



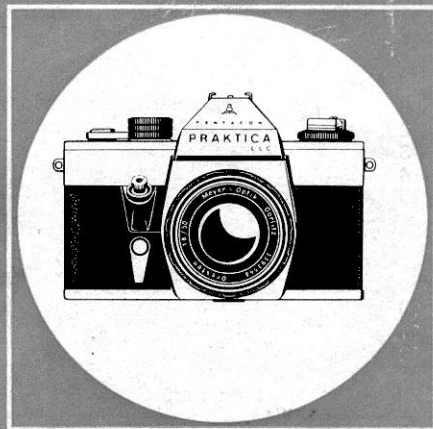
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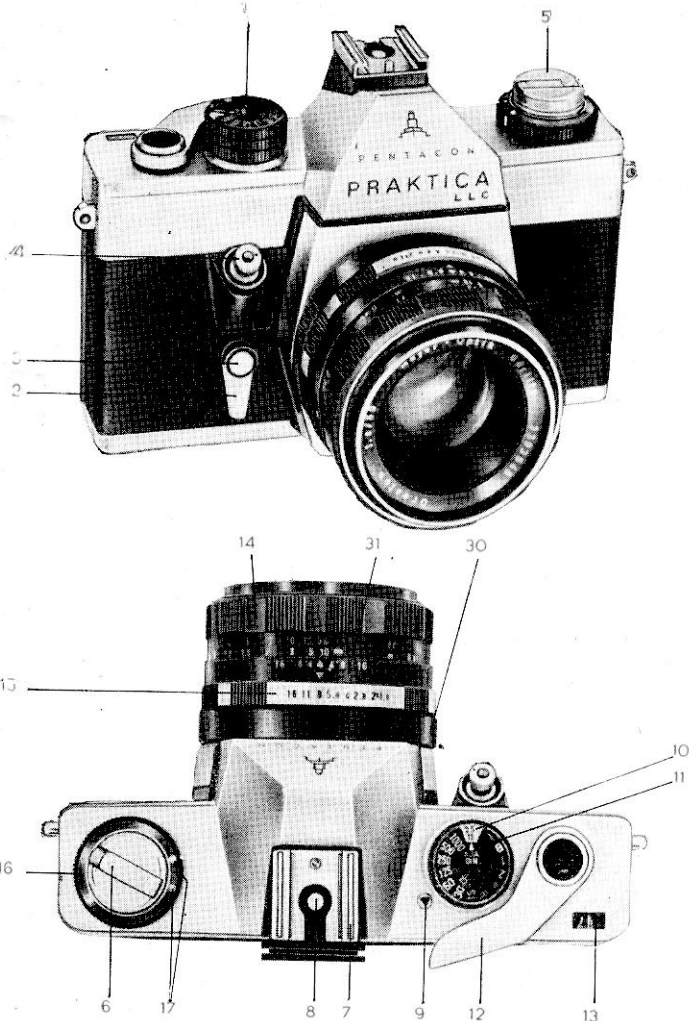
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INSTRUCTIONS FOR USE

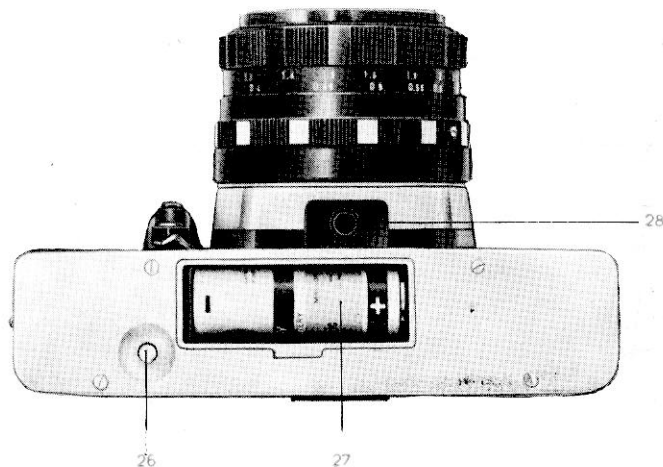
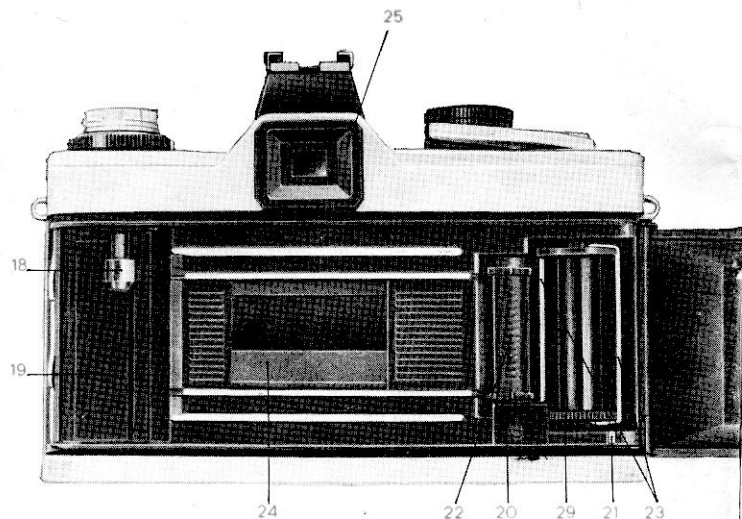


Control Parts of the PRAKTICA LLC

- 1 Knob for setting the shutter speeds
- 2 Cocking lever for delayed-action release
- 3 Delayed-action release knob
- 4 Shutter release
- 5 Rewind knob
- 6 Rewind crank
- 7 Accessory shoe
- 8 Centre flash contact
- 9 Exposure speed index
- 10 Film speed scales
- 11 Film speed indicator
- 12 Rapid wind lever
- 13 Exposure counter
- 14 Distance setting ring
- 15 Diaphragm setting ring
- 16 Selector ring for automatic exposure control
- 17 Symbols for measuring at full aperture or taking aperture



Control Parts of the PRAKTICA LLC



- 18 Rewind catch
- 19 Cartridge chamber
- 20 Supporting piece
- 21 Marking point for inserting the film
- 22 Film transport sprocket
- 23 Wire bracket
- 24 Metal-bladed focal-plane shutter
- 25 Ocular mount with fitting for accessories
- 26 Rewind release knob
- 27 Battery compartment with PX 21 battery
- 28 Tripod socket
- 29 Take-up spool
- 30 Manual stop down key
- 31 Depth-of-field scale

We are extremely pleased that you have chosen the high-quality PRAKTICA LLC, and we wish you every success in working with this modern reflex camera.

Before using your camera, however, we would request you to read these Instructions for Use very carefully. This will help you to avoid trouble caused by wrong handling.

The PRAKTICA LLC is a miniature single-lens reflex camera for the 24 x 36 mm picture format. Its novel type of steel-bladed focal-plane shutter, which travels across the shorter side of the frame, has a range of speeds from 1 sec. to 1/1000 sec. and B. It is synchronized for the use of flash bulbs and electronic flash units. As a result of the rapidly moving steel curtains, the electronic flash can be synchronized at 1/125 sec. The centre contact in the accessory shoe makes it possible to connect camera and flash unit without using a cable.

The pentaprism is firmly built in, and the focusing system, due to its Fresnel lens, reveals a finder image of maximum corner-to-corner brightness. The micropism screen and a groundglass area assure quick and perfect sharp focusing.

For use as interchangeable lens systems, the well-known PRAKTICA lenses are available. Up to a focal length of 300 mm they have automatic diaphragm control. In connection with the automatic mechanism in the camera they function as spring-diaphragm lenses, which means that the diaphragm closes within the shortest time and opens again immediately after the shutter has run down. Through the instant return mirror the image is visible practically all the time, except for the short moment of the exposure.

The distinctive feature of the PRAKTICA LLC is the novel type of automatic exposure control with through-the-lens metering.

The method of light metering is partially integral. The principal metering spot is concentrated within an area of approximately 20 mm in diameter in the centre of the viewfinder field. The readings are thus true to reality, since this area, for the greater majority of objects, includes the details of uppermost importance to the picture. All subordinate parts of the object outside of this section of the image are photometrically of less value and cannot influence the reading.

Metering is performed with the taking lens at full aperture, which means that the viewfinder image is always at its maximum brightness. In the PRAKTICA LLC the diaphragm values are transferred from lens to camera electrically, without requiring any mechanical device. Also in connection with intermediate rings adapted for electric transmission, this modern method of light metering at full aperture can be employed.

Due to the special type of bridge circuit, the reading is not affected by any variation in voltage of the power source.

But also all the PRAKTICA lenses without electric transmission of the diaphragm values may be used thanks to the possibility of readjusting the light meter for measuring with the lens at taking aperture.

The PRAKTICA LLC is also equipped with a delayed-action device.

Abridged Instructions

For further details
please turn to page:

A

Opening the camera back

10

Pull out rewind knob (5) as far as it will go.

B

Inserting the film

10

Place film cartridge into cartridge chamber (19), push in rewind knob (5). Push film from above as far as it will go underneath the supporting piece (20) on transport sprocket (22). Place beginning of film strip on to core of take-up spool (29) up to the green marking point (21).

Wire bracket (23) on the take-up spool must not stand upwards.

C

Close the camera back

12

D

Preparing for the exposure

12

Actuate rapid wind lever (12) and shutter release (4) until exposure counter (13) stands on number "1".

E

Setting the film speed

14

Lift the milled ring of speed setting knob (1) and rotate it until the speed value of the film in the camera stands opposite the film speed indicator (11).

F

Setting the exposure speed

14

Rotate speed setting knob (1) until the desired speed numeral stands opposite the orange-coloured triangle (9) on the cover plate of the camera.

For further details
please turn to page:

G **Setting the diaphragm** 16

Rotate diaphragm setting ring (15) on the lens mount to bring the desired diaphragm numeral against the red index mark.

H **Automatic exposure control** 18

When using lenses permitting electric transmission of the diaphragm values, set the selector ring (16) to the \odot symbol = measuring at full aperture. For lenses without electric transmission the selector ring has to be set to the \odot symbol = measuring with the lens at taking aperture!

Preselect either the shutter speed or the aperture. Depress shutter release (4) till you feel the pressure point. At the same time rotate either the diaphragm setting ring (15) or the speed setting knob (1) till the meter needle is centered in the circular mark in the viewfinder field.

In connection with the taking aperture of lenses with automatic diaphragm control, the stop down key (30) has to be depressed when meter reading is taken.

I **Focusing** 25

Rotate distance setting ring (14) until the image in the micropism screen or in the groundglass field appears perfectly sharp.

K **Releasing and cocking the shutter** 28

Depress shutter release (4) to beyond the pressure point. After the shutter has run down a signal appears in the left-hand side of the viewfinder. Swing cocking lever (12) around as far as it will go and move it back again.

For further details
please turn to page:

L **Delayed-action release** 30

Swing delayed-action cocking lever (2) upwards either before or after cocking the shutter. Depress knob (3) to release the delayed-action mechanism.

M **Changing the film** 32

After the last exposure, depress rewind release knob (26), swing out rewind crank (6) and turn it in direction of arrow to rewind the film. Open the camera back and remove the cartridge.

N **Exchanging lenses** 34

O **Flash exposures** 36

P **Exchanging the power source** 38

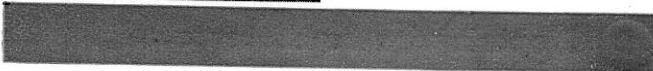
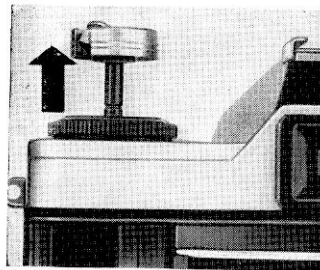
Q **Maintenance and care** 40

R **Accessories** 42

The Abridged Instructions are a short summary of the most important items. A detailed description is given in the main section on the following pages.

A Opening the camera back

Pull rewind knob (5) upwards until you feel hard resistance. The camera back is thus unlocked and can be opened. The exposure counter (13) will automatically jump to zero position.



B Inserting the film

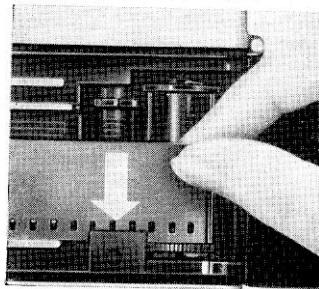
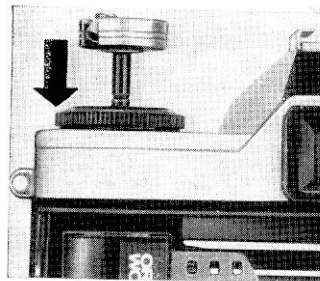
Any type of 35 mm film in commercially available standard cartridges may be used. The cartridges contain film lengths for 36, 20 or 12 exposures in the 24 x 36 mm format. To make sure that no light enters the slit of the cartridge the film should not be loaded in direct sunlight. The shade of your own body will suffice.

By having pulled out the rewind knob (5) to open the camera back you have withdrawn the rewind catch (18) from the cartridge chamber (19), so that you can now place the cartridge into the cartridge chamber.

Push the rewind knob, with slight backward and forward movements, right back into the camera. The rewind catch will engage in the core of the cartridge.

Push the beginning of the film projecting out of the cartridge from above as far as it will go underneath the supporting piece (20) on the transport sprocket (22). The beginning of the film strip must now lie on the core of the take-up spool (29) as far as the green marking point (21).

The wire bracket (23) of the take-up spool must not stand upwards. Should this happen to be the case the milled flange of the spool has to be turned to bring the bracket wires to the lateral position.



C

Closing the camera back

Press the camera back firmly on to the camera body. It locks automatically.

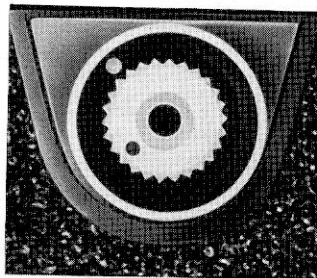
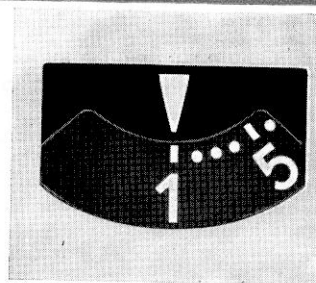
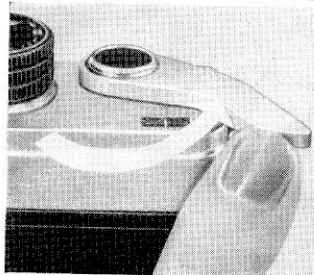
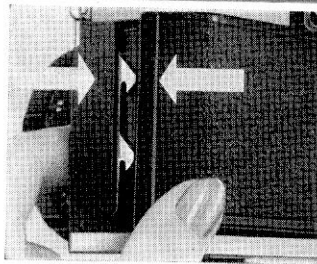
D

Preparing for the exposure

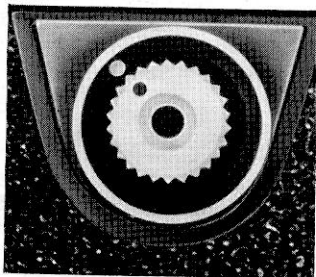
The rapid wind lever (12) has an idle stroke of about 15°, so that it can be moved from its rest position into readiness for action. It can thus be easily grasped — a great advantage especially in serial shots.

Swing the cocking lever around as far as it will go, move it back again, and depress shutter release knob (4). Repeat these operations and then cock the shutter once more. The automatic exposure counter (13) now stands on number "1". Special setting of the exposure counter is not necessary since it starts working automatically when the camera back is closed.

To avoid inadvertent tripping, the shutter release (4) is provided with a locking device. The release mechanism is locked when the red dots on the knob and on the outer ring meet. The mechanism is unlocked by rotation of the knob through 90°.



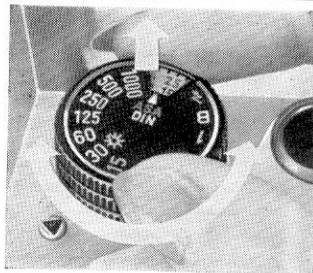
Shutter release unlocked



Shutter release locked

E Setting the film speed

To set the film speed value for the automatic exposure control, the milled ring of speed setting knob (1) has to be lifted and rotated until the speed value of the film in the camera (DIN or ASA) stands opposite the white indicator (11). When lowered, the milled ring clicks in next to the selected film speed numeral.



F Setting the exposure speed

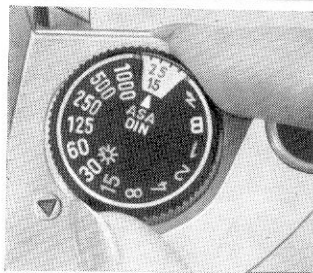
The metal-bladed focal-plane shutter can be set for exposure speeds ranging from 1 sec. to 1/1000 sec.

When set on "B" the shutter remains open as long as the release knob (4) is being depressed. For exposures of a longer duration a cable release with locking device should be used, which can be screwed into the thread in the body release knob. Regarding exposure speeds in connection with flash units please refer to Section O.

The orange-coloured numerals on the shutter-speed setting knob (1) stand for slow speed exposures from 1 sec. to 1/15 sec. which require the use of a tripod. The white numerals indicate the values for instantaneous shots from 1/30 sec. to 1/1000 sec.

The exposure speeds are set by rotating knob (1) until the desired numeral coincides with the orange-coloured triangle (9) on the cover plate of the camera. Please note, when setting the exposure speeds, that the milled ring of the setting knob must not be lifted up since this would alter the film speed setting and cause the automatic exposure system in the PRAKTICA LLC to give incorrect results.

The exposure speeds can be set either before or after the shutter has been cocked. The setting knob clicks in at every numeral. Intermediate values are not adjustable.



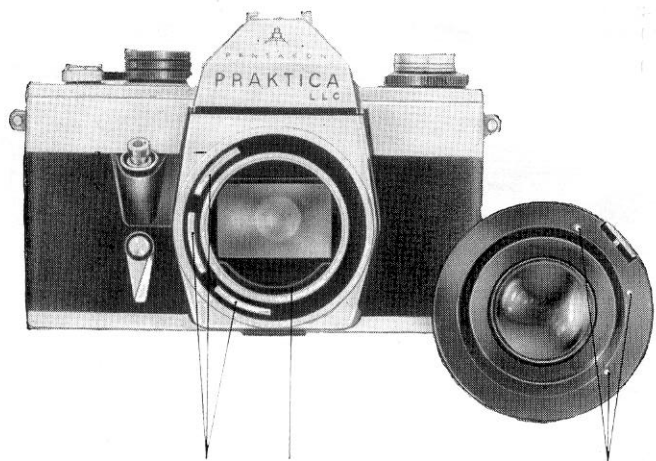
On the lenses with automatic pressure diaphragm (APD) the desired aperture numeral on the diaphragm setting ring (15) need only to be brought to meet the red index on the lens mount. The diaphragm thus remains fully open at first and closes down to the preselected value when the shutter release is depressed. The automatic diaphragm connecting mechanism in the PRAKTICA LLC causes the pressure diaphragm to function as an automatic spring diaphragm. Regardless of the speed with which the shutter release (4) is depressed, the diaphragm will spring to the preselected value and then open again immediately after the shutter has run down.

For checking the depth of field in the viewfinder image, most lenses can be stopped down, before the exposure is made, to the preselected value or to the value determined by the exposure meter, by means of a manually operable key (30) on the lens mount.

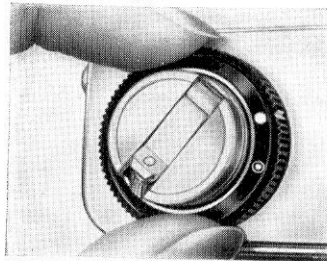


The newly devised automatic exposure system in the PRAK-TICA LLC makes it possible, by means of the electric transmission of the diaphragm values, **to take the meter readings with the photographic lens at full aperture**, so that the viewfinder image remains at its maximum brightness. The lenses arranged for metering at full aperture are recognizable by three resilient contact pins visible at the rear end of the barrels, which join the contact paths on the camera.

But it is also possible to use the well-known lenses of the PRAKTICA family without electric diaphragm control. In this case, **metering is performed with the lens stopped down to taking aperture**. The finder image will thus be somewhat darker, according to the aperture selected, or determined by the exposure meter.



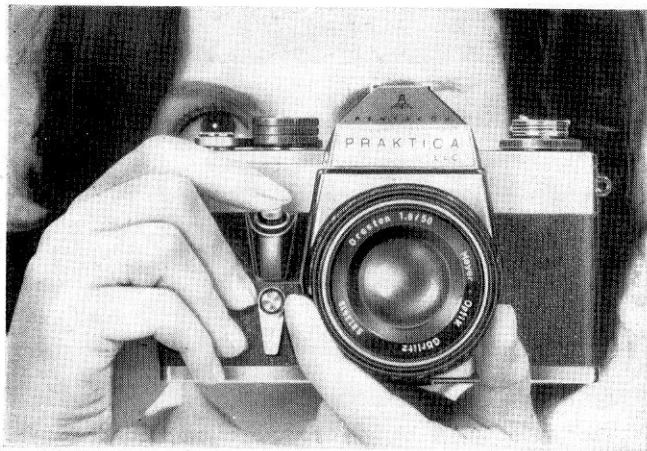
Contact paths Swing mechanism Contact pins
for automatic exposure control



Whether your lens is at full aperture or stopped down, you have, in either case, two methods of metering from which to choose:

- a) You preselect the shutter speed and adjust the aperture to centre the meter needle, or
- b) You preselect a certain aperture and adjust the shutter speed to centre the meter needle.

The first method is applied, e.g., if movement of the object requires a certain exposure speed, whereas the second method will be preferred if a specific aperture has to be preselected to achieve the necessary depth of field.

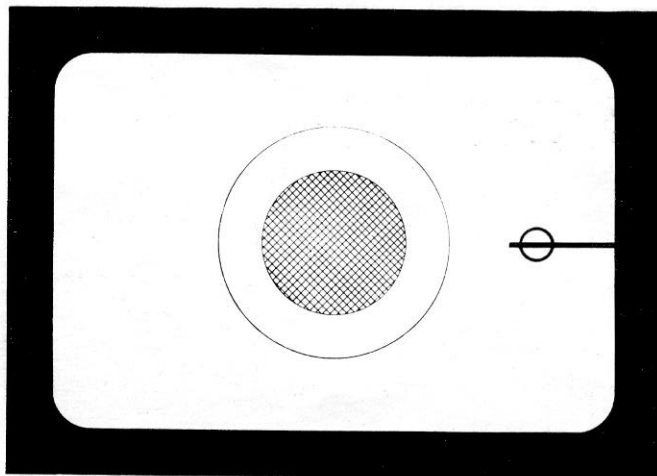


Metering at full aperture with shutter speed preselected

Set the indicator of **selector (16)** which, as a milled ring, encircles the rewind knob, **to coincide with the \bigcirc symbol**. Preselect the exposure speed by actuating knob (1). Depress shutter release (4) slightly and rotate diaphragm ring (15) on the lens mount till the meter needle visible in the viewfinder field is centred in the circular mark.

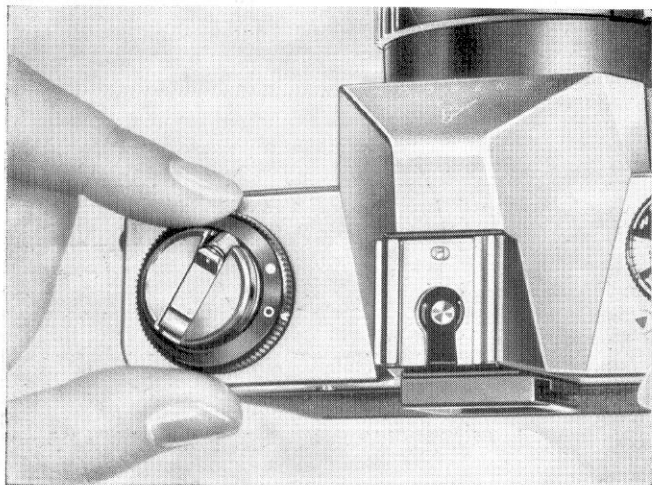
Metering at full aperture with diaphragm stop preselected

Set selector ring (16) to the \bigcirc symbol. Move the diaphragm ring (15) on the lens mount to a stop corresponding to the taking conditions. Depress shutter release (4) slightly and rotate the exposure-speed setting knob (1) till the meter needle is centred in the circular mark. The exposure speed knob must always be set to click-stops and not to intermediate values. Should this not bring the meter needle precisely to the centre of the circular mark, the diaphragm ring has to be moved for fine adjustment. The diaphragm ring can be set to intermediate values between the click-stops.



Metering at taking aperture with shutter speed preselected

This method is employed in connection with lenses not permitting electric transmission of the diaphragm values. **Move selector ring (16) to the \odot symbol.** Preselect the shutter speed and adjust the diaphragm ring to centre the meter needle as described above. On lenses with automatic pressure diaphragm the stop down key (30) on the lens mount has to be depressed while the meter reading is taken.

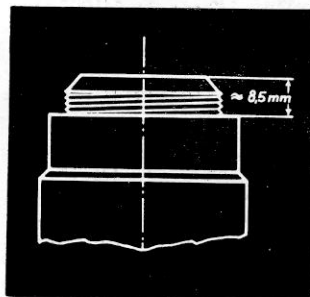


Metering at taking aperture with pre-set diaphragm

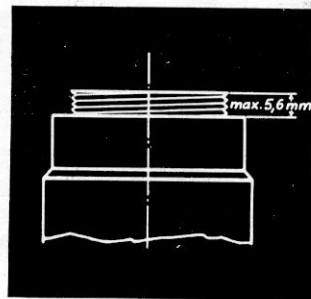
To be employed with lenses not permitting electric transmission of the diaphragm values. Selector ring (16) stands on the \odot symbol. Preselect aperture on diaphragm ring of lens mount and adjust shutter speed setting knob to centre meter needle. Pay attention to click-stops, and fine adjustment by means of diaphragm ring. Here, too, the shutter release has to be actuated up to the perceptible pressure point.

If lenses **without** automatic diaphragm, i.e. lenses with pre-set or plain diaphragm, are being used for metering at taking aperture, the lens remains stopped down until the shutter is released. It is, therefore, advisable to focus with the lens wide open **before** taking the meter reading.

Owing to the construction of their barrels, some of the older types of lenses protrude so far into the inside of the camera body as to impede the functioning of the swing mechanism for the automatic diaphragm. Thus, mirror and shutter cannot work. These lenses cannot be used in the PRAKTICA LLC. They are recognizable by the structure of their barrels, as may be seen from the illustration below.



not usable



usable

Measuring range of the PRAKTICA LLC

If the luminous density of the object to be photographed is very low, the meter needle, even at the smallest diaphragm numeral — e.g. 1.4 — and a slower shutter speed, cannot be centred within the circular mark. In fact, the selection of yet longer exposure periods will disconnect the automatic exposure system, so that the meter needle will swing downwards to its stop point. When lighting conditions become more favourable again, a **shorter** exposure time has to be set before the automatic exposure system will recommence functioning.

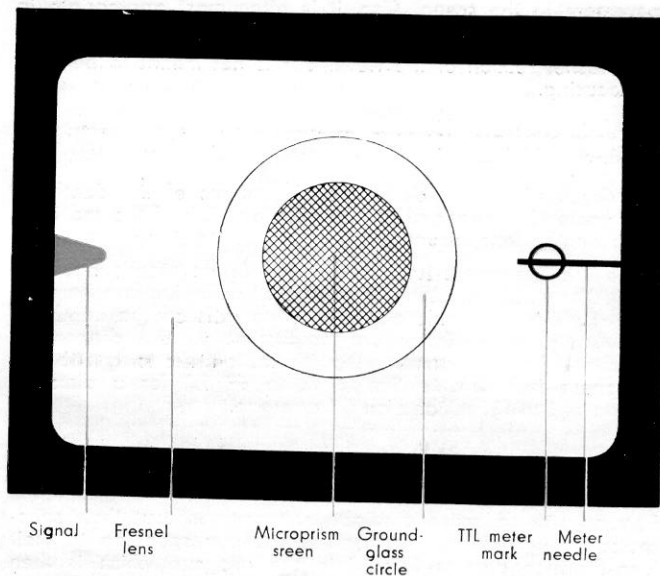
The table shows within which range of speeds the automatic system works in connection with the various film speed settings.

Speed of film DIN	ASA	Exposure speed
12	12	1 sec. to 1/1000 sec.
15	25	1 sec. to 1/1000 sec.
18	50	1 sec. to 1/1000 sec.
21	100	1/2 sec. to 1/1000 sec.
24	200	1/4 sec. to 1/1000 sec.
27	400	1/8 sec. to 1/1000 sec.
30	800	1/15 sec. to 1/1000 sec.
33	1600	1/30 sec. to 1/1000 sec.

To brighten up the image, the prism viewfinder of the PRAKTICA LLC is fitted with a Fresnel lens, in the centre of which are the two focusing systems:

- the microprism screen right in the middle and
- the circular groundglass area surrounding it.

Focusing is performed by rotating the distance setting ring (14) on the taking lens. To achieve utmost definition when using lenses with pre-set diaphragm or simple diaphragm adjustment, it is advisable to focus with the lens at full aperture (smallest diaphragm numeral).



Focusing on the microprism screen

The image in the microprism screen is in correct focus as soon as it appears clear and free from fuzziness. It is out of focus if it looks fuzzy and crumbles into screen elements. The microprism screen is usually employed for focusing if the subject to be photographed is in resting position or only slightly moving.

Focusing on the circular groundglass area

The groundglass area is used for focusing if there is more movement in the scene. Also, it is often most appropriate in macrophotography and photomicrography.

The Fresnel section of the viewfinder is not meant to be used for focusing.

Depth-of-field indication

The depth of field is determined by means of the depth-of-field scale (31) arranged on the right and left of the red indicator on the lens mount.

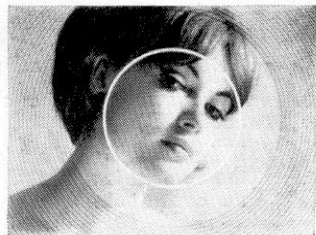
While the camera-to-subject distance figure stands opposite the red mark, the limits of the range of definition can be read from the distance scale above the numerals on the depth-of-field scale, which latter are equivalent to the diaphragm numerals. As an example, the illustration shows a zone of sharpness from 2 m to 5 m (7 ft. to 17 ft.) for a distance setting of 3 m (10 ft.) and an $f/8$ aperture.

Depress the manual stop down key, and you will also be able to judge the depth of definition in the finder image.

Persons with defective eyesight may work without their spectacles on by having a corrective lens corresponding to their long-distance glasses fitted into the eye cup which is then attached to the ocular mount (see Section "Accessories").

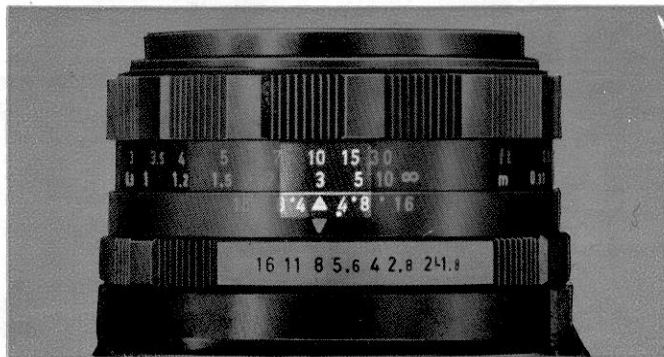


Microprism screen
is fuzzy = unsharp



Microprism screen
is clear = sharp

For infra-red exposures the focusing point has to be slightly modified. By rotation of distance setting ring (14) the distance reading which, after focusing, stands next to the red indicator, has to be moved to meet the red dot next to the indicator. Thus, the image produced by the infra-red rays is brought into correct position in relation to the film.



Before releasing the shutter, please note the following:

1. Make sure that the shutter release is unlocked (see Section D)
2. If the signal is visible in the left side of the viewfinder, **the camera is not ready for exposing.** The shutter has to be cocked!
3. For exposure speeds slower than 1/30 sec. a tripod and a cable release should be used.

We advise you to hold your PRAKTICA LLC so that it lies firmly in both hands and you are able to actuate the shutter release (4) comfortably.

Depress the shutter release steadily — never with a jerk — past the soft-running limit, where the automatic exposure system is switched in, until the shutter runs down.

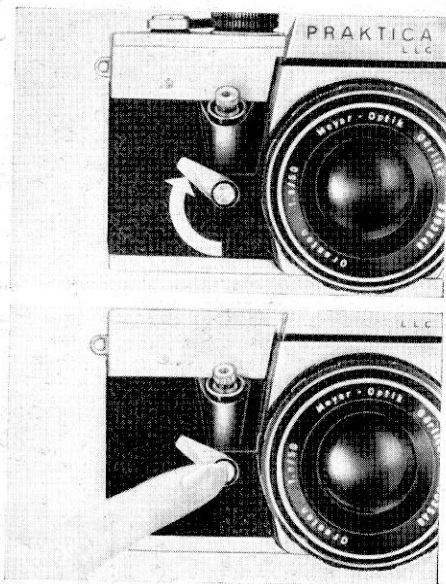
After the exposure, the signal on the left side of the viewfinder image becomes visible again, a sign that the shutter has to be cocked.



L

Delayed-action release

The delayed-action mechanism is cocked by moving lever (2) upwards as far as it will go. By means of pressure on knob (3) it will start running, and after about 10 seconds the shutter is released. The delayed-action mechanism may be tensioned either before or after the shutter is cocked. Also, the shutter can be released in the usual manner by means of release knob (4), even if the delayed-action device is tensioned.



When the exposure counter (13) indicates the maximum number of frames obtainable with the film in the camera (12, 20 or 36 exposures) the film has to be rewound and taken out of the camera.

Depress rewind release knob (26) in the base plate of the camera. It will remain locked in this position. Unfold rewind crank (6) out of rewind knob (5) and rotate it, not too quickly, in the direction of the arrow. Rewinding at too great a speed may cause electrostatic charge and statics on the film.

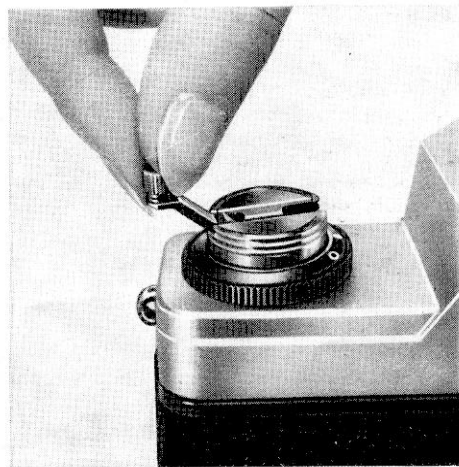
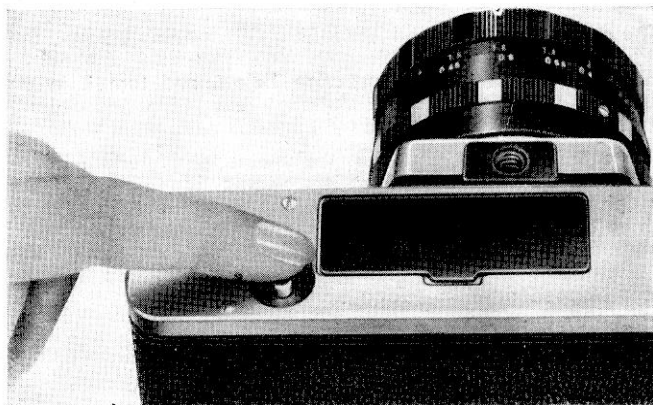
As rewinding is completed, greater resistance becomes noticeable until the film is disengaged from the take-up spool. After this, the crank turns quite easily.

Fold the rewind crank back into the knob and pull the knob upwards as far as it will go. The camera back is thus unlocked and can be opened. Remove the cartridge with the exposed film from the cartridge chamber.

Loading a new film, and subsequent cocking of the shutter, cause the rewind knob (26) to spring back automatically out of its click-stop position.

Should you have attempted to expose more frames than the number marked on your film packet, the cocking lever might, at the end of the film, get jammed so that it cannot be swung around completely. Do not, in such a case, use force, as this might cause damage to the perforation of the film, or the end of the film might slip off the spool inside the cartridge. Rewinding would then be impossible.

If the cocking lever — as described above — has not been fully tensioned, this must be completed, and the shutter released, after rewinding and removing the exposed film and before inserting a new one.



The standard lens of the PRAKTICA LLC can easily be replaced by lenses of other focal lengths. You take hold of the lens body, as shown in the illustration below, and turn it in an anti-clockwise direction. The exchange lens is inserted accordingly and screwed tight.

For exposure measurement at the widest lens aperture in the PRAKTICA LLC, lenses permitting electric transmission of the diaphragm values are employed. These are recognizable by three contact pins visible at the rear end of their barrels. But you may also use the ordinary PRAKTICA lenses with this camera, in which case metering has to be performed with the lens stopped down to taking aperture.

Because of their structural design, some of the older types of lenses cannot be used with the PRAKTICA LLC (For details please refer to Section H).



List of interchangeable lenses:

1. Lenses permitting electric transmission of diaphragm values

Meyer Oreston	50 mm f/1.8	APD
Meyer Orestegon	29 mm f/2.8	APD
Meyer Orestor	100 mm f/2.8	APD

2. Lenses not permitting electric transmission of diaphragm values

aus Jena Flektogon	20 mm f/4	APD
Meyer Orestegon	29 mm f/2.8	APD
aus Jena Pancolar	50 mm f/1.8	APD
Meyer Oreston	50 mm f/1.8	APD
aus Jena T	50 mm f/2.8	APD
Meyer Orestor	100 mm f/2.8	APD
Meyer Orestor	135 mm f/2.8	PD
aus Jena S	180 mm f/2.8	APD
Meyer Orestegon	200 mm f/4	PD
Meyer Orestegon	300 mm f/4	PD
Meyer Orestegon	500 mm f/5.6	PD
aus Jena Catoptric Lens	1000 mm f/5.6	

APD = automatic pressure diaphragm

PD = pre-set diaphragm

Flash exposures

The shutter of the PRAKTIKA LLC is designed for synchronization with flash bulbs and electronic flash units.

When the flash unit is attached to the camera, the electric connection between camera and unit is automatically effected by means of the centre contact (8) in accessory shoe (7). No synchronization cable is required. Modern flashbulb and electronic units are equipped for this purpose with a suitable co-operation contact.

For the use of flash units fitted with a synchronizing cable, an adapter piece with flash socket to accept the cable plug has to be pushed on to the accessory shoe of the PRAKTIKA LLC.

Flash bulb exposures

In connection with bulbs for short flash duration, the shutter has to be set for a speed of 1/30 sec. — marked by the lamp symbol ⚡ — or slower. The ignition circuit is closed only as long as the shutter runs down and is open during the tensioning procedure, so that flash bulbs can be exchanged also before the shutter is cocked.

Electronic flash exposures

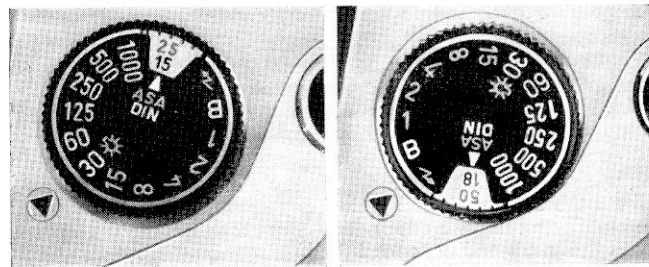
Owing to the extremely rapid travel of the curtains in the metal-bladed focal-plane shutter, synchronization up to a shutter speed of 1/125 sec. is made possible. The knob for setting the shutter speed has to be moved to the flash symbol setting ⚡ next to "B".

The guide number

The diaphragm numeral to be set on the lens mount for flash exposures can be found with the aid of the "guide number". Manufacturers of bulbs and electronic flash units give these guide numbers on the wrappings or in the instructions for use as required for the various sensitivity grades of the negative material.

The correct aperture is determined by dividing the guide number for the flash in use by the flash-to-subject distance figure. Formula for the flash unit attached to the accessory shoe of the camera:

$$\text{Diaphragm numeral} = \frac{\text{guide number}}{\text{flash-to-subject distance}}$$



The exposure meter system is powered by a Mallory battery of the PX21 type.

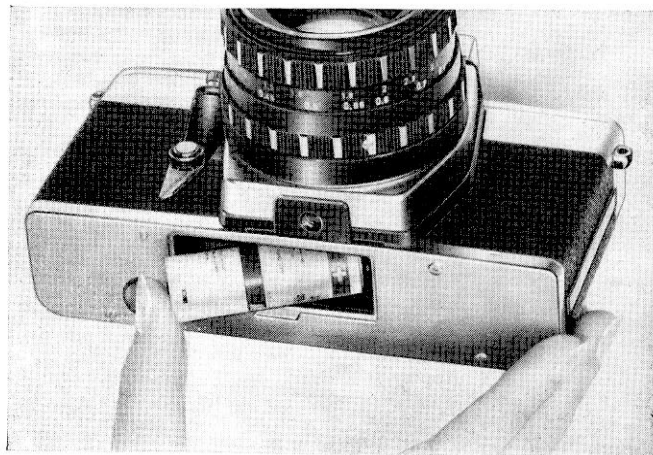
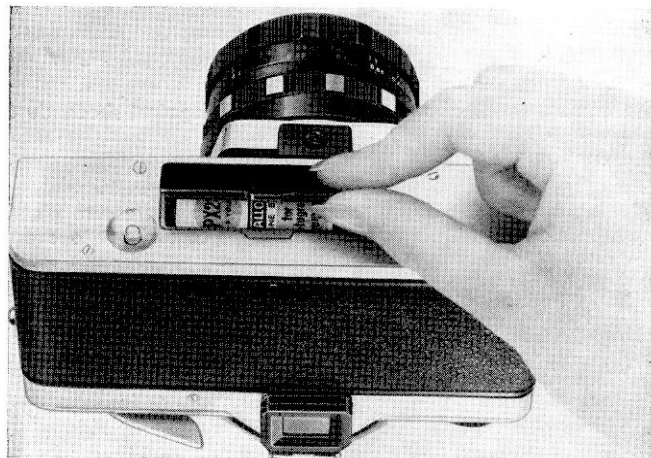


The battery compartment (27) is on the under side of the camera. It is opened by lifting the plastic lid by means of its handle piece.

When inserting the battery, press its bottom plate (positive pole) against the spring contact (also marked +), while at the same time tipping it into the battery compartment.

To close the battery compartment, attach the side of the lid opposite the handle to the corresponding side of the compartment and depress the lid on the handle side until it clicks in. Owing to the low consumption of current during the short period of meter reading, the battery should last more than a year.

You will notice that the battery is run down if the meter needle, without the shutter release being depressed, is lined up inside the circular mark, whereas it should normally be slightly underneath the mark or just touch it.



The PRAKTIKA LLC is a highly valuable precision instrument. Perfect functioning of the camera depends very largely on proper handling and careful maintenance.

The camera must, above all, be protected against shock, dust and moisture. That is why the everready case should be used wherever possible.

From time to time the cartridge chamber and spool chamber, also the film track and camera back with film pressure plate must be cleaned with a soft brush. But be careful not to exert pressure on the steel blades of the shutter nor to touch them with your fingers.

Neither should the optical parts (lens, eyepiece of viewfinder, mirror) be touched. Should this have happened accidentally, any fingerprints must be removed immediately with a piece of fine linen after a soft brush has been used to remove any possible dust. The mirror should be dusted only in urgent cases with a very soft brush.

Never clean, or by any means apply abrasives to the precious-metal pins on the lenses, the means of electrically transmitting the diaphragm values, or to the three precious-metal coated contact paths in the camera. The contact points are automatically cleaned in the process of exchanging lenses. But also here, any dust which may have accumulated has to be removed with a soft brush.

Do not interfere with the mechanism of the camera. Repair work should be carried out only by one of our special Repair Workshops.



The various accessories make the single-lens reflex camera universally applicable and help to open up many new fields of activity.

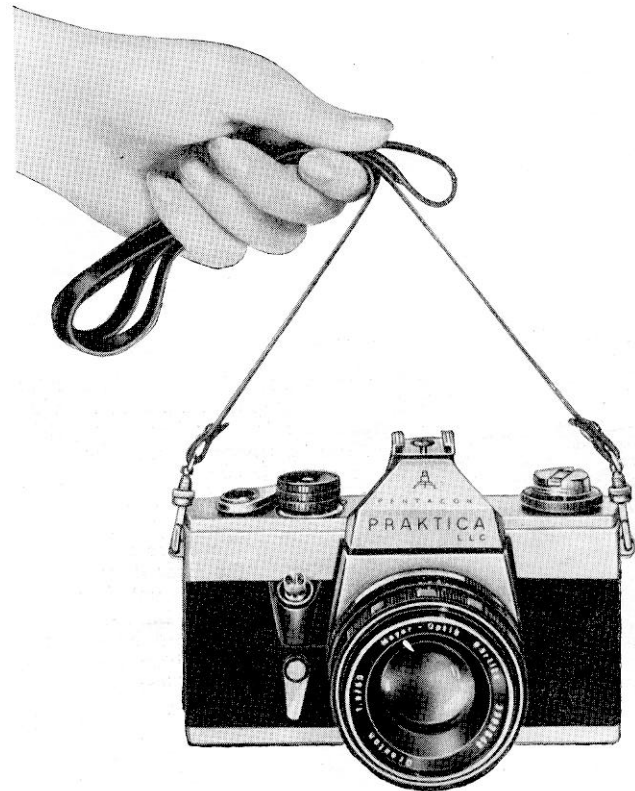
Everready Case

It protects the camera against shock and dirt.



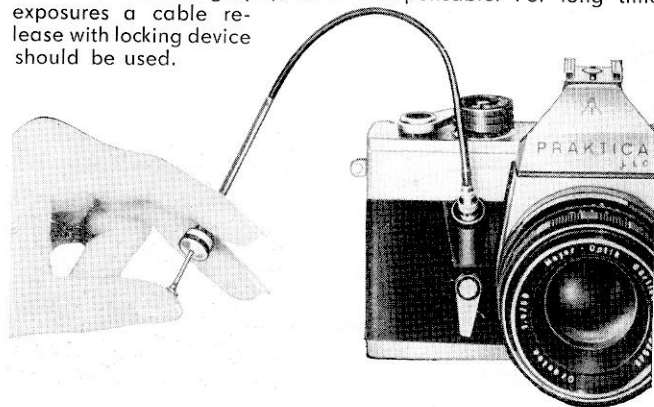
Carrying Strap, adjustable

Fixed to the strap eyelets of the camera, the carrying strap is to be recommended if the camera is used without the everready case, e.g. in combination with a flash unit.



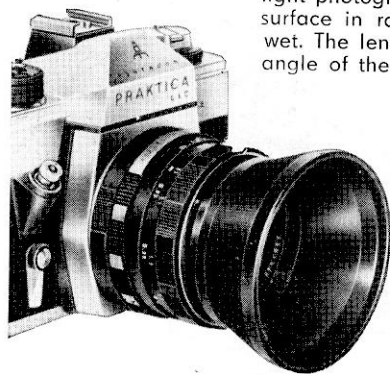
Cable Release

For longer exposure periods involving the use of a tripod, and also in photomicrography, it is indispensable. For long time exposures a cable release with locking device should be used.



Lens Hood

Eliminates disturbing flares in counter-light photography and protects the lens surface in rainy weather from getting wet. The lens hood must fit the image angle of the lens.

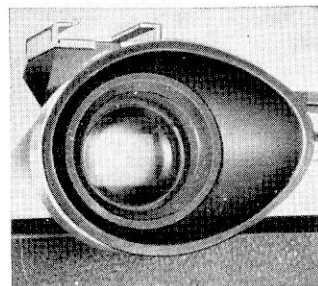


Filters

These are screwed into the filter thread of the lens mount. The filters for black-and-white photography — except UV filters and polarizing filters — are not suitable for colour work, for which special types of filter are available.

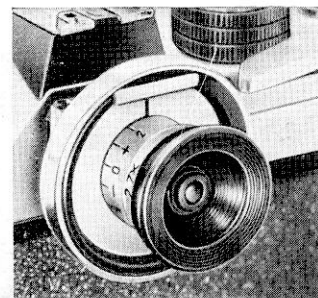
Rubber Eye Cup with Mount for Correcting Lenses

The eye cup keeps out extraneous light during focusing. Persons with defective eyesight may have a correcting lens corresponding to their long-distance glasses fitted into the mount designed for this purpose and are thus able to work without their spectacles on.



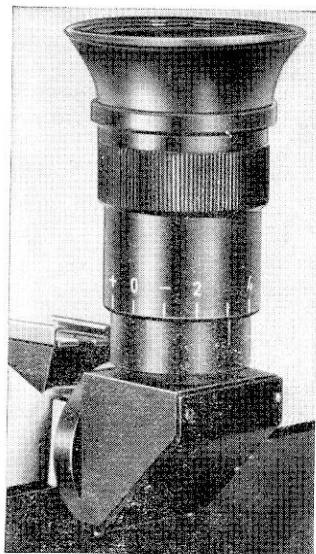
Focusing Telescope

The focusing telescope yields an additional 2.7-fold magnification of a section of the finder image. It is adjustable to faulty eyesight by means of a dioptre focusing mount.



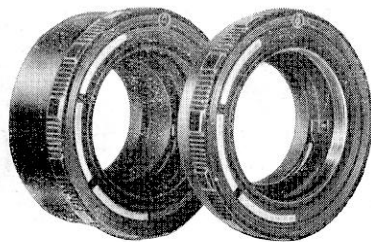
Angle Finder

This finder is also attached to the ocular mount of the camera. It is rotatable and thus permits a convenient choice of any viewing direction. The angle finder reveals the complete finder image and is equipped with a dioptré scale.



Intermediate Rings

These rings are screwed in between camera and lens as a means of increasing the picture ratio in close-up work. The Special Intermediate Rings for the PRAKTICA LLC are provided with plunger pins to keep the automatic diaphragm mechanism operative and with contacts for the electric transmission of the diaphragm values. This makes it possible, also in the specialized field of close-up photography, to employ the automatic exposure system and to take exposure meter readings with the lens at full aperture.



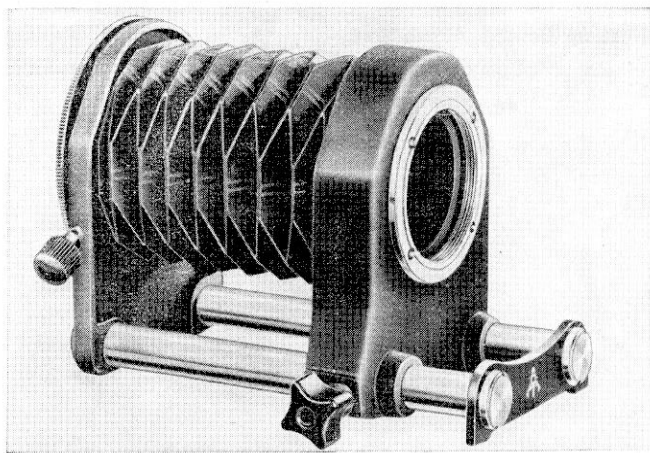
Reversing Ring

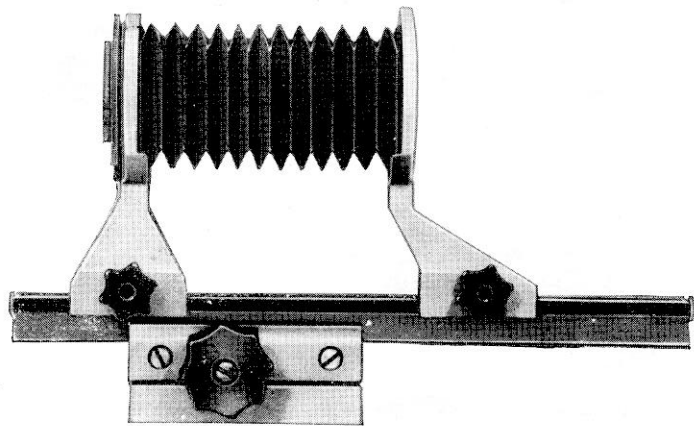
To screw the lens into the camera by its filter thread for extreme close-ups with an image ratio exceeding 1.5x.



Miniature Close-up Bellows Attachment

This equipment permits an infinite variation of the image ratio in close-up work within a range of 0.7x to 2.5x in combination with the standard lens.





Close-up Bellows Attachment

Infinite variation of the image ratio with the 50 mm lens from 0,7x to 4,4x.

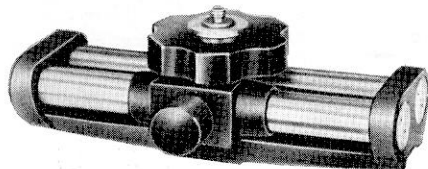
Universal Tripod

Extremely rigid, permits varying the position of the camera from close to ground up to approximately eye level. All-direction pan and tilt movement of camera.



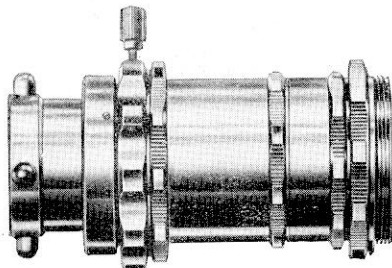
Focusing Slide

Of great advantage in close-up work with a tripod (e.g. the Universal Tripod). Makes it possible to adjust the camera-to-object distance without having to move the tripod.



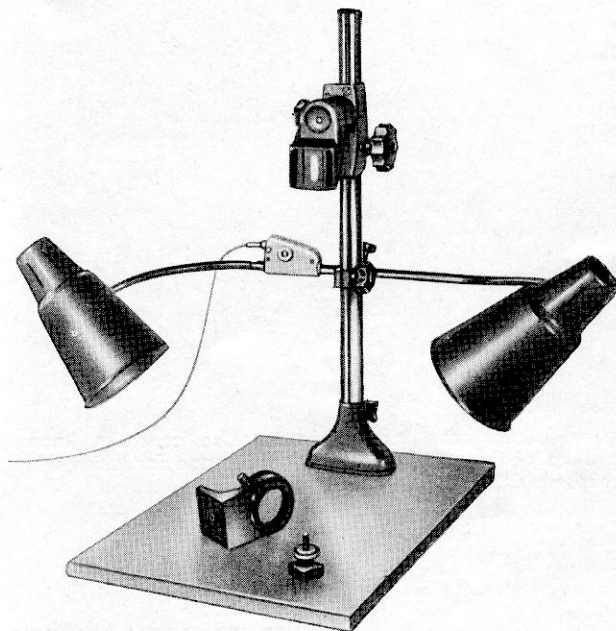
Microscope Attachment Piece

For connecting camera and microscope.



Copying Stand with Lighting Equipment

For all kinds of copying work.



Please follow these Instructions for Use carefully. Improper handling of the camera may cause damage for which we can accept no liability.

**Kombinat
VEB PENTACON DRESDEN**

Further development of the PRAKTICA LLC and its accessories may lead to slight alterations of the details given in this booklet.

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