

Micro and macro pictures

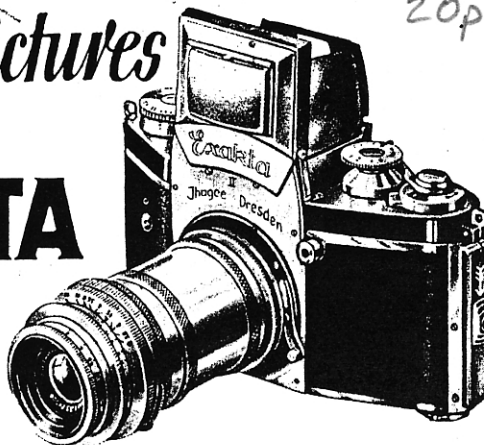
• most easily and exactly • with the

KINE-EXAKTA

24 × 36 mm

1 1/2" / 1"

camera



It is astonishing how simple the means are which open up two of the most interesting fields of work to the earnest KINE-EXAKTA photographer:

A microscope attachment effects the connection between the KINE-EXAKTA and the microscope for micro-pictures, and a pair of bayonet rings and three extension tubes give the camera the increased distance between lens and film plane which is necessary for macro-pictures.

But what abundance of possibilities is effected by that modest number of accessories!

First of all the whole of **micro-photography**. We can hardly imagine the large spread of modern natural sciences without its help. The KINE-EXAKTA with its micro-attachment serves the scientist in the laboratory instead of an expensive and complicated special instrument. It introduces the economical cine film, which is

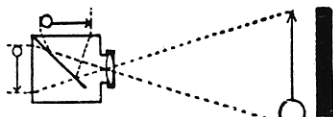
to be had as colour film as well, into micro-photography, so that the precious results of the bacteriologist's, the chemist's, the physician's or the metallurgist's researches can be recorded continuously.

Subjects which one would regard with the naked eye or with an average pocked-lens, do not require a microscope, but a long camera-extension for close-up pictures, the so-called **macro-photography**. The bayonet rings and the extension tubes of the KINE-EXAKTA increase the image distance (i. e. the distance between lens and film plane), if desired, so much that even close-up pictures in the original size of the subject (scale 1 : 1) or in slight enlargement can be made. This corresponds to more than the double extension of the old plate cameras!

For the lover of nature, for the collector and for the great number of scientists the KINE-EXAKTA with its extension tubes has thus become an exceptionally versatile camera also for close-up pictures. This field of work is full of stimulations and surprise also for the amateur photographer; it supplies extraordinary pictures of insects, flowers, leaves, postage stamps - in short of everything one likes to look at closely.

The most important fact, however, is that the KINE-EXAKTA always allows of focusing and composing the picture on its ground-glass screen in the finder hood, also for micro and macro pictures. This reflex image which is magnified to really "microscopic" sharpness by two lenses, is projected by the taking lens. The resulting photo corresponds entirely with it as regards frame and definition:

for the KINE-EXAKTA is a real reflex camera working - as the picture shows - without parallax errors. Therefore cheapness and simplicity of the accessories are coupled with the highest precision of the pictures obtained.



Micro pictures



THE KINE-EXAKTA MICROSCOPE ATTACHMENT

(according to Dr. W. Koch), Catalogue No. 147

joins the KINE-EXAKTA to the microscope. The illustrations show how to fasten the camera with the micro-attachment to the microscope. The lens of the KINE-EXAKTA must be removed; for while working exclusively with the ocular and the lens of the microscope one is, however, in a position to focus and check the image on the ground

glass screen in the finder hood of the camera (important for photos of living subjects). The back ring with bayonet joint No. 140 is delivered as a connection between the bayonet of the KINE-EXAKTA and the thread of the metal socket of the micro-attachment. The micro-attachment is fastened to the tube of the microscope by slightly turning the clamping screw. In order to be able to change the ocular and, thereby, to alter the scale of magnification without removing the camera, the micro-attachment is provided with a hinge: the upper part of the attachment with the camera is swung aside, as shown in illustration B. This may also be done as soon as the photographic work is interrupted and the purely visual work is to be continued.

Technical data of pictures page 1 (from top to bottom):

1. Micro picture of a carrot root (cross section), taken with Microscope Attachment No. 147
2. Close-up picture of a locust, taken with Special Rings 140 and 141 and Tube 143

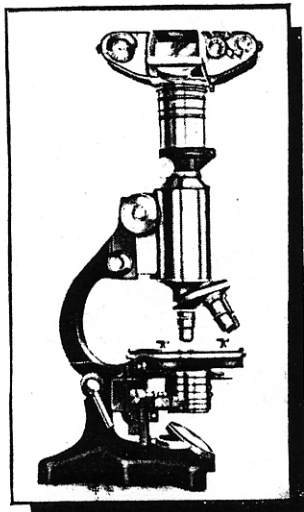


fig. A

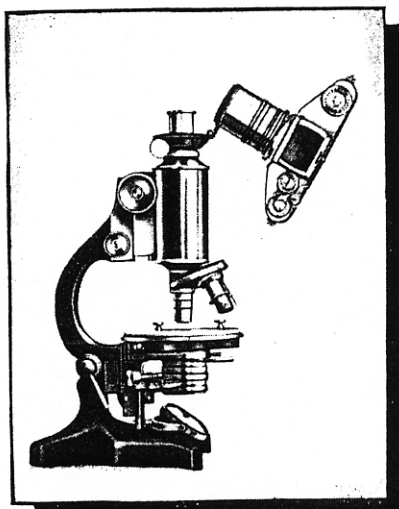


fig. B

NOTICE!

For the purposes of professional micro photography a specially designed focusing glass with clear spot and hairlines is recommended. If installation is required, send camera to us!

Macro pictures



In order to be able to use the KINE-EXAKTA for macro photos - i. e. close-up pictures -, **the two bayonet rings** (back ring No. 140, front ring No. 141) are indispensable for the increase of the camera extension. Alone by themselves they allow of exposures at a distance of 34 to 25 cm according to the table at the back of this leaflet. The rings are screwed together, the lens is removed from the KINE-EXAKTA, and the pair of rings is screwed into the bayonet lens mount in the same way as the lens (red dots must face each other, when the rings are set in). The lens is

fastened to the front ring carrying the lens mount. If the increase of camera extension does not suffice, i. e. if one wishes to focus at still shorter distances, the two rings are screwed asunder. The back ring is now attached to the camera, the front ring to the lens. Into the threads open on both sides the

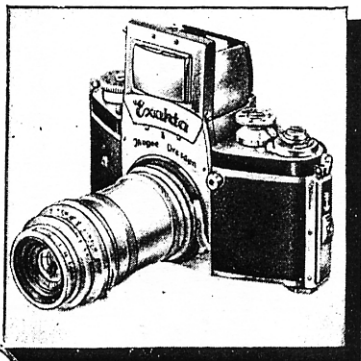
EXTENSION TUBES (No. 142: 5 mm, No. 143: 15 mm or No. 144: 30 mm long)

can be screwed in any combination. The table on the following page shows the possibilities of focusing with their help. By themselves, without the two bayonet rings, the extension tubes cannot be used in the KINE-EXAKTA.

The KINE-EXAKTA has realized what was hardly credible: one is able to take pictures at shortest distances without special close-up focusing instruments. Pictures 1 : 1 with double extension (i. e. about 10 cm) present absolutely no difficulties, for by adding further extension tubes even slightly enlarged pictures are within its reach. For this kind of work it is advisable to use a stable tripod with ball and socket head. One must pay attention to the fact that longer extension requires longer time of exposure (namely corresponding to the second power of the increase of the extension, i. e. for double extension - which means for a focal length of $f = 5$ cm a distance of 10 cm from lens to film plane - $2 \times 2 =$ four times the normal exposure time). The extension tubes are simply screwed together, and one set of tubes (Nos. 142, 143 and 144) is completely sufficient for the larger part of exposures. Close-up pictures, too, are focused solely according to the finder-hood image, as the principle of "one-eye" reflex focusing is not altered in the least. The KINE-EXAKTA does not know the parallax which is dreaded especially in close-up pictures: the reflex image corresponds entirely with the photo even in case of exposures at shortest distances.

Technical data: Page 2: Micro-picture of a coral (Eunicea) taken with Microscope Attachment No. 147

Page 3: Head of a tortoise (close-up picture taken with Special Rings 140 and 141 and Tube 143)



Extension tubes	Total distance cm.	Image distance cm.	lens to subject distance cm.	exposure factor	scale of reproduction
without Bayonet Rings and Tubes	∞	5	∞ } *) 64.5 } 35.0 } *) 25.0 }	1.0	variable
both Bayonet Rings (140 and 141)	41	6		1.4	1 : 5.8
both Bayonet Rings and Tube 142 (5 mm.)	31.5	6.5	95.0 } *) 20.0 }	1.6	1 : 3.9
Tube 143 (15 mm.)	24.0	7.5	16.5 } *) 15.0 }	2.2	1 : 2.2
Tubes 142 + 143 (20 mm.)	23.0	8.0	15.0 } *) 13.5 }	2.5	1 : 1.9
Tube 144 (30 mm.)	21.5	9.0	12.5 } *) 11.5 }	3.2	1 : 1.4
Tubes 142 + 144 (35 mm.)	21.0	9.5	11.5 } *) 11.0 }	3.5	1 : 1.2
Tubes 143 + 144 (45 mm.)	21.0	10.5	10.5 } *) 10.0 }	4.3	1 : 1
Tubes 142 + 143 + 144 (50 mm.)	21.0	11.0	10.0 } *) 9.5 }	4.8	1 : 0.9

*) All the items in the table apply to the shortest interval of the helical screw (i. e. lens set at infinity). It is for the lens to subject distance only that, second in place, the distance has been mentioned which exists between lens and subject when the lens is set for close-up exposures (i. e. for f/3.5 Tessar focusing mark at 0.70 m.).

The above table shows which lens to subject distances and scales of reproduction are possible when the Bayonet Rings and the Extension Tubes are used, provided the KINE-EXAKTA is equipped with an f/3.5 Tessar lens. The following explanations refer to the headings of the above table:

- Total distance = distance between subject and film plane in the KINE-EXAKTA (in cm.);
 - Image distance = distance between lens (about shutter plane) and film plane (in cm.);
 - Lens to subject distance = distance between subject and lens (about shutter plane - measured in cm.);
 - Prolongation of exposure time: Increase of camera extension necessitates longer exposure time. (Exposure time 1.0 - correct time of exposure for ∞ focus without Bayonet Rings and Tubes);
5. Scale of reproduction 1 : 5.8 means 5.8 cm of the subject appear as 1 cm on the negative.

The Special Rings (Nos 140 and 141) and the three Tubes (Nos. 142, 143 and 144) are sold as sets only	} Prices on request
The Microscope Attachment No. 147 (ready for use, together with the Tubes Nos. 143 and 144 and the back ring with bayonet joint No. 140 - packed in case -)	

Other KINE-EXAKTA accessories

	Diameter of front mount:	32 mm.		42 mm.
Lens Hoods, slip-on type		No. 202	} Prices on request	No. 206
Colour Filters, slip-on type		No. 201		No. 205
Soft-Focus Lenses, slip-on type		No. 209		No. 210
Adapter Ring, screw-in type, for Tessar 1 : 3.5/5 cm.				No. 201-4
for Biotar 1 : 2/5.8 cm.				No. 205-4
Shutter Release Button, facilitating shutter release				No. 151
Rewinding Key, simplifying winding back of exposed film				No. 150
Exakta Flashgun				No. 148

We are always endeavouring to complete our stock of KINE-EXAKTA accessories in order to offer all the technical possibilities of pre-war times to the friends of our camera. If you have any questions arising from your work with your KINE-EXAKTA, please apply to:

Blasewitzer Strasse 41-43



(Germany) Dresden A 16