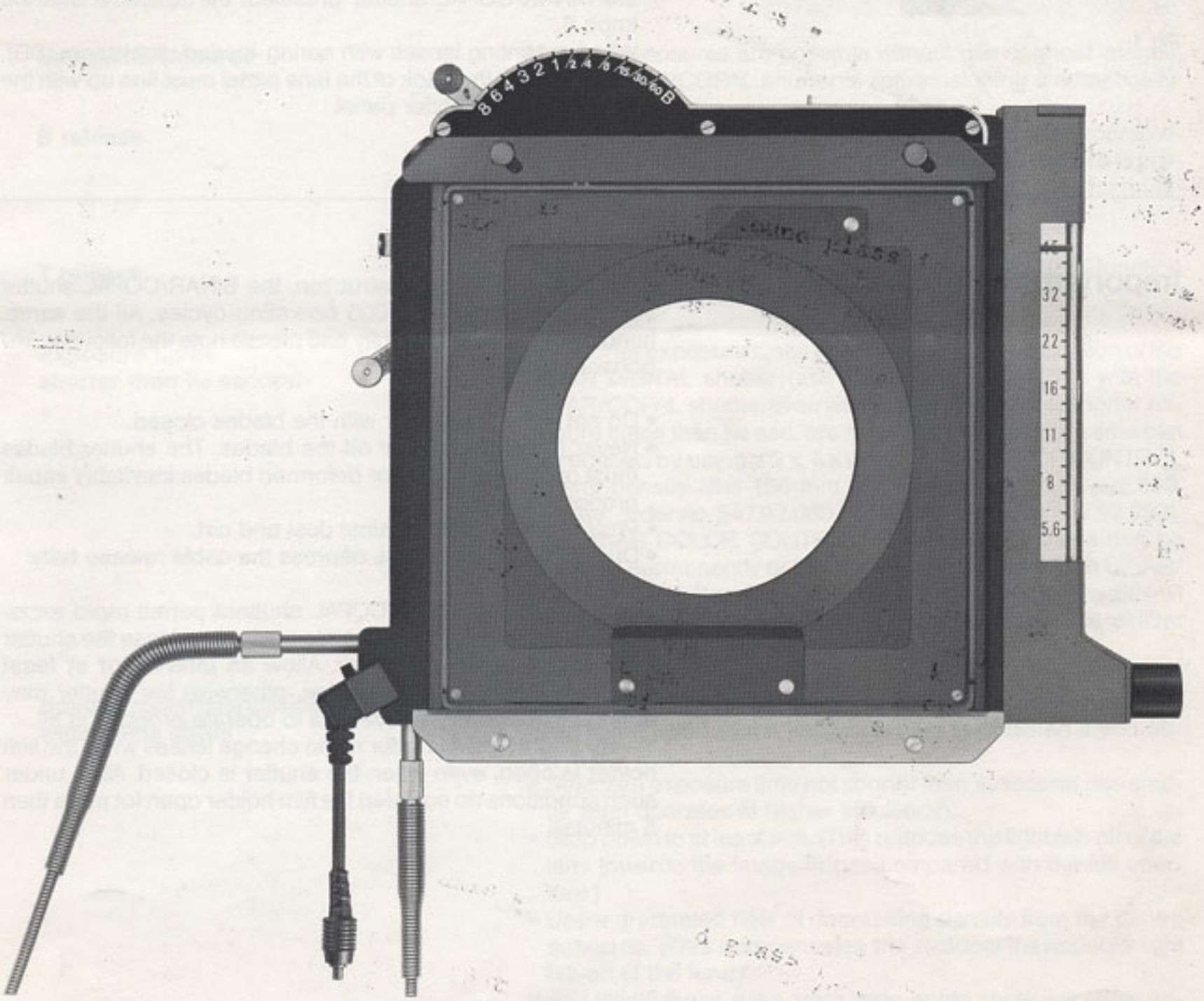
sinar

Instructions

SINAR/COPAL Shutter Order No. 521.31

Important: Please fold out the back cover page!

	Page
Summary instructions for immediate use	2
Important general points	2
Operation of the SINAR/COPAL shutter	3
1. Image observation on the ground glass screen	3
2. Exposure	3
3. Flash exposures	4
4. Filters	4
5. Automatic film holder control	5
6. The Aperture	6
Mounting lenses	9
DB lens conversion	9
Warranty	9



SINAR LTD SCHAFFHAUSEN
CH-8245 Feuerthalen, Switzerland
Telephone: 053/29 35 35 Telex: CH 897106
Telefax: 3 (053) 29 35 78

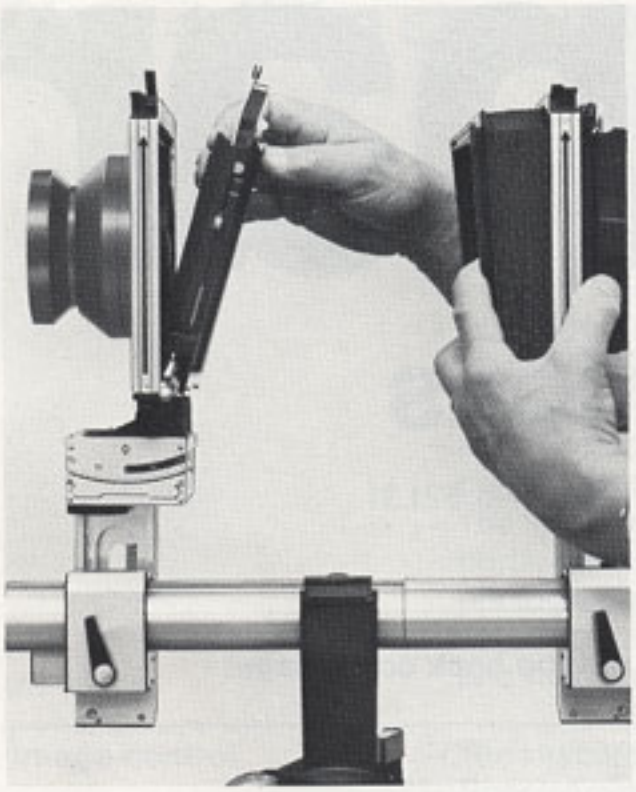


Fig. 1

Summary Instructions for Immediate Use

- Mount the shutter in the camera as shown in figure 1. The flash outlet should be at the left, as seen from behind the ground glass screen.
- Lock the shutter, the bellows and the lens panel correctly in position.
- To open the shutter for screen viewing, press the button 1c.
- Exposure times can be set at any time with the lever 2a (except when the release is depressed).
- Firmly screw in the release cable 2b. The shutter can only be released with this release and only when the shutter blades are closed. The release first tensions and then opens the shutter.
- Before an exposure, close the shutter with the lever 1b. Never try to close the shutter with the cable release!
- When using lenses with spring-loaded diaphragm (DB) with the SINAR/COPAL shutter preselect the aperture with the knob 6.
- When mounting lenses with spring-loaded diaphragm (DB), the red dot at the back of the lens panel must line up with the red dot on the shutter panel.

Important General Points

Thanks to its sound construction, the SINAR/COPAL shutter stands up to at least 50 000 operating cycles. All the same, handle your shutter carefully and please note the following important points:

- Do not store the shutter with the blades closed.
- Never touch and **never oil** the blades. The shutter blades must operate dry. Bent or deformed blades inevitably impair proper working.
- Protect your shutter against dust and dirt.
- During releasing, always depress the cable release **fully.**

The self-cocking SINAR/COPAL shutters permit rapid exposure sequences. All the same, do not try to release the shutter more rapidly than necessary. Allow an **interval of at least 4 seconds between exposures,** otherwise the shutter may operate inaccurately or even fail to operate properly at all.
In very bright light it is safer not to change lenses while the film holder is open, even when the shutter is closed. Also, under such conditions do not keep the film holder open for more than 5 minutes.

Operation of the SINAR/COPAL Shutter

1. Image observation on the ground glass screen

(figs. 9 and 10)

1a = red pin is visible (and can be felt) = shutter is open
red pin is withdrawn = shutter is closed
1b = red manual operation lever for the shutter blades
lever down = shutter is open
lever up = shutter is closed
1c = lock of 1b
On pressing the locking button 1c, the shutter opens.
1d = aperture contact pin for automatic coupling with lenses with spring-loaded diaphragm (DB)
1e = aperture preselector pin
Used for setting the preselected aperture of formerly delivered lenses with preselection aperture control (BV)

2. Exposure

(figs. 9 and 10)

2a = black shutter speed setting lever
2b = release for exposure (order no. 521.61 = cable release)

Multiple Exposures

Multiple exposures are possible without risk of ghost images, as the SINAR/COPAL shutter is self-tensioning automatically.

B release

The release at the B setting is particularly soft to permit completely silent and vibration-free exposure when the camera is precariously mounted or in other special cases (e. g. also for multiple exposures).

T release

Set the shutter speed lever on the shutter to B. Select T-function on the cable release.

Exposure times shorter than 1/60 second

For shorter exposure times up to 1/500 sec., see application of the SINAR DIGITAL shutter (ask for the leaflet DE 2). If with the SINAR/COPAL shutter, even with smallest aperture, shorter exposure times than 1/60 sec. are required, the exposure time can be reduced by using a 2 x, 4 x or 8 x SINAR COLOR CONTROL neutral density filter 100 mm (2 x filter: order no. 547.92.030, 4 x filter: order no. 547.92.060 or 8 x filter: order no. 547.92.090). The SINAR COLOR CONTROL neutral density filters can be mounted permanently or temporarily in the back of the SINAR/COPAL shutter. See also section 4. Filters. Naturally the SINAR COLOR CONTROL neutral density filters also fit the SINAR filter holder 100 mm, order no. 547.51.

Special recommendation for extreme wide-angle shots

When utilising the full angle of view of a wide-angle lens, more even illumination of the image corners is obtained if you observe the three following points:

- Select an exposure time not shorter than 1/15 second (the shutter then operates at higher efficiency).
- Stop down to at least f/16. (This reduces the light fall-off of the lens towards the image edges compared with the full aperture.)
- Use a graduated filter of decreasing density from the centre outwards. (This compensates the residual inavoidable light fall-off of the lens.)

If you follow these rules, your wide-angle shots will show noticeably improved quality.

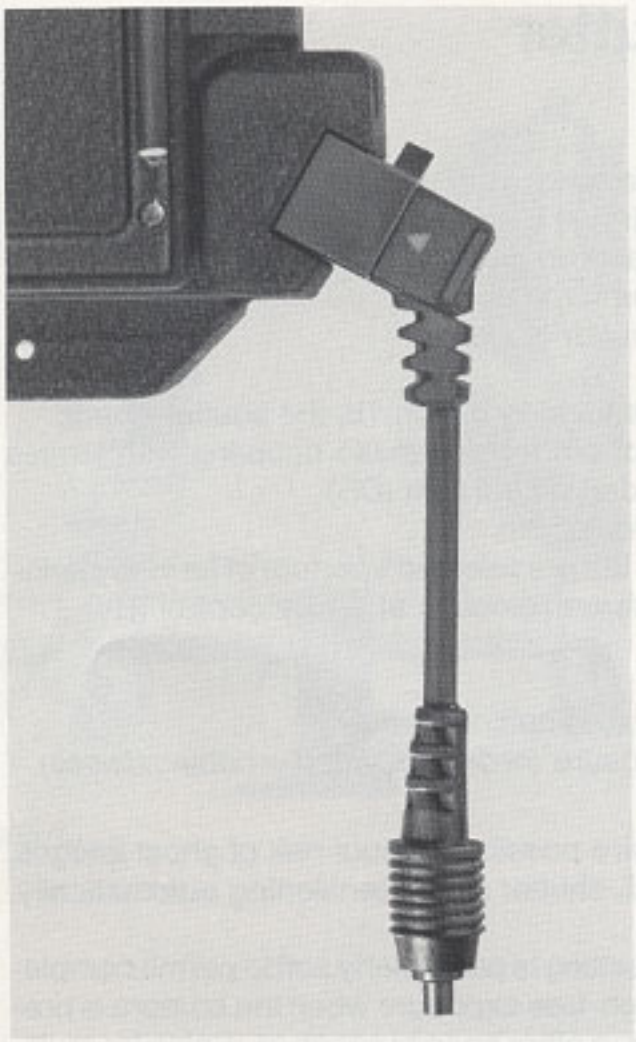


Fig. 2

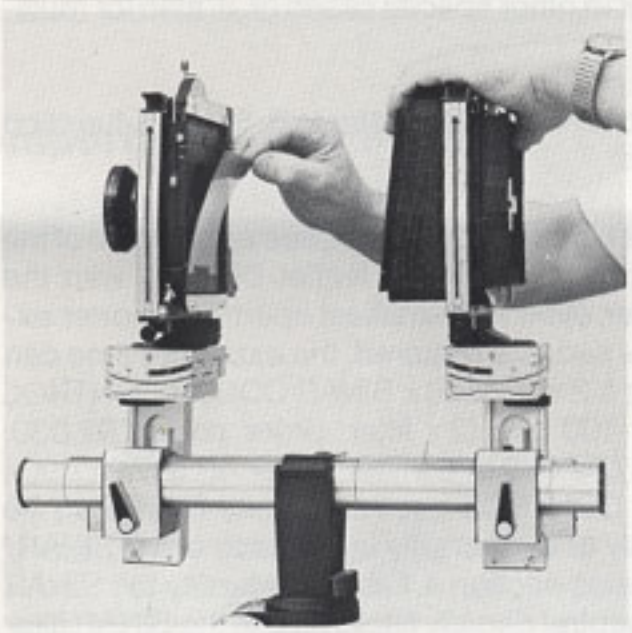


Fig. 3

3. Flash Exposures

(figs. 2, 9 and 10)

The flash contact of the SINAR/COPAL shutter is disengaged during observation of the ground glass screen. The flash can therefore fire only on operating the release 2b, but not when operating the lever 1b and the lock 1c for ground glass screen observation.

Electronic flash synchronisation is guaranteed at all shutter speeds (B, 8 sec. – 1/60).

Multiple flash exposures

With small electronic flash units in particular it may be desirable to fire a flash several times in succession, for example for interior shots. With the self-tensioning SINAR/COPAL shutter this method of working is equally easy without any risk of double images, as the camera has not to be touched during tensioning.

4. Filters

(figs. 3 and 10)

On unhooking the camera bellows (see fig. 3) the filter holder at the rear of the SINAR/COPAL shutter is accessible. This holder takes the following filters (fig. 10, 3a, 3b):

- The circular recess 3a takes up to ⌀ 103 mm glass filters (but not a polarising filter which must be mounted **in front** of the lens with a SINAR filter holder).
- The rectangular recess 3b takes **SINAR COLOR CONTROL filters** 100 mm or 4 x 4″ (10 x 10 cm) **gelatine filters.**

SINAR COLOR CONTROL filters, glass filters as well as the gelatine filters are inserted below the bottom retaining spring and secured by the upper pivoting spring.

SINAR COLOR CONTROL filters can be combined with various gelatine filters. The arrangement of the filters behind the lens has the following advantages:

- Filter changes are possible from behind the camera.
- Filters (e.g. colour correction filters) can remain in the camera when lenses are changed.
- This location protects filters against dirt and moisture.
- It reduces the risk of reflections.
- No special filter holder is necessary.

5. Automatic Film Holder Control

(figs. 4, 5 and 10)

4a = cable for automatic operation, order no. 521.51 (including the bayonet connector no. 521.91, fig. 6).

This cable links the shutter with the camera back so that inserting or removing the film holder automatically closes or opens the shutter respectively. This arrangement is particularly useful for:

- Increasing the action speed (in portraiture, fashion photography, sequence shots etc.).
- Greater operational safety, as the shutter **closes automatically** when the film holder is placed in position, and opens on removing the film holder. During fast shooting sequences – e. g. with the SINAR Rapid adapter – this automatic control avoids errors in the operational steps.

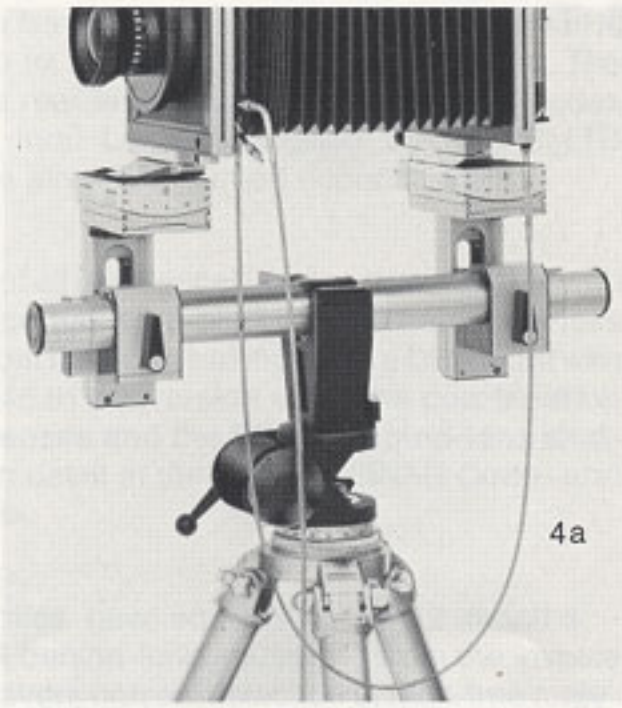


Fig. 4

Fit the cable for automatic control as follows:

- Open the SINAR/COPAL shutter (by pressing the button 1c).
- Fully screw in the cable at the shutter end (the end with the thread) as shown in figure 4, then.
- Screw the bayonet connector in at the camera back – but do not tighten yet – and put in the cable (fig. 4 and fig. 5).

Fully push the film holder into the camera back

Adjust the cable length with the milled nut 5c (fig. 5) on the bayonet connector until the upper edge of the lever 1b on the shutter is **between** the two red index marks 5b. This completes the adjustment. Firmly tighten the nut 5c. Remove the film holder from the camera back.
The automatic coupling is now ready to function: The shutter automatically closes on insertion of the film holder and opens equally automatically when the holder is removed. With this method of operation the locking button 1c is out of action.

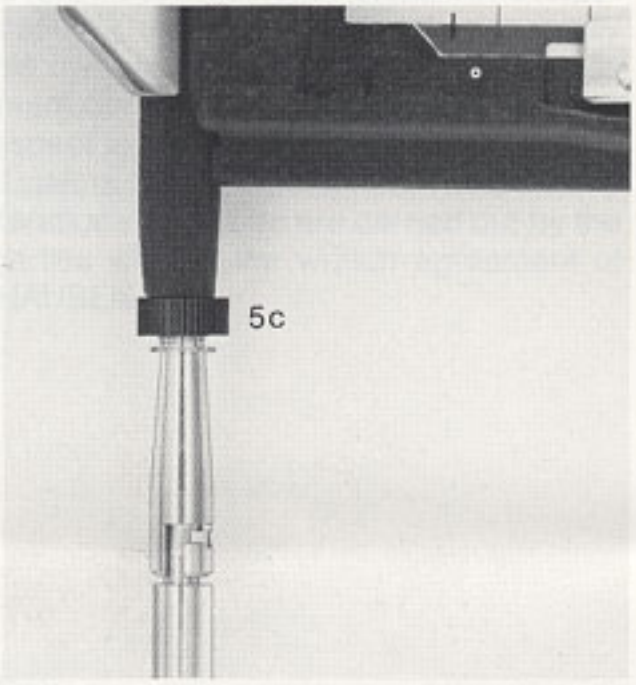


Fig. 5

Special points

To avoid individual adjustment of the connecting cable for every alternative camera back and to permit rapid changing of camera backs, each back can be fitted with a separate bayonet connector (order no. 521.91 – fig. 6). This makes a once-and-for-all adjustment possible for each back unit. In this case the cable is disconnected at the bayonet connector when changing camera backs.

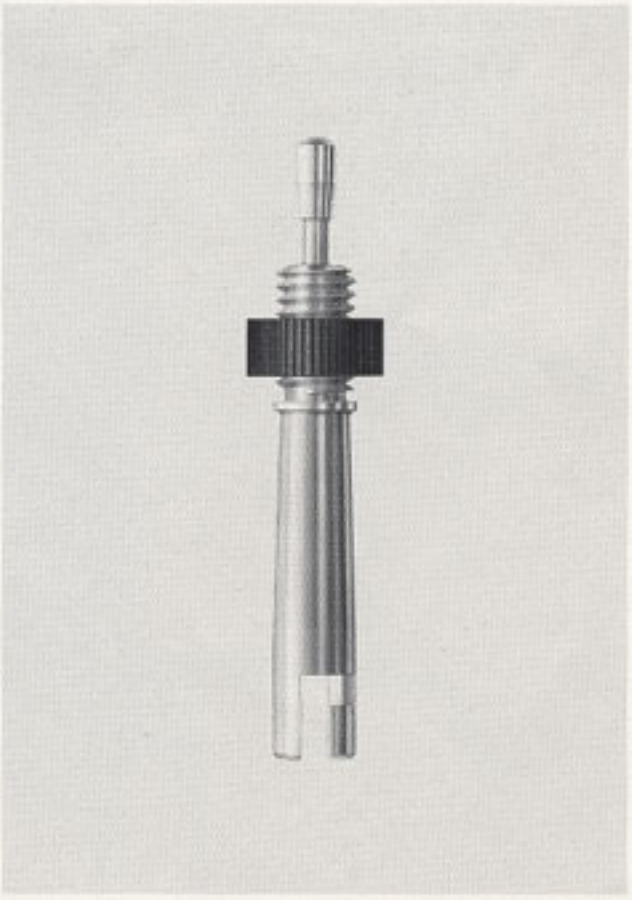


Fig. 6

For special requirements two cables no. 521.51 for automatic operation can be linked with a coupling piece (order no. 521.81, fig. 7). This doubles the length of the automatic link.

Fig. 7

6. The Aperture

The housing of the SINAR/COPAL shutter carries a greatly expanded aperture scale 6a which is clearly visible from the ground glass screen position. The aperture required can be set exactly which the knob 6 (fig. 10).

For automatic aperture control, lenses with spring-loaded diaphragm (DB) – specially developed for this purpose – are used. Here the aperture control links up automatically with the lens when changing the latter. The aperture value shown on the scale* 6a on the shutter is always the preselected working aperture of a DB-mounted lens.

With the shutter open and cable release not depressed, the aperture is always fully open for ground glass screen viewing. For the exposure, the shutter is closed manually in the usual way or by the automatic cable link with the film holder (see section 5). As you press the cable release to make an exposure, the lens iris closes to the preselected stop, and automatically opens again after the exposure.**

- To check the depth of field, depress the cable release halfway while the shutter is open. Turning the aperture knob 6 now sets the required working aperture – you can read it off on the shutter and observe the effect on the ground glass screen. On letting go off the cable release, the iris opens again fully for viewing. For exposure measurements at the working aperture with the PROFI-select TTL, lock the cable release (after depressing it half-way) with its T-function and unlock again after the reading.

- The SINAR/COPAL shutter will also take all lenses in the no. 441.11 (x 800), 442.21 (x 801 B, aperture control) and 443.21 (x 801 BV, formerly delivered preselector aperture control) mounts. The aperture control of the SINAR/COPAL shutter is then disengaged.

Important

In order to avoid vibrations or a closing of the diaphragm beyond the preselected aperture, do not operate the release abruptly, all the way.
Take up the first pressure – then release!

Do not overwind the knob (6) for the aperture preselection control. In the course of time this could damage the mechanism.

* For special requirements the square rod 6b carrying the aperture scale can be changed on the shutter by simply lifting it out by its top cap. The rod clicks into positions when pushed in.

** When using lenses with maximum apertures smaller than f/5.6, e. g. f/8, check that the aperture preselection control (the knob 6) is not set to a larger aperture than that of the lens.

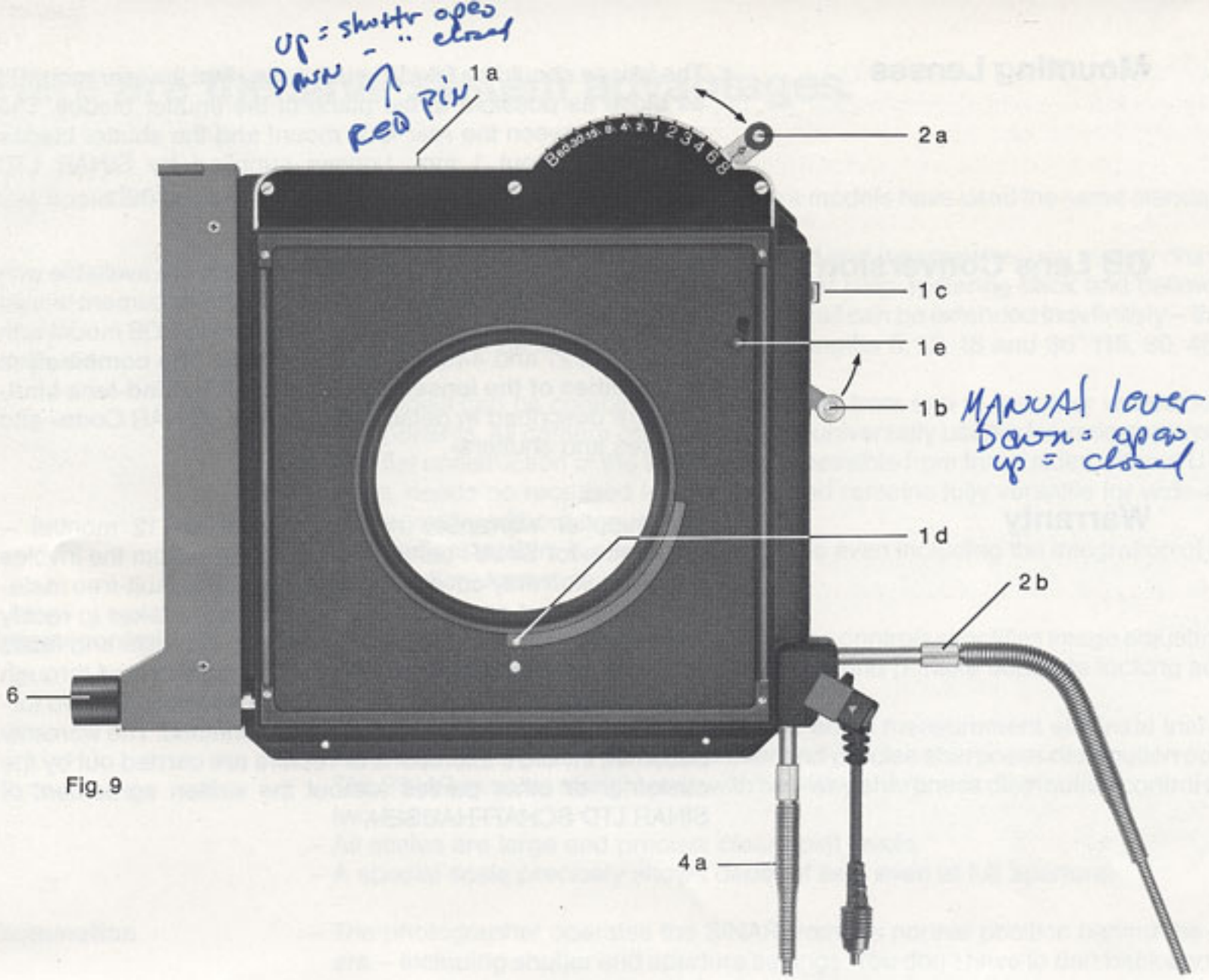


Fig. 9

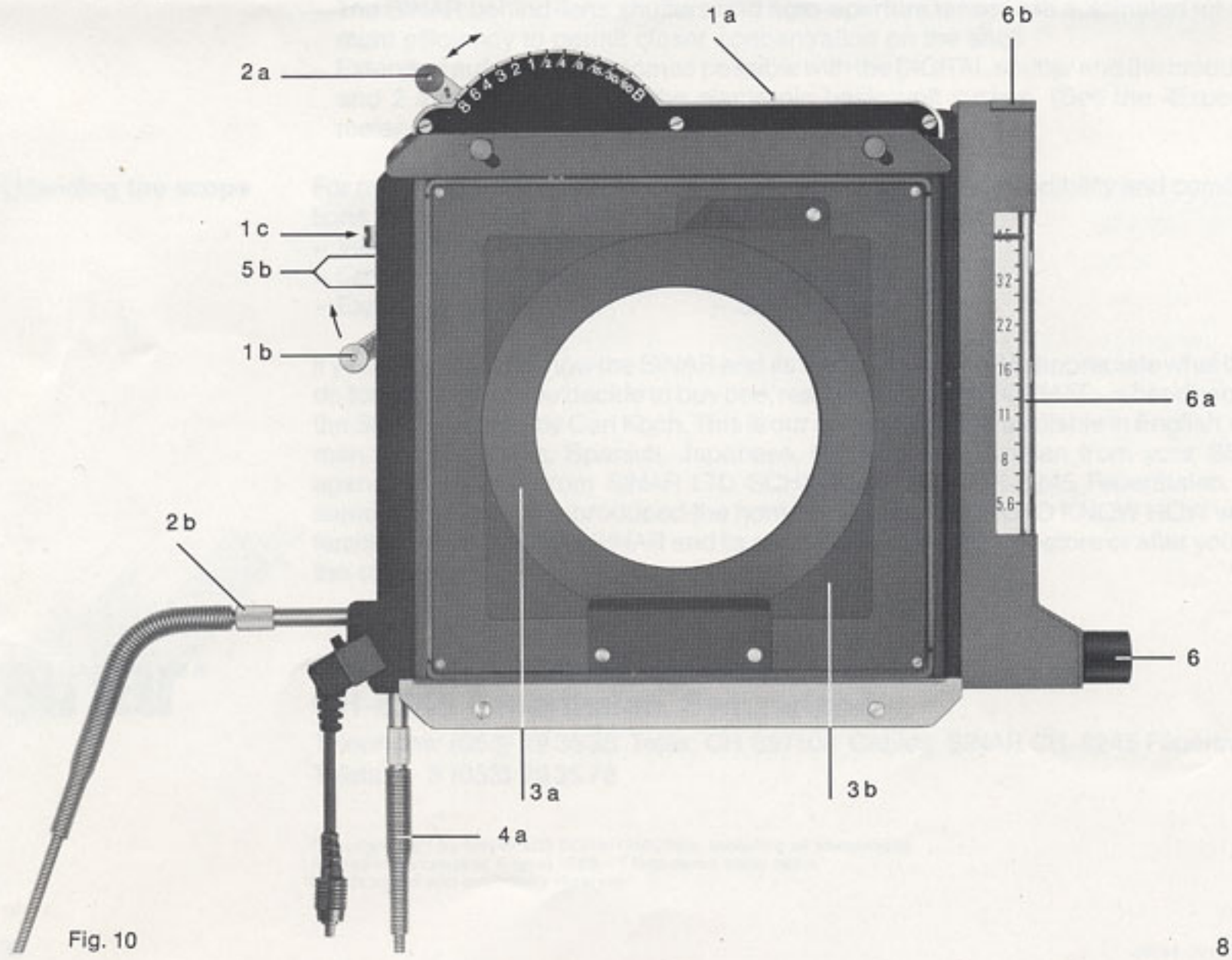


Fig. 10

Mounting Lenses

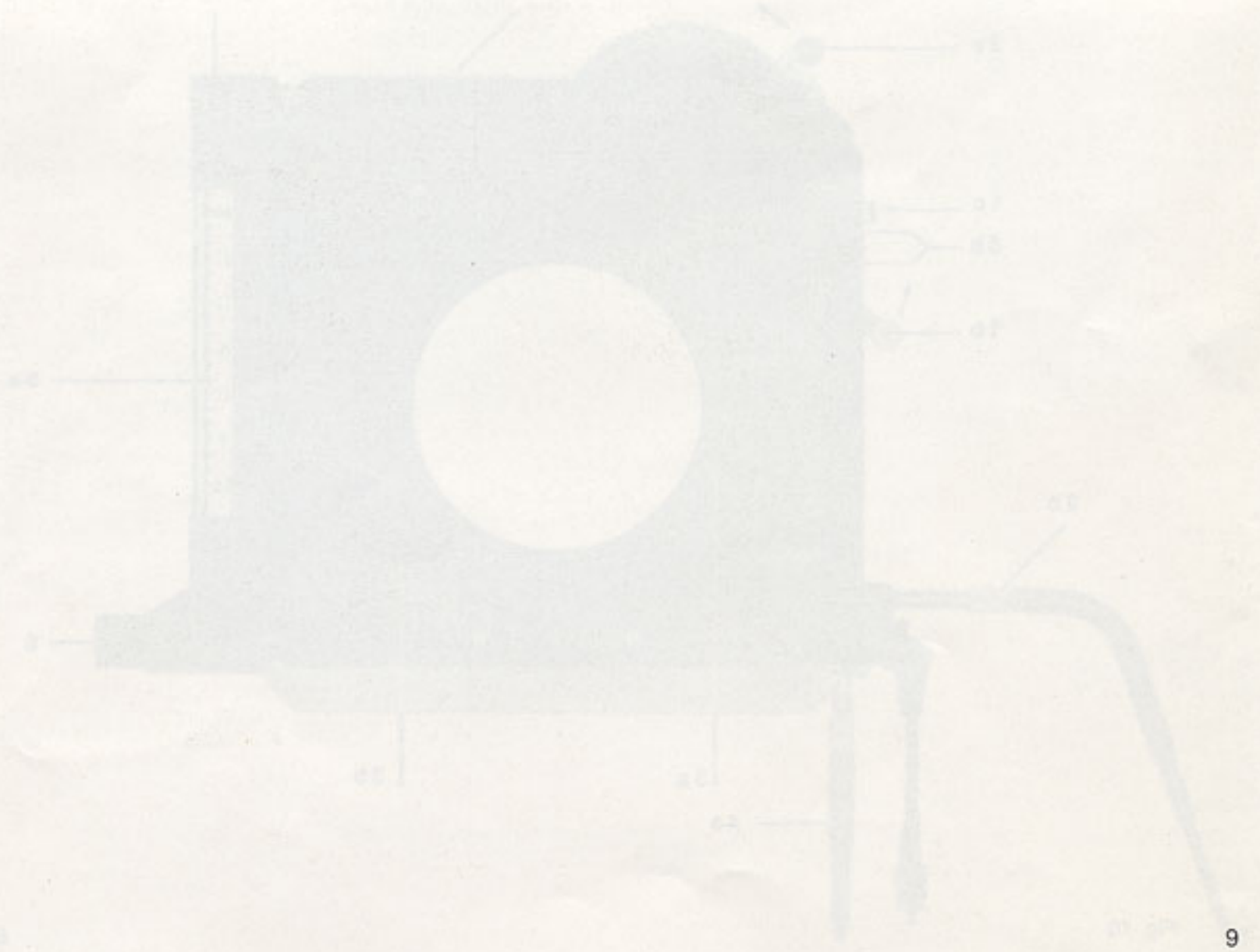
The lenses should be fitted in such a way that the rear mount is as close as possible to the plane of the shutter blades. The spacing between the rear lens mount and the shutter blades should be about 1 mm. Lenses supplied by SINAR LTD SCHAFFHAUSEN are already mounted accordingly.

DB Lens Conversion

More than 50 lenses of all usual focal lengths are available with the SINAR DB auto-aperture control. Many view camera lenses can be transferred from their original mount to a DB mount with the no. 446.21 and 446.91 conversion sets. **The combination possibilities of the lenses and the SINAR behind-lens shutters** are described in detail in the leaflets «SINAR Code» and «Lenses and shutters».

Warranty

The supplier warranties new equipment for 12 months — 24 months for SINAR behind-lens shutters — from the invoice date. This warranty covers correct selection of fault-free materials and perfect operation. The supplier undertakes to rectify immediately and at his own expense any damage and faults arising on the equipment during the warranty period through shortcomings with respect to the above specification. No further or consequential claims can be entertained. The warranty becomes invalid if alterations or repairs are carried out by the customer or other parties without the written agreement of SINAR LTD SCHAFFHAUSEN.



Here are the sinar system advantages.

The basic camera

- For more than 35 years all SINAR camera models have used the same standard fitting sizes. They will go on doing so.
- Switching the image size is straightforward and inexpensive: you merely change a format frame screen and film holder carrier resp. metering back and bellows.
- Starting from the minimum length of 6″ the rail can be extended indefinitely – thanks to convenient basic and accessory rail lengths 6, 12, 18 and 36″ (15, 30, 45 and 90 cm).
- All models can be combined and converted from one to the other without loss of components. All camera components are universally usable for various purposes.
- The flat construction of the standards, accessible from three sides without U-supports, needs no recessed lens boards and remains fully versatile for wide-angle photography without conversion.
- The camera system is adaptable to all jobs even including the integration of small and medium format cameras.

Image control

- The logical arrangement and operation of the controls simplifies image adjustments.
- Special micrometer drives in the SINAR p2 and p make separate locking adjustments unnecessary.
- Swing and tilt axes in the film plane and angle measurement eliminate trial-and-error adjustments. This permits simpler and precise sharpness distribution control.
- The SINAR remains straight even with two-way sharpness distribution control about two axes.
- All scales are large and precise; clear spirit levels.
- A special scale precisely shows depth of field even at full aperture.

Automation

- The photographer operates the SINAR from his normal position behind the camera – including shutter and aperture settings. You don't have to dart back and forth between the lens and ground glass.
- The SINAR behind-lens shutters and auto-aperture lenses are automated for optimum efficiency to permit closer concentration on the shot.
- Extended automation becomes possible with the DIGITAL shutter and the modules 1 and 2 in conjunction with the electronic basic unit system. (See the «Exposure meter» leaflet).

Extending the scope

For more information about supplementary accessories, convertibility and combinations in the system, please turn to the following brochures

- Viewing and Accessories
- Lenses and Shutters
- Exposure meters
- Code
- Film holders
- SINAR cases

If you want to get to know the SINAR and its system better and to appreciate what it can do for you, before you decide to buy one, read «THE LARGE FORMAT – a handbook on the SINAR system» by Carl Koch. This is our own publication available in English, German, French, Italian, Spanish, Japanese, Chinese and Russian from your SINAR agency or directly from SINAR LTD SCHAFFHAUSEN, CH-8245 Feuerthalen. The same author has also produced the home study course PHOTO KNOW HOW which familiarises you with the SINAR and its practical scope – either before or after you buy the camera.

studio industry nature architecture reproduction

sinar®

SINAR LTD SCHAFFHAUSEN
CH-8245 Feuerthalen, Switzerland
Telephone: (053) 29 35 35 Telex: CH 897106 Cables: SINAR CH-8245 Feuerthalen
Telefax: 3 (053) 29 35 78

Copyright 1981 by SINAR LTD SCHAFFHAUSEN, including all translations
Printed in Switzerland August 1989 – ® Registered trade name
Modifications and availability reserved

307.89/08.54.000.5e