,0/45
4381	Schneider Componar-C	2,8/50
4382	Schneider Componon-S	2,8/50
4383	Schneider Componar-C	4,0/75
4384	Schneider Componon-S	4,0/80
4337	Schneider Apo-Componon	4,5/90
4338	Schneider Componon-S	5,6/100



The lens is mounted with the help of two lens adapter rings (91) and (92). First unscrew the centering ring (92) in the lens panel (82), and take the lens adapter ring (91) out of the centering ring (92).

The adapter ring (91) has an M 39 x 1 thread (Leica thread). It is screwed onto the lens in such a manner that the protruding edge is:

- Pointing away from the lens for lenses of 75 mm focal length and longer
- Pointing towards the lens for lenses of up to 50 mm focal length



The lens with the screwed on adapter ring is now inserted from above into the centering ring (92), which, in turn, is screwed into the lens panel (82). Ensure that the f-stop values of the lens are facing to the front.

The 4464 lens adapter ring (available as an accessory) should be used for an M 42 threaded mount.

35 mm lenses are mounted with the 4463 special adapter ring, as for 50 mm lens. Autofocus, however, is not possible.



4. Negative Carrier System

The negative holders of the respective enlargers have the following inserts as standard equipment:

Enlarger	Upper insert	Lower insert
VCP 7002	AN glass	flat glass
VCP 6002	AN glass	mask 6 x 6
VPM 6002	AN glass	mask 6 x 6
VP 6002	AN glass	mask 6 x 6
VCP 3502	mask 24 x 36 (b)	mask 24 x 36 (a)

The compound negative carrier (6) is fitted with adjustable stop pins (63) for film-strip widths of 61,5 mm (120 rollfilm), 41 mm (127 rollfilm), and 35 mm (135 miniature film). Push in the pins, simultaneously moving them to the required negative size.

Four individually adjustable masking strips (65) can be used to select an image section and to mask smaller negative sizes.



The VP 3502 enlarger is equipped with a small-picture format negative holder with an AN glass upper insert and format lower insert (picture left). After removing the AN glass insert above and the format insert below, slides can be inserted directly into the lower part of the negative holder. This negative holder does not have adjustable masking strips. The unit can be re-equipped for formats up to 6 x 7 mm with the negative holder described as well.

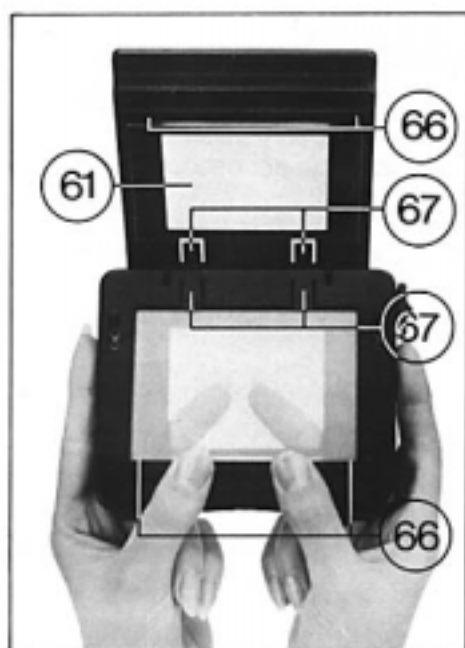
The glass inserts and size masks of the compound negative carrier are interchangeable.

The following inserts and masks are available:

- 4485 size mask for 6 x 6 cm
- 4431 size mask for 4.5 x 6 cm
- 4433 combined glass insert AN glass/flat glass
- 4434 size mask vor 6 x 6 cm/AN glass insert
- 4435 size mask for 24 x 36 mm/AN glass insert
- 4486 size masks for 24 x 36 mm
- 4489 size insert for framed slides of 5 x 5 cm overall size
- 4488 size mask vor 13 x 17 mm (used together with 4489)
- 4487 glass inserts, anti-Newton treated
- 4490 glass inserts, flat glass

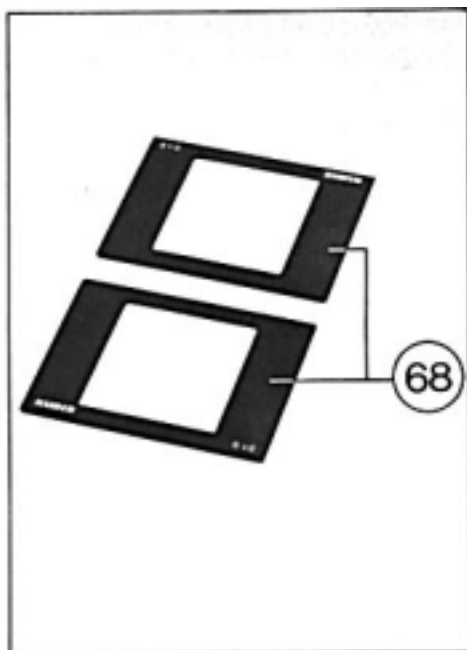
The system also includes:

- 4483 compound negative carrier without inserts
- 4484 compound negative carrier for framed slides of 7 x 7 cm overall size



The inserts in the upper and lower parts of the compound negative carrier are held by two retaining cams (66) with two sprung plastic tongues (67). To exchange the insert hold the open compound negative carrier with both hands, push the insert lightly against the plastic tongues (67) with both thumbs, and then press with one finger from below against the insert. When fitting an insert into the compound negative carrier, press it lightly against the plastic tongues (67) with both thumbs until the insert locks under the retaining cams (66). The insert in the upper section (61) of the compound negative carrier is exchanged in exactly the same manner.

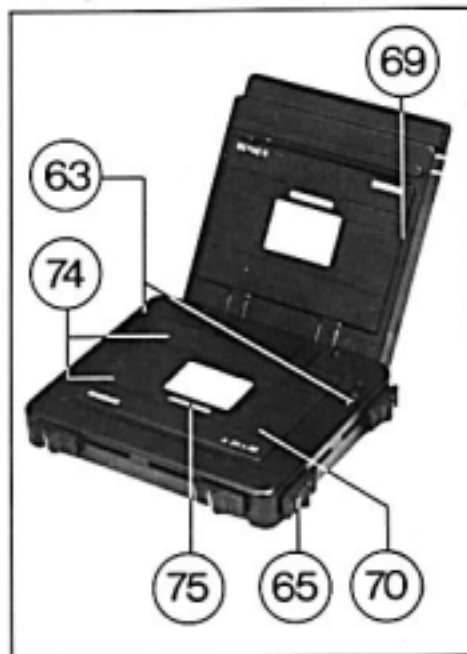
When fitting inserts ensure that the slope on the lower and upper outer edge is always facing upwards.



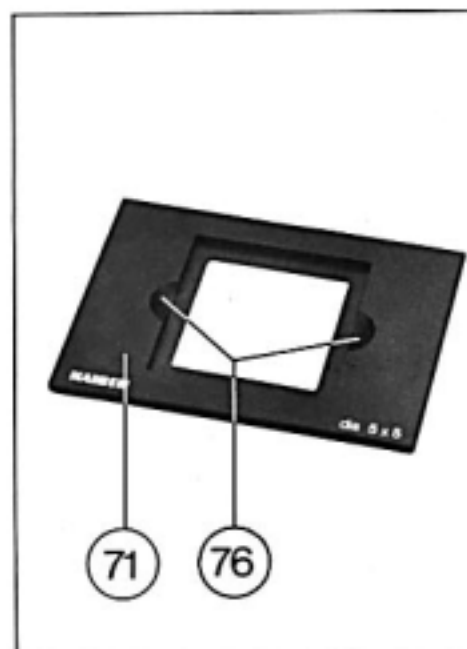
Glass inserts must always be carefully cleaned so that the quality of an enlargement is not marred by dust, fluff, finger prints or similar faults.

It is also possible to use a glass insert in the upper part, together with a size mask in the lower part of the compound negative carrier. Please study the subsequent instructions on this point.

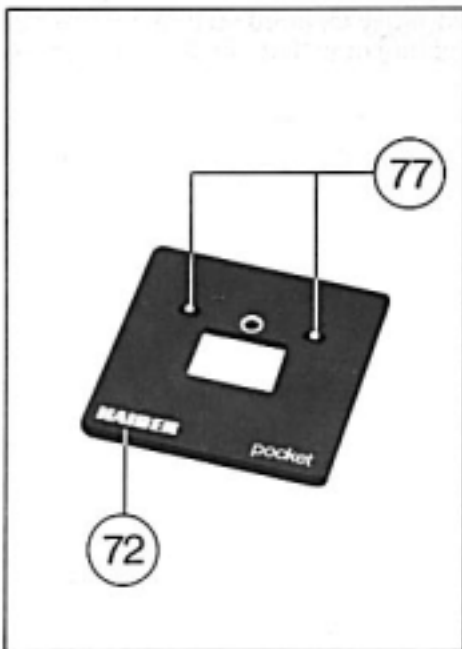
The upper and lower parts of the 4485 size mask (68) for 6 x 6 cm, and the 4431 size mask for 4.5 x 6 cm, are identical. The upper part can be exchanged for a glass insert.



The inserts for the upper and lower parts are different from the 4486 size mask for 24 x 36 mm. The section (70) identified with "a" is intended for the lower part, and the one identified with "b" (69) for the upper part of the compound negative carrier. The insert (70) is provided with guide strips (74) for precise film-strip guidance. A viewing window (75) makes it possible to project the negative number; it is covered with a masking strip (65) for the actual exposure. If a glass insert is to be used in the upper part of the compound negative carrier when working with the 24 x 36 mm size, then the "b" identified size insert (69) must be used in the lower part to guarantee that adequate pressure is exerted on the film. The stop pins (63) to guide the film must be adjusted accordingly.



The 4489 size insert (71) must be placed in the lower part of the compound negative carrier when enlarging framed slides with an overall size of 5 x 5 cm. This insert is provided with grip recesses (76) so that the slides can be more easily removed.



The 4488 size mask (72), together with the 4489 size insert (71) for 5 x 5 cm slides, are necessary for pocket films (13 x 17 mm). The size insert (71) is placed in the lower section of the compound negative carrier, as previously described, and the pocket insert (72) is then mounted.

The two stop pins (77) for pocket films are sprung to guarantee adequate pressure when a glass insert is used in the upper section of the compound negative carrier.

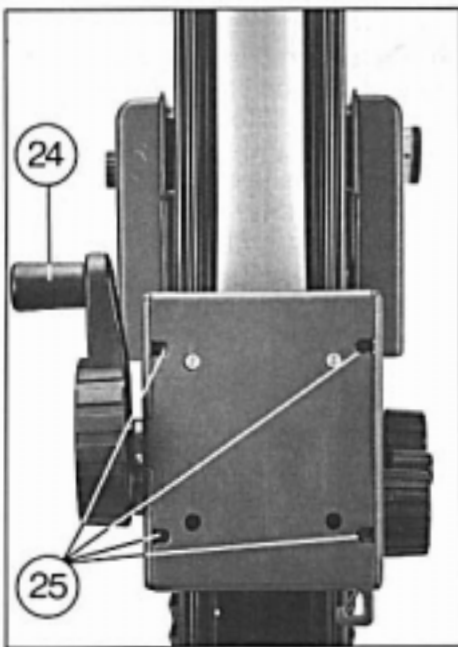


The special 4484 compound negative carrier (73) is used for framed slides with an overall size of 7 x 7 cm.



Rotation of the swivel grip (51) lifts the upper section of the enlarger head, simultaneously partly opening the compound negative carrier. The film strip can now be inserted from the front with its emulsion side facing downwards. Precise adjustment is achieved when the film strip comes up against the correspondingly adjusted stop pins (63). The swivel grip (51) is now turned back, thus reclosing the compound negative carrier. The procedure is repeated to advance the film.

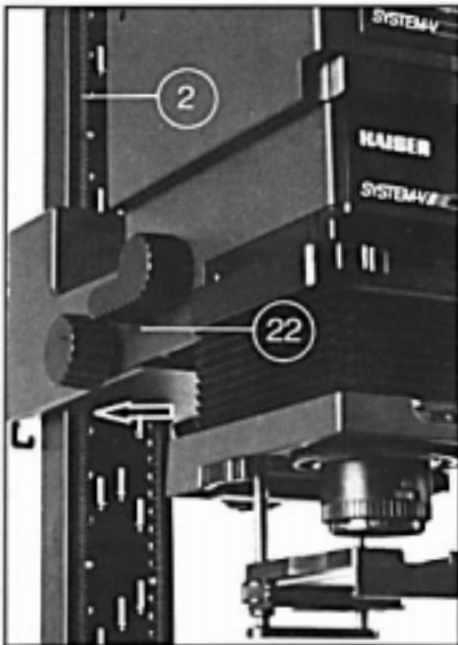
The compound negative carrier has to be removed from the enlarger head to load single negatives and slides. (Naturally, the compound negative carrier can also be removed to load film strips.) For this purpose turn the swivel grip (51), (as described above) to raise the upper section of the enlarger head. The compound negative carrier can now be pulled out to the front. When loading single negatives ensure that the negative is positioned accurately over the aperture of the size insert so that the entire negative size can be utilized. The compound negative carrier is then closed and returned to the enlarger head. The upper section of the head is lowered again by turning back the swivel grip (51).



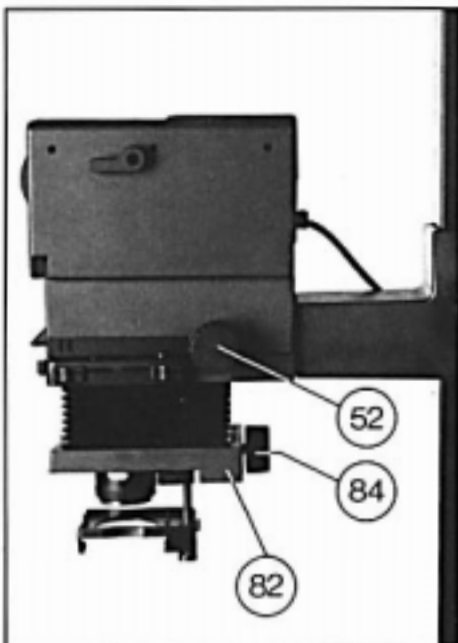
5. Height adjustment. Adjusting the enlarging format

Adjusting the height of the unit's head will determine the enlarging format.

Height adjustments are made with the crank (24). The braking friction required for a reliable height adjustment is regulated on the back of the holding arm. If there is too much play in the height adjustment, then the four screws (25) should be uniformly and carefully tightened. To simplify the adjustment, some models have weight compensation by means of a coil spring.



The Column (2) is provided with various scales – in cm and inches – also indicating the magnification factors for 90, 80 and 55 mm lenses. All dials and markings are referenced to the lower edge of the Head Mounting Bracket (22).



6. Focussing Procedure

Focussing is accomplished by way of moving the Lens Carrier (82). Up or Down across a friction drive system operated by the Focussing Control (52).

Focussing should always be performed with the lens aperture Full open, and with the focussing plane located at the level of the masking frame or easel – preferably loaded with a piece of paper for optimum results. If you cannot obtain a sharp image, check the lens and the adapter rings for proper assembly – refer to Section 3 „Lens Requirements“ on Page 7 hereof.

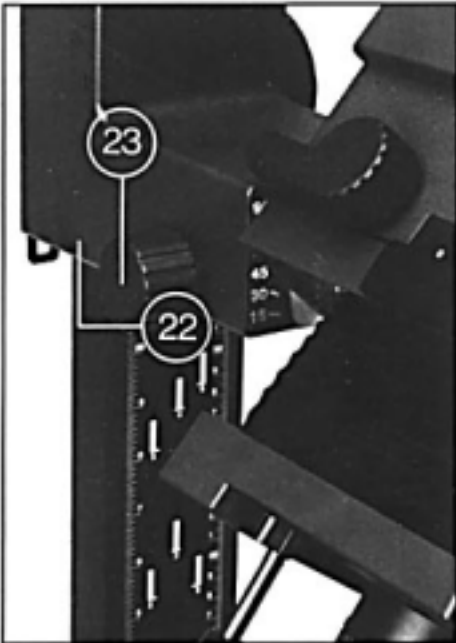


7. Distortion correction

This is performed to correct image distortions, for instance to straighten converging lines frequently associated with architectural photography. The simplest method is to tilt the masking frame, for instance by placing something underneath it on one side. Now tilt the enlarger head in the opposite direction. It is also possible to tilt the lens panel (82) for distortion correction by the Scheimpflug principle (not included on VP 3502).

According to the Scheimpflug condition, the adjusted sharpness is maintained over the entire image area if the negative level, lens level and image level meet at one point. If this condition cannot be established, then stop down the diaphragm to increase the depth-of-field.

Another point that must be observed in this connection is that not all parts of the photographic paper are exposed to the same amount of light due to the tilt of the enlarger head. Consequently, the side that is exposed to the more intensive light must be shaded with dodgers that are moved continuously over the image area that is to be shaded.



To tilt the enlarger head, release the clamping screw (23), tilt the head in the manner required; firmly retighten the clamping screw. Marks on the face side of the supporting arm (22) become visible when the enlarger head is tilted. These marks indicate the inclination angle of the enlarger head in relation to the horizontal.

The clamping screw (84) must be released to tilt the lens panel.



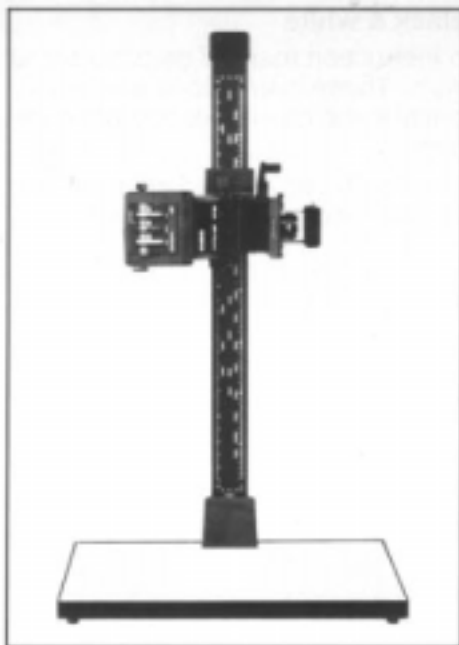
8. Large-scale enlargements; wall and floor projection

Potentially, two possibilities exist for producing enlargements exceeding 30 x 40 cm: floor projection or wall (horizontal) projection.

For floor projection turn the column with enlarger head around its own axis by 180°. The image can now be projected from the table down onto the floor.

IMPORTANT! Adequate weight should be placed on the baseboard before swivelling the column and head around to ensure that the enlarger cannot topple over.

Detach the enlarger head from the Head Mounting Bracket (22) by way of slackening the Head Locking Screw (23) and pulling the head towards you. Then remove the Column Locking Screw (15) and detach the Column (2) from the Column Mount (12) by pulling it towards you, and remember the two Locating Pins (13) in the column mount! Turn the column round to face in the opposite direction and reattach it to the column mount. Prior to reattaching the enlarger head, place some suitably heavy objects on the baseboard – to prevent the enlarger from toppling over! Not attach the enlarger head.



The enlarger head is swivelled by 90° for wall or horizontal projection. The photographic paper is placed in a holder mounted on the wall. Ensure that the enlarger is precisely aligned with the projection surface. The size of the enlargement can be varied by changing the distance of the enlarger from the projection surface.

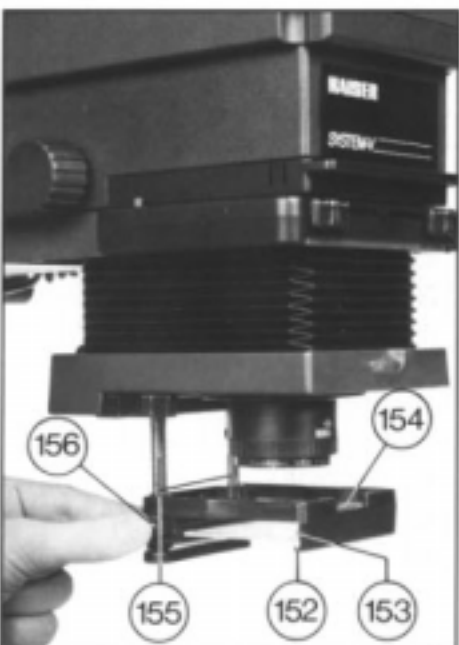
Release the clamping screw (23); swivel the enlarger to the left or right by 90° for wall projection. A centering cam on the supporting arm engages a corresponding bore on the condenser housing (5) when the correct swivel position has been reached. Retighten the clamping screw (23).



9. Filter attachment

Some equipment versions include a standard filter holder for attaching filters below the enlarging lens. The filter holder can be fitted to all other versions (item no. 4495).

It is fastened to the drill holes (88) in the lens carrier (82) with the aid of the two screws included.



The below-lens filter holder has two insert slots (152) for square filters of between and 67 mm width, and another insert slot (153) in the center for masks up to 1 mm thickness. Frames filters to process variable-contrast papers can be inserted in a special holder (154) at the top of the filter carrier (151).

The filter carrier is guided by two parallel rods (155). Its height can be varied by turning the knurled wheel (156). The filter carrier can be swivelled out of the light path. For this purpose the filter carrier is released from its right-hand guiding rod, and then turned to the left.

Special accessory adapters are available to use round camera filters with threaded mount in the filter holder:

For screw-in filter, 49 mm diam. adapter No. 4496

For screw-in filter, 52 mm diam. adapter No. 4497

For screw-in filter, 55 mm diam. adapter No. 4498

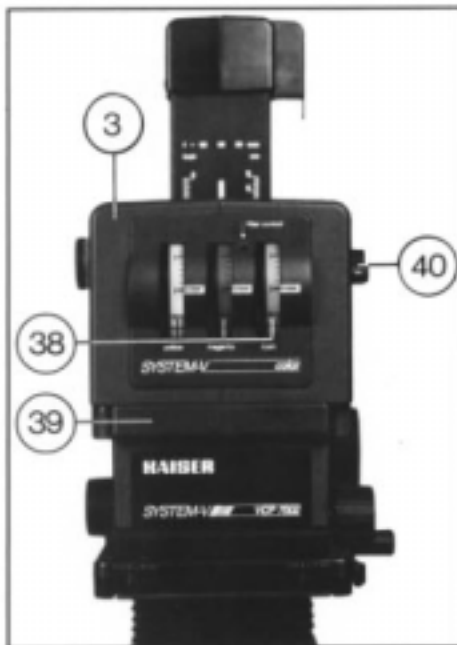
For screw-in filter, 58 mm diam. adapter No. 4499

The filter is screwed into the adapter, and then pushed into one of the two insert slots (152).

10. Enlarging in colour and black & white

This section cannot replace an instruction manual on processing colour and black & white materials. These instructions are restricted to major points that are essential in the context of operating the enlarger to produce enlargements.

Always ensure that a suitable lens for the envisaged enlargement size, and a matching condenser (see Section 13), are fitted.



10.1 Colour enlargements

Enlargers with a colour-mixing head can produce enlargements from negatives and directly from slides.

The colour-mixing head (3) of the enlarger is fitted with dichroic interference filters which, depending upon the extent to which they are inserted in the light path, reflect that part of the white light that is complementary to the filter's own colour. This filtering method is known as subtractive because the light's colour is obtained by subtracting white light.

The subtractive primary colours are yellow (Y), magenta (M) (purple), and cyan (C) (blue-green). These terms are used on the colour-mixing head. The filters are continuously swivelled into the light beam with the dial-in wheels (38). The adjusted value can be read off the illuminated scale wheels on the front of the colour-mixing head.

The scale system is calibrated in densitometric values from 0 to 130. The values of the Kodak colour compensation filters (CC values), and of the Agfa colour copying foils that equal the densitometric density values (D values) are listed in Table 2. The following is applicable:

1 D density = 1.5 CC density = 2 Agfa densities

Table 2

D-value	CC-values	Agfa-values
0	0	0
10	15	20
20	30	40
30	45	60
40	60	80
50	75	100
60	90	120
70	105	140
80	120	160
90	135	180
100	150	200
110	165	220
120	180	240
130	195	260



Additional filters to achieve higher density values, and other filters in a size of 8,5 x 8,5 cm, can be inserted in the filter drawer (39).

The colour-mixing head and multigrade head have as standard equipment a white-light lever and a density diaphragm (including the BW halogen head).

The white-light lever (40) enables already positioned colour filters to be temporarily pivoted out of the light shaft, to make focusing easier. Reversing the white-light lever repositions the filters – so that the previously set filter values are still accurate and unchanged. The red signal light indicates the position.

The enlarger light can be steplessly reduced by the density diaphragm (45) by up to sixty densitometric densities, which is equivalent to two stops. The indirectly lit scale on the rotary knob is marked in divisions from 0 . . . 60.

10.2 black & white enlargements

The colour-mixing head can also be used to produce B & W enlargements.

All filters must be totally retracted from the light path. Hence, adjust all filter dial-in wheels (38) to zero.

The built-in red safelight filter permits image assessment on loaded B & W paper while the enlarger light is switched on. The red filter is dust protected within the bellows (81). It is inserted in the light path with slide (85).

Variable-contrast papers can be processed with the colour-mixing head. The emulsion of these papers has been formulated in such a manner that different contrasts can be achieved by exposure to correspondingly filtered enlarging light. The filter densities corresponding to the individual gradation levels are listed in the table for variable-contrast papers.

The values listed in Table 3 are guide values. Always refer to the paper manufacturer's instructions. Due to continuous filter adjustment the contrast can be adjusted to any in-between values.

Table 3

Filter setting of the colour-mixing head for variable-contrast papers (no changing of exposure time)

Gradation	Agfa Multicontrast II Ilford Multigrade II and Ilford Delta		Argenta Varigrade		Labaphot Multiscale MA		Kodak Polycontrast II/RC	
	Y	M	Y	M	Y	M	Y	M
0	90	15	60	20	90	15	100	25
1	55	30	50	30	55	30	75	30
2	35	45	45	55	35	45	55	35
3	20	60	40	80	20	60	35	50
4	05	90	20	100	05	90	20	55
5	-	130	-	130	-	130	-	130

B+W enlargers are operated with a 75 Watts opal lamp.

Colour enlargements and B+W enlargements on variable contrast paper may be produced with the aid of 8,5 x 8,5 cm filter inserts to be placed in the filter drawer (39).

A heat absorbing filter – to be placed in the filter drawer – to protect both.

The negatives and the filter inserts against damage from excessive heat.



The Multigrade head of VPM 6002 permits the easy processing of variable-contrast graduation papers.

With the aid of the luminous scale wheel (48), you can steplessly adjust the graduation from 0 (extremely soft) to 5 (extremely sharp) without having to change the exposure time.

Use either yellow light to focus (corresponds to graduation 0-1) or white light. To do this, set the filter wheel at 0 and depress the white light lever (40) to the lower position. Now the red lamp (42) will light up. In this position you can also process conventional photo papers.

Measuring exposure with Multigrade

Please note:

Measuring the exposure time should be done in white light (multigrade filter swung out) or with the graduation adjusted to 2.5 regardless of the graduation actually desired. The exposure time thus determined is valid for all other graduation adjustments between 0 and 5. Use the same procedure for calibrating the exposure meter.



11. Changing the lamp head

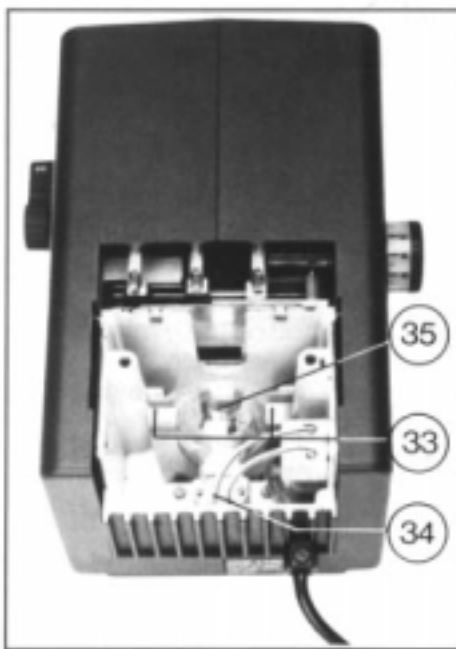
Depending upon the model, the enlarger is fitted with either a colour-mixing head, a B & W head or a multigrade head.

The following lamps are available for conversions:

- 4444 colour-mixing head*
- 4445 multigrade head*
- 4446 B & W head with halogen lamp*
- 4447 B & W head for opal lamp (only suitable for negative sizes up to 6 x 6 cm)

*Operation only with transformer

For replacement lift the lamp head off the condensor housing and fit the new lamp head vice versa. First of all disconnect the mains plug.



12. Lamp changing

Enlargers and lamp heads are supplied with fitted lamp.

Allow the enlarger to cool down before exchanging a defective lamp. For heads fitted with a halogen lamp release the fastening screws (32) for the head grille (31).

The grille can now be removed after it has been slightly pushed back.

Pull back the pressure springs (33) with two fingers, and lift out the lamp (35). The lamp can now be pulled out of its socket (34). When fitting a new lamp ensure that you do not touch the inside of the reflector and the bulb with the fingers. Insert the base pins without tilting right up to the stop point in the lamp socket. When inserting the lamp ensure that the cam on the reflector engages in the recess at the bottom of the lamp holder. Only use the prescribed halogen cold-light reflector lamp 12 V/100 W with the GZ 6.35 base (Product No. 4459).

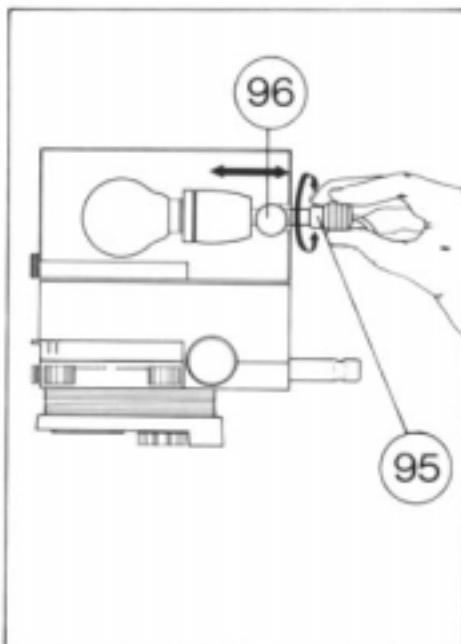
Refasten the head grille (31).

Please note that the colour temperature can change due to tolerances in the coating of cold-light mirrors. Consequently, it is advisable to check basic filtering after a lamp has been changed.



To replace and exchange the opal lamp in a B & W head it is necessary to lift the lamp head off the condensor housing (5). First of all disconnect the mains plug. The lamp can be screwed in after the filter drawer (39) has been removed.

Only use the prescribed 75 Watt opal lamp (Product No. 4356).



The opal lamp is adjustable to optimize illumination. For this purpose proceed in the following manner:

At this point do not fit the enlarging lens, or remove it if one is fitted.

Move the bellows of the lower head section up until it is compressed to its minimum extension level.

Switch on the enlarger (switch off the room light!). Raise the enlarger head to a height where the size of the illuminated area corresponds with the area of the baseboard.

Release the clamping screw (96) on the right-hand side of the lamphouse before adjusting the lamp.

Now adjust the lamp by shifting and turning the rod (95) until the point of maximum brightness is in the center of the illuminated area.

Fix this position with the clamping screw (96).



13. Changing over to other sizes

The enlarger is fitted with a double condenser system for all sizes up to the specified maximum size (see Table on page 6), i.e. smaller negative sizes can be dealt with by this condenser system.

All enlargers can be changed to cover sizes of up to 6 x 7 cm.

The following condenser systems are available for this purpose:

4441 double condensor 6 x 7 cm

4442 double condensor 6 x 6 cm

4443 double condensor 24 x 36 mm

The top section of the head (3) has to be lifted off to exchange the double condensor. First disconnect the power supply cable. Hold the head with both hands and lift it off by alternating the pressure exerted against both sides.

The condenser housing (5) is now freely accessible.



Release the two fastening screws (57), and lift out the double condensor. Reverse the procedure to insert a condensor.

Return the lamp head.

14. Converting SYSTEM-V enlargers to autofocus operation

The Autofocus Kit 4501 contains all the necessary components to convert Kaiser SYSTEM-V enlargers (except VP 350) to autofocus operation. The kit consists of:

- Column with toothed rack and supporting arm with pulse transmitter
- Lower head section with stepping motor
- Control unit

Proceed in the following manner for conversion:

- Lift off the top section of the enlarger head (as described in Section 13).
- Remove the condenser system (as described in Section 13).
- Release the clamping screw (23), and take the lower head section out to the front.
- Release the column (2) from the base (12) on the baseboard by unscrewing the fastening screw (15) and pulling the column out to the back.
- Now mount the column with tooth rack.
- Mount the lower head section with stepping motor on the supporting arm; retighten the clamping screw (23).
- Mount the condenser system, as described in Section 13, and return the top head section.
- Connect all the cables to the individual components.
- Fit the compound negative carrier with two glass inserts for autofocus operation (if this has not yet been done).

15. Conversion into a copying stand or slide copying unit

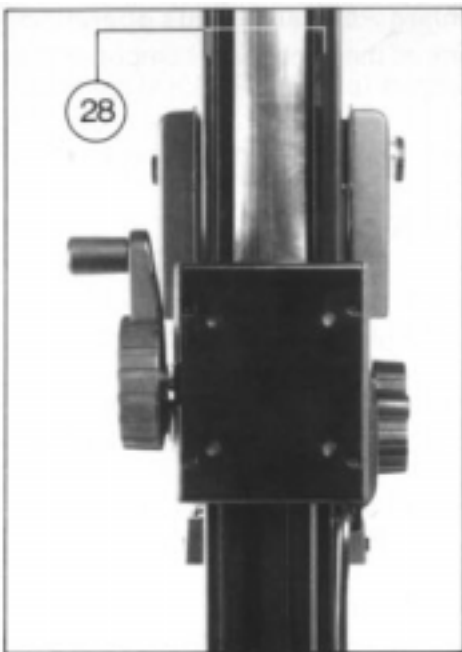
The enlarger can be quickly converted into a copying stand or a slide copying unit.

Release the clamping screw (23); remove the entire enlarger head by pulling it out to the front; replace it with a copy arm. Various copy-light mounting arms can be attached to the baseboard.

The procedure to convert the enlarger into a slide copying unit is similar. The removed colour-mixing head is placed upside down on the baseboard with the help of the Slide Copying Set 5979 (4491).

Please write for further information concerning other conversion possibilities.

The Right towards Technical Changes in Design and Finish is Reserved.



16. Care and maintenance

All moving parts have been designed in such a manner that they do not require regular maintenance.

Should the height adjustment not operate smoothly it will be quite sufficient to apply a thin film of Vaseline with a cloth to the side and front of the column and to the guiding grooves (28).

The enlarger should always be covered with a dust cover (Product No. 4375) when it is not being used. Ensure that the condenser, negative carrier and lens remain dust-free. Only use a cleaning brush or compressed-air spray for cleaning. Use a non-fluffing cloth, or a special optics cleaner, to remove grease spots on condenser and enlarging lens elements.

The baseboard can be cleaned with a mild household detergent. Splashed chemicals on varnished or anodized parts should be immediately removed with water.

KAISER[®]
FOTOTECHNIK

Kaiser Fototechnik
GmbH & Co. KG
Postfach 1262
D-6967 Buchen
Telefon (0 62 81) 4 07-0
Telex 4 66 414
Telefax (0 62 81) 4 07 55