

KINE EXAKTA

*A miniature reflex camera
taking 36 pictures
each 24 × 36 mm. (1 × 1½")*



The name

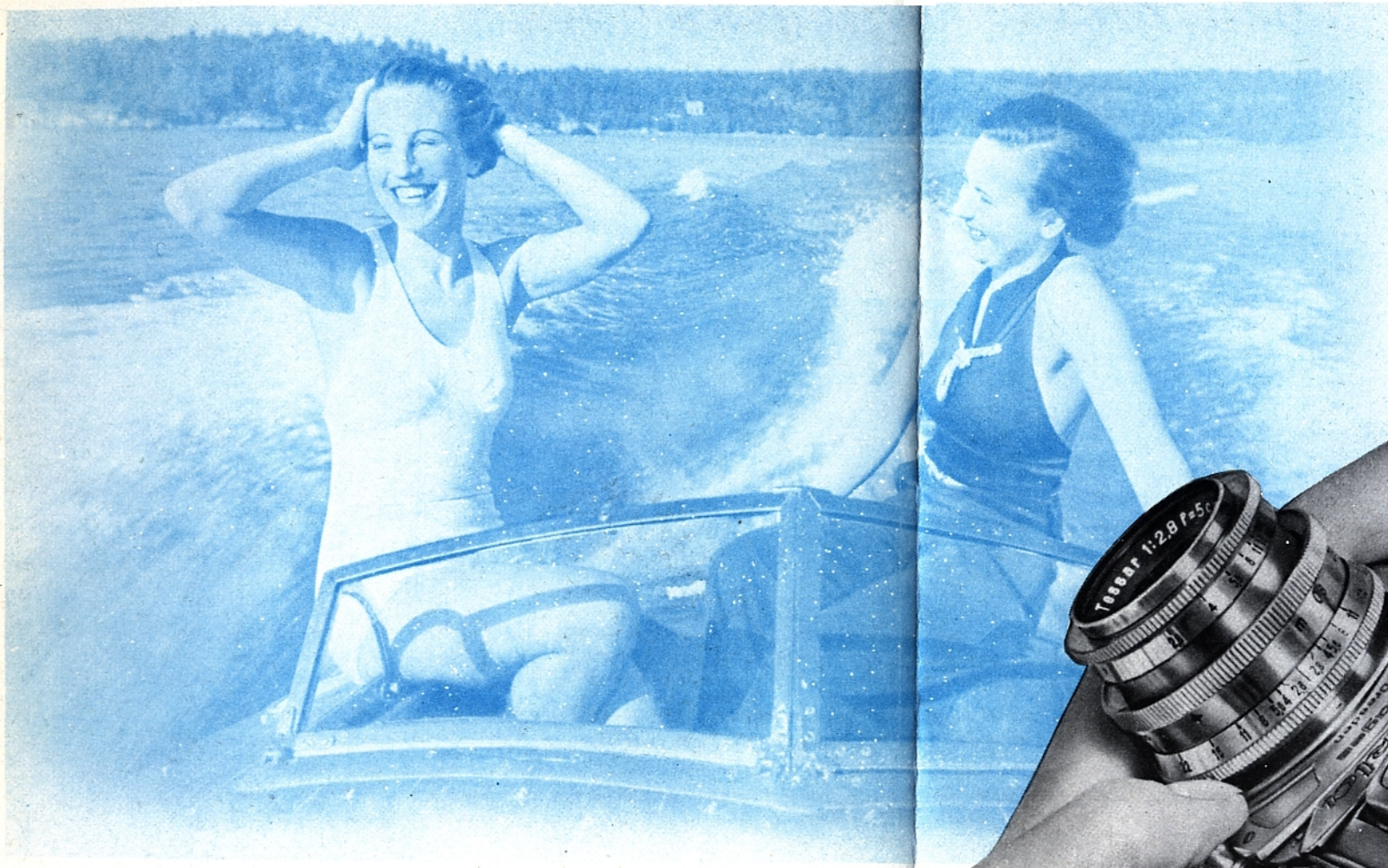
EXAKTA

has already become a familiar word...

... for the special design of Exakta cameras has caused wide comment among photographers. Every reflex camera uses a ground-glass focussing screen, so that this is not a special point of the design. But the Exakta uses the same lens for focussing and composing as is used to take the picture, and the fact that the image seen on the focussing screen is identical with that which the camera will later record stamps Exakta design as being unusual.

There was no question of the advantages involved in this design from the moment when the first Standard Exakta taking roll-films, and giving pictures in the $2\frac{3}{8} \times 1\frac{5}{8}$ " size, was made; but to achieve the highest measure of success the same system had to be evolved in a **miniature** negative size. This has now been arranged, and we offer today the **K I N E - E X A K T A**—the **first and only single lens miniature reflex camera, with the enormous advantage of full safety and accuracy in composing and focussing.**

The exterior of the camera alone is attractive in appearance: it has not been built merely for professional photographers, who are less concerned with appearance than performance. Even in the hands of a lady, the Kine-Exakta does not look out of place—and in spite of its versatility as a camera it can be used by any amateur after its controls have become familiar.



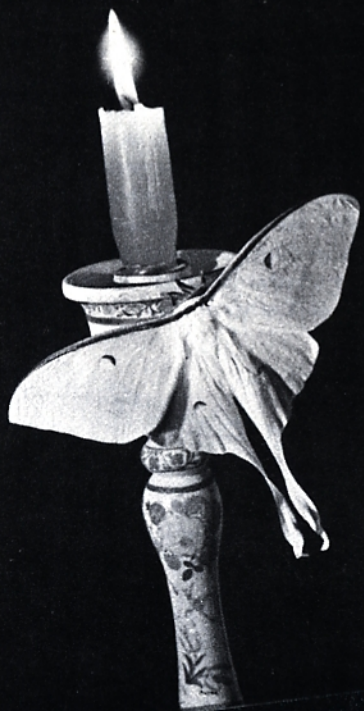
Tiny view-finder eyepieces, distance meters, and tables for focussing have nothing in common with the Kine-Exakta, for the whole design has been based on the production of this special type of image on the ground glass. Since this image is also in natural colours, it serves excellently for composing pictures on colour films, and a single glance shows at once whether the colour tones of the subject suit each other or not.

The lens of the Kine-Exakta performs two distinct operations: it forms the image on the focussing screen in the first place, and then forms an identical image on the film during exposure. Between lens and film lies a small hinged mirror, which—in the lowered position—intercepts the rays from the lens and turns them through a right angle to form the image on the ground glass. This image serves both as a check on the focus and as a guide to the composition of the picture that is to be taken: depth of focus may be noted, and the picture arranged pictorially. This saves many disappointments after the negative has been developed, for instead of the negative showing what should have been done, the focussing screen shows the same thing ... but before the exposure is made.

The field in front of the camera that is included in the picture on the ground glass is identical with the field that the camera will cover when the exposure is made later on, so that it is a simple matter to choose the camera position and direction for the very best effect. More than this—everything superfluous is removed from the range of vision, so that the main subject of the picture can be placed just where it is required in the frame of the print, without anything else interfering.



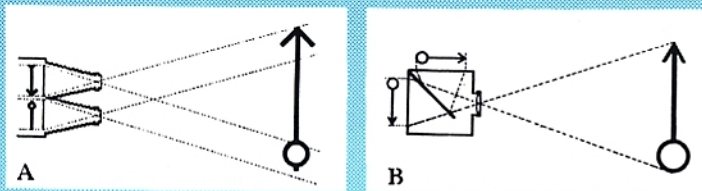
The Exakta design gives better facilities for composition



Consequently the owner of a Kine-Exakta camera will always be satisfied with the pictorial effect of his photographs. The Exakta cameras have no parallax error, for they have only one lens. Parallax error is a great trouble with all cameras with finders and camera lenses separated, and it occurs whether the finder is built in or specially mounted on top of the camera. At short distances the difference between the view through the finder and the view through the lens causes a great deal of trouble, as can be seen from the

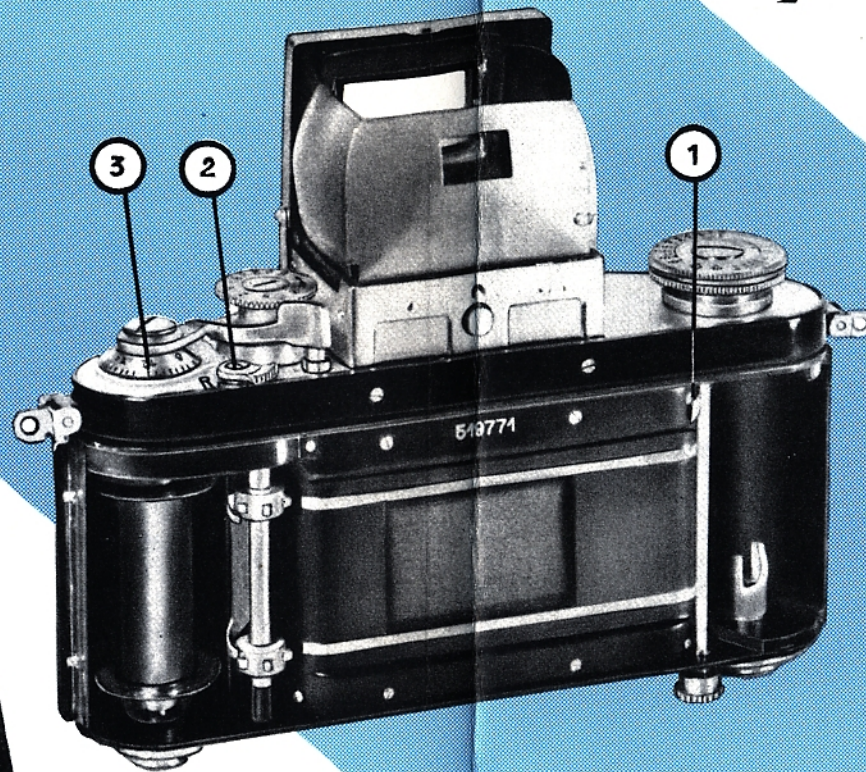
sketches. A shows the difficulties involved in parallax error, while B too indicates the error-free Exakta system. A more important thing still is that whatever kind of lens—normal, telephoto, or wide-angle—may be used with the single-lens system of the Exakta, the image on the ground glass invariably represents the exact image that will appear later on the film. It would seem, though that there would be a great deal of trouble in focussing accurately an image so small in size as $1 \times 1\frac{1}{2}$ ". This is true enough, but the patented ground-glass screen design of the Kine-Exakta solves the problem in the most simple manner. This screen is not an ordinary glass sheet, but consists of a piece of glass

with its lower surface flat and finely ground, while the upper surface is formed in the shape of a magnifying lens. The curvature of this lens is such that its focal point lies on the ground lower surface, and the result is that an evenly-lit and enlarged image is seen when the eye is placed over the hood of the focussing and composing screen. The size of the enlarged image is $2\frac{1}{4} \times 1\frac{5}{8}$ " and in this size it is possible to give that accuracy of focussing demanded by a circle of confusion of only $\frac{1}{30}$ th of a millimetre. — Hinged to the front of the hood is a second



magnifier, which can be pressed downwards into position when focussing must be particularly accurate, and produces a still more enlarged image of the centre of the picture. In this case, the image is enlarged up to $3\frac{1}{4} \times 2\frac{1}{4}$ ", and the focussing is correspondingly still more accurate. The focussing arrangements of the Kine-Exakta thus guarantee exceedingly sharp focus under all circumstances. At the same time, a rather important fact—often forgotten—may be mentioned. Those with glasses can focus without the least difficulty: persons with short sight remove their glasses and look straight at the focussing screen, while those with long sight can use the second magnifier instead of their own lenses.

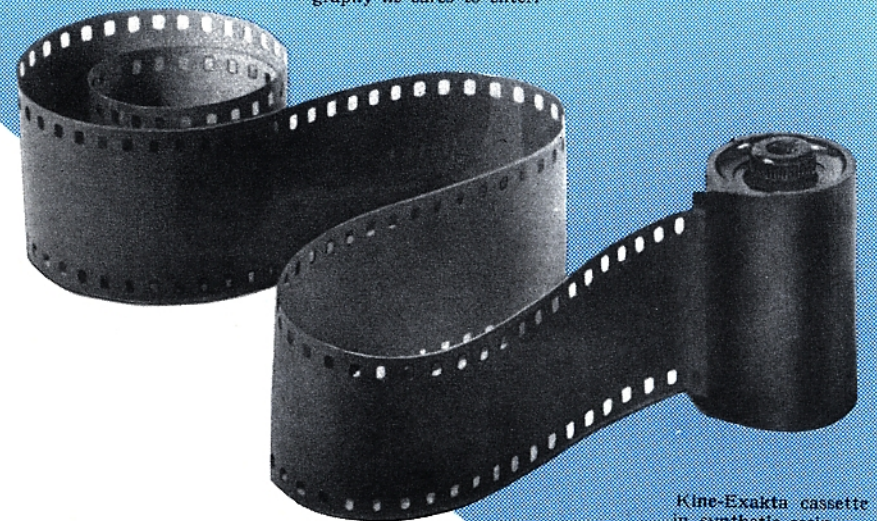
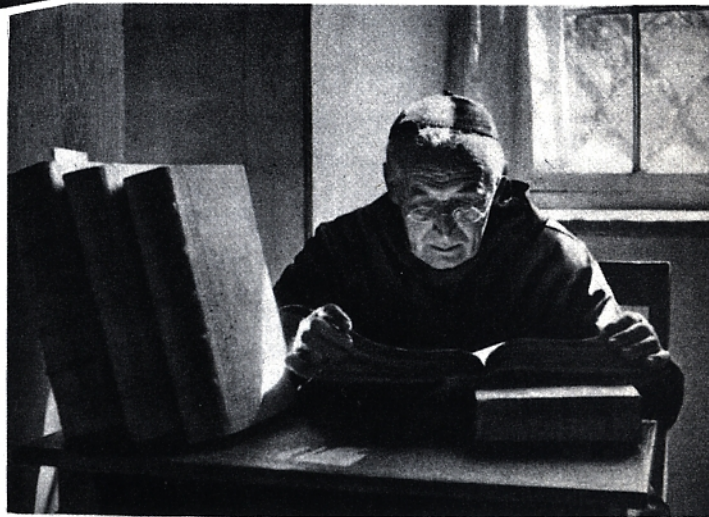
Film for the Kine-Exakta





Perforated cinema film for miniature cameras taking the 24×36 mm. ($1 \times 1\frac{1}{2}$ " picture size can today be obtained everywhere. Either cartridges for 36 exposures (full film length 63 inches) or else long rolls of film may be bought, and though the former are more convenient to the beginner, the naked rolls of film are rather less expensive. Naked film may be loaded into the special cassettes of synthetic resin that are made for the Kine-Exakta, and after the cassettes have been loaded they may be placed in the camera in daylight. After exposure, the film is wound back into the cassette, and the latter may then be removed in daylight.

Inside the Kine-Exakta there is also a small knife (1) by means of which lengths of exposed film can be cut off when they must be developed at once, so that single exposures are quite a practical proposition. Alternatively, when it is desired to change the type of film, the film itself may be wound back with the knob (2) into either cartridge or cassette, and the number of exposures already made on it found from the picture counter (3) and marked down for future reference.

In short: since cinema film may be obtained in orthochromatic, panchromatic, infra-red, "thin-coated", and special fine grain sensitivities, as well as in the form of colour film, there is no question that the user is well served in any field of photography he cares to enter.



Kine-Exakta cassette in synthetic resin



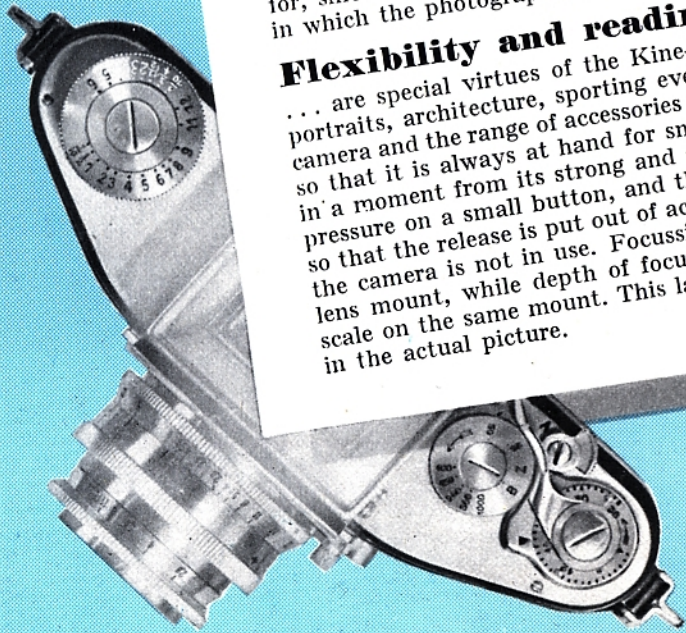
Results on miniature film depend on the camera

The design of the Kine-Exakta sees to it that the maximum number of pictures are successful, thus making for true economy in a small negative size. The winding on of the film is simplified by the perforations in the latter: a single movement of the lever to the left, and the film moves on to the next section. At the same time the shutter is wound up, and accidental double exposures are out of the question. (Where deliberate double exposure is needed, however, it can be arranged without any difficulty.) Finally, the movement of the lever re-sets all the camera controls for the next picture, the Kine-Exakta is specially suited to series of rapid exposures made one after another.

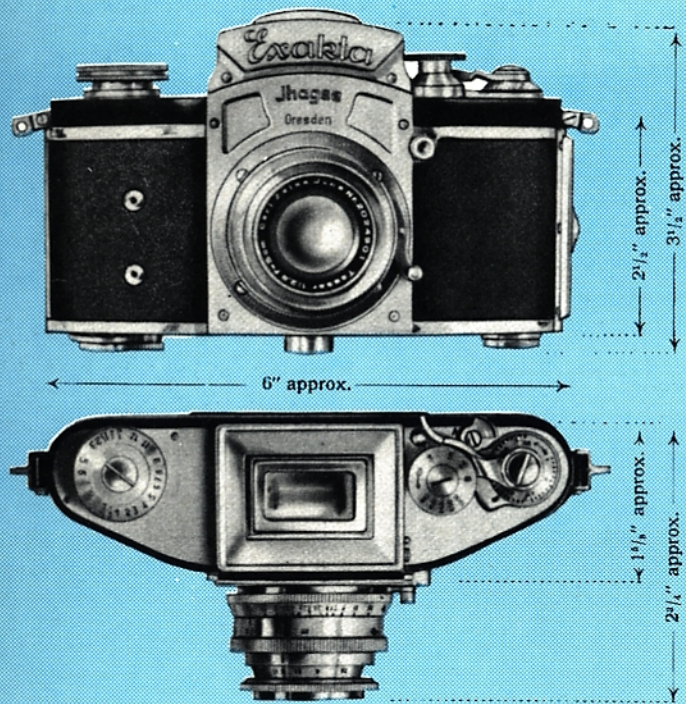
For exposure series of this kind, where the best negatives are chosen for enlargement, the camera shutter must naturally be accurate and very reliable. The focal-plane shutter of the Kine-Exakta is self-capping, and its slit runs across the picture. It will give automatic exposures from $\frac{1}{1000}$ th of a second to 12 seconds, or $\frac{1}{1000}$ th of a second to 6 seconds with the delayed action shutter release. The shortest exposures of the scale will "stop" movement even of racing cars and aeroplanes, while the longer automatic exposures are exceedingly useful for portraits in artificial light. The hood shielding the focussing screen of the Kine-Exakta also contains a frame view-finder for use on sporting subjects (Fig. A). Press photographers, in particular, are well served, for in crowds the camera is reversed over the head and the focussing screen viewed from below (Fig. B). Unperceived snapshot exposures, and genre work are also provided for, since the upright picture given by the camera means that the subject is placed at a right angle to the direction in which the photographer is apparently looking (Fig. C).

Flexibility and readiness for use . . .

. . . are special virtues of the Kine-Exakta. There is no field of photography in which it is not valuable: landscapes, portraits, architecture, sporting events, night and stage work, photo-micrography, copying . . . all are covered by the camera and the range of accessories manufactured for use in conjunction with it. The camera is ready for use in a moment, so that it is always at hand for snapshot work. The lens may normally be left at infinity focus, but it can be released in a moment from its strong and stable bayonet mount and a wide-angle or telephoto lens substituted for it. A slight pressure on a small button, and the finder hood springs into position—when closed, the hood locks the camera shutter so that the release is put out of action. This last mechanism does away with the possibility of accidental exposures when the camera is not in use. Focussing from infinity to 3 feet away is arranged by means of a precision-cut helical screw lens mount, while depth of focus at any focussing distance and for any aperture can be read from a supplementary scale on the same mount. This last is a refinement, for the image on the focussing screen also shows the depth of focus in the actual picture.



Further interesting points about the Kine-Exakta



Externally, the Kine-Exakta looks exceedingly expensive. The body is made from a single piece of light alloy, and its main parts are chrome plated so that it will keep its appearance permanently. Much of the body is covered with real leather. The camera back can be completely removed, and as the entire focal plane is laid open, both hands can be used to insert the film. This is a very important point in a miniature camera. The rails and guides for the film ensure that the emulsion lies accurately in one plane. A tripod bush is fitted in the camera base, and the flexible shutter release delivered with each instrument can be screwed into the central threaded hole of the release button on the camera front. With each camera a neat and convenient leather neck strap is supplied. The weight of the entire camera is not excessive: it varies according to the lens fitted, but is about 34 ounces. The size of the instrument is shown in the illustrations.

To keep the Kine-Exakta in "new condition"...

... and protect it from accidental damage, the ever-ready case should be used. The moment this case is opened, the camera is ready for use, and the presence of the case does not interfere with any of the controls. A tripod screw holds the camera firmly into the case, and on the bottom a second bush for a screw is provided, so that camera and case fit rigidly on to a tripod as a single unit.



How much is included in the picture?



Table of interchangeable lenses for the Kine-Exakta	Focal length inches (cm.)	Angle of field
Meyer wide-angle anastigmat f/4.5	1 ³ / ₈ " (4 cm.)	55°
Zeiss Tessar f/4.5	1 ³ / ₈ " (4 cm.)	55°
Meyer Trioplan f/1.9	3" (7.5 cm.)	32°
Zeiss Triotar f/4	3 ³ / ₈ " (8.5 cm.)	28°
Meyer Trioplan f/2.8	4 ¹ / ₈ " (10.5 cm.)	23°
Meyer Trioplan f/4.5	4 ³ / ₈ " (12 cm.)	20°
Zeiss Triotar f/4	5 ³ / ₈ " (13.5 cm.)	18°
Meyer Tele-Megor f/5.5	6" (15 cm.)	16°
Meyer Tele-Megor f/5.5	7 ¹ / ₈ " (18 cm.)	14°
Zeiss Tele-Tessar f/6.3	7 ¹ / ₈ " (18 cm.)	14°
Meyer Tele-Megor f/5.5	10" (25 cm.)	10°
Zeiss Tele-Tessar f/6.3	10" (25 cm.)	10°
Zeiss Distance lens f/8	20" (50 cm.)	5°

Six exposures made from the same camera position



Tessar f/4.5, 1³/₈" (4 cm.)

Exaktar f/3.5, 2¹/₈" (5.4 cm.)

Tele-Megor f/5.5, 6" (15 cm.)

Tele-Tessar f/6.3, 7¹/₈" (18 cm.)

Tele-Tessar f/6.3, 10" (25 cm.)

Zeiss Distance lens f/8, 20" (50 cm.)

This is a matter that is decided by the focal length of the lens. The Kine-Exakta is independent of distance, for several telephoto lenses may be fitted to it, and the longer the focal length, the smaller the angle of field—which means that the size of the object on the focussing screen increases with focal length. The opposite is naturally true as the focal length decreases: a wide-angle lens has a short focal length, includes a large angle of field, but makes individual objects smaller on the film. This last point is often very important where the camera must be used in a restricted space.

The Kine-Exakta is only fitted with the highest quality lenses as a matter of principle. The normal lens has a focal length of 2" (5 cm.), 2¹/₈" (5.4 cm.), or 2³/₈" (5.8 cm.), and it may be exchanged at any time—even when the camera is loaded with film—by giving it a single turn in its bayonet mount, and removing it. Whether the new lens has a longer or shorter focal length, the image on the ground glass still shows just what will appear later on the negative, and this is still true when the long-distance lens of 20" (50 cm.) focal length is used. All these interchangeable lenses are delivered to fit the Kine-Exakta's bayonet mount, and they have special helical screw focussing mounts. Even at full aperture these lenses give a picture that is sharp right up to the edges, and there is no necessity to stop down—as with supplementary lenses—to get sharp focus. For architectural work, copying in picture galleries, interiors, and the like, the wide-angle lenses are most generally useful. On the other hand, the sporting photographer, natural historian, research worker, and general worker will require a telephoto lens in many cases in order to get a sufficiently large image on the film. The linear magnification of the image by lenses of long focus varies directly with the focal length of the lens: a 10" lens gives five diameters magnification compared with a 2" lens, and a 20" lens ten diameters magnification.

Prices for lenses of normal focal length are given on page 17

Artificial light against sunlight

In earlier days, the evening ended the working day of the practical photographer, but nowadays, the Kine-Exakta can be used at all hours of the day or night. Ultra-rapid lenses with apertures up to $f/1.9$ make it simple to obtain night snapshots in the streets, at variety shows, in the theatre, at dances, or even indoors at home. Artificial light is every bit as good today as real genuine sunlight. Those who own one of the "Night model" Kine-Exaktas will find a wealth of interest and excitement in this new photographic field. Even if the light is altogether too dim for a good snapshot, there is no need to give up hope of a negative. Under these circumstances the synchronised flash-bulb outfit for the Kine-Exakta can be used, and the flash will take place at the very moment at which the shutter opens.

Flash-bulbs are admittedly used more by news photographers than by amateurs but this is no reason why their advantages should be under-valued. The synchronised outfit is simplicity itself in use, while the flash-bulb sees to it that a source of powerful light is at hand when ordinary lighting fails. There is no mess, smoke, smell, or any other nuisance with these bulbs, and also no noise to disturb the subject of the picture.

For exposures indoors at home, the user of the Kine-Exakta needs no flash-bulbs, and no high-power lamps. The normal lighting in the room is ample, for the camera shutter gives up to 12 seconds exposure automatically. Even with the delayed-action release, up to six seconds can be given with a self-portrait.

The Kine-Exakta will thus give excellent service on all occasions where artificial light must be used instead of daylight.

The electrical contacts for the synchronised flash-bulb outfit are already built into every Kine-Exakta, and the accessory outfit comprises:

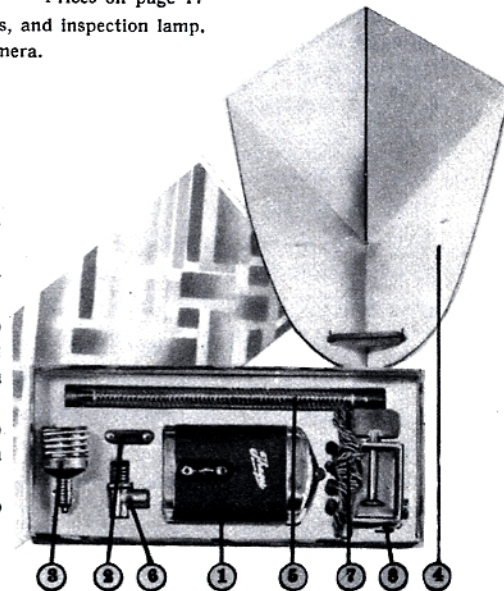
Prices on page 17

1. Battery holder with tripod screw, two batteries, and inspection lamp.
2. Connecting plug joining battery holder to camera.
3. Socket for flash-bulb, with connector.
4. Reflector.

A larger and more comprehensive outfit includes 1 to 4 above, but also contains:

5. Flexible extension piece 6" long, in nickel finish, with threads to fit the battery holder and flash-bulb socket (or a second extension piece).
 6. T-piece for firing two flash-bulbs simultaneously.
 7. Cable to join camera and flash, so that the two may be placed where required, but also useful to put further batteries and flash-bulbs in circuit.
 8. Clamp to hold the battery holder and flash-bulb down on to a firm support when separated from the camera.
- Horizontal reflector for use when the flash-bulb is not vertical.

Larger flash-bulb outfit



Kine-Exakta with small synchronised flash-bulb outfit, shown ready for use

Under the microscope

Dr. Robert KOCH, the veteran bacteriologist, found even in his own earlier day that the camera was a very necessary part of scientific research. Not every camera, however, can be used so conveniently in conjunction with an ordinary microscope as the Kine-Exakta. The image may be observed as usual on the ground glass screen of the camera (a very important thing where living objects are being recorded). The connection between microscope and camera is the micro-attachment designed by Dr. W. Koch of Vienna, in which the objective and eyepiece of the microscope are used to form the image, and the camera lens removed. In order that the eyepiece may easily be changed so as to vary the magnification, yet without removing the camera completely, a hinged joint is provided, so that the camera is merely swung out of the way for the change and replaced immediately afterwards. The micro-attachment is delivered in a strong wooden box.

The photography of small but visible objects—sometimes called “photo-macrography”—usually involves a reproduction scale of normal size or slight enlargement on the film in the camera. A scale of normal size (1 : 1) is given by a camera with double extension, but the Kine-Exakta provides a great deal further extension than this. Extension tubes with attachment rings are placed between the lens and the camera, and a suitable combination will give an image on the film even larger than the original objects. The tubes are screwed into one another as required, while the attachment rings serve to convert the screwed end into a bayonet mount. By this means it is possible to come exceedingly close to such small objects as coins, postage stamps, insects, flowers, grasses, and the like.

Two extension tubes are made: C is 0.5 cm. ($1\frac{1}{4}$ ") long and B 3.0 cm. ($1\frac{1}{4}$ ") long. As shown in the table on the next page, these extension tubes may be used in combination with supplementary lenses for a still greater flexibility of work, and the two attachment rings may be screwed into each other and used without the tubes. With the normal focussing extension, coupled with the attachment rings, extension tube C, and a supplementary lens, exposures in natural size (1:1 scale) may be made. In work of this kind the special value of the Exakta design becomes particularly apparent. No special focussing devices are required, for the image that will appear on the film is always seen on the ground-glass focussing screen, without any trace of parallax or other error.

Prices are given on page 17





Supplementary lenses for the Kine-Exakta

The close up lens for the Kine-Exakta has the effect of shortening the focal length of the normal camera lens, which means that for a given camera extension the camera itself can approach the subject more closely. The Tele-lens on the other hand increases the focal length of the normal 2" (5 cm.) lens to about 2 1/2" (6.2 cm.), which cuts down the angle of field, and increases the size of objects on the film by some 25% linear. When using the Tele-lens, however, it is necessary to obtain at an extra price a special pair of focussing rings, by means of which the combination of two lenses may be focussed on infinity. For close work with the Tele-lens the extension tubes are required.

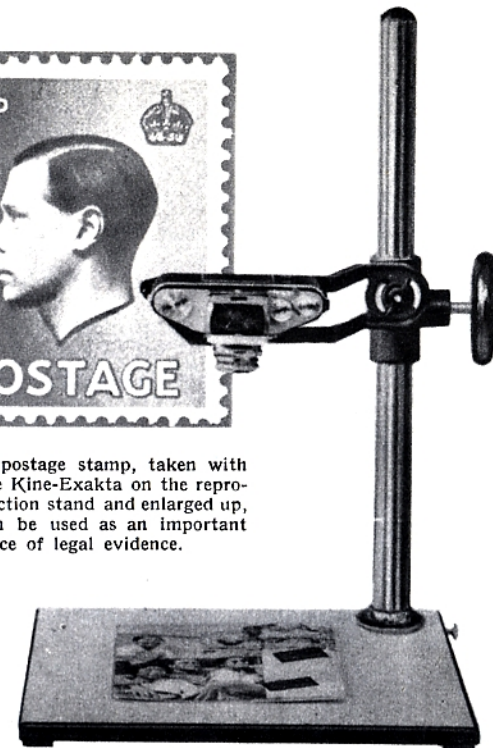


Close subjects with the Kine-Exakta. The table below shows (two lenses are taken as examples) how closely the camera can be brought to the subject under different circumstances. The two distances indicate the focussing distance (between lens and subject) the larger distance is for infinity setting on the helical lens mount, and the smaller for the shortest distance on the latter (i. e. lens fully extended).

Lens	Attachment rings only	Supplementary lens only	Rings and supplementary lens	Attachment rings with:			Attachment ring, supplementary lens, and:	
				Tube C	Tube B	Two tubes B	Tube C	Tube B
Exaktar f/3.5	17 1/4"-13 1/4"	20 1/4"-13 1/4"	11 1/4"-10"	13 1/4"-11 1/4"	9 1/4"-8 1/4"	8 1/4"	10-9 1/4"	7 1/4"
Biotar f/2	19 1/4"-15"	23 1/4"-15 1/4"	12 1/4"-11"	14 1/4"-12 1/4"	9 1/4"-9 1/4"	9 1/4"	11-10"	8 1/4"



A postage stamp, taken with the Kine-Exakta on the reproduction stand and enlarged up, can be used as an important piece of legal evidence.



The Kine-Exakta reproduction stand . . .

. . . makes copying a particularly simple matter, for it is designed to give accurate parallelism between focal plane and original under all circumstances. The base of the stand is used as a copying board, and the original placed on it, while the Kine-Exakta is rapidly adjusted to the correct position by means of a friction drive. The camera itself is screwed to a carrying arm and is held right over the centre of the baseboard, and the arm itself can be turned into a vertical position where a greater distance between camera and original is required than that given by the stand itself. It is necessary to use the attachment rings, extension tubes, and supplementary lens for copying, and the table below indicates the maximum size of original that will be included in the negative under different conditions, as well as the reproduction scale involved. (N.B. These ratios express the linear size relation between image on film and original. 1:2.5 means that 2.5 inches length in the original become 1 inch in the negative.)

	Lens focussed on: Infinity		Lens focussed on: 3 feet	
	Maximum field	Scale	Maximum field	Scale
Supplementary lens only . .	11 x 7 1/2"	1:7.8	6 3/8 x 4 3/8"	1:4.5
Attachment rings only . . .	8 1/4 x 5 1/4"	1:5.8	5 1/8 x 3 3/4"	1:3.9
Rings and supplementary lens	4 3/4 x 3 1/8"	1:3.4	3 1/4 x 2 1/4"	1:2.5
Rings and tube C	5 1/8 x 3 3/4"	1:3.9	4 1/8 x 2 3/4"	1:2.9
Rings and tube B	2 x 1 3/8"	1:1.4	1 3/4 x 1 1/16"	1:1.3
Rings and two B tubes . . .	1 1/8 x 3/4"	1.29:1	1 x 1 1/16"	1.38:1
Rings and three B tubes . .	1 3/16 x 3/16"	1.8:1	3/4 x 1/2"	1.89:1
Rings and four B tubes . .	3/8 x 1/16"	2.4:1	1/16 x 3/8"	2.5:1

The extension to the reproduction stand is screwed on at the lower end of the pillar, and gives sufficient height overall for the camera to be used with normal focussing, and without the need for extra extension tubes or supplementary lenses. The helical focussing mount is either focussed on the shortest scale distance or else moved as far forward as it will go, and an original of approximately 17 3/4 x 11 1/4" will then be included in the normal negative area of 1 x 1 1/2". This special extension piece is listed with other prices at the end of the present booklet.

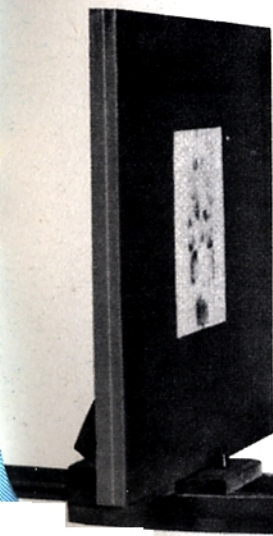
The Lumimax reproduction stand

This device consists of a pillar in wood, a camera holder with a clamping screw, and a strong baseboard that is accurately set at right angles to the pillar. The pillar is horizontal, and may be adjusted to give any distance between camera and copying board up to six feet. The device ensures that the optical axis of the camera is accurately at right angles to the copying board, and the latter is 27 x 21 inches in size.



The Kine-Exakta pocket tripod with ball and socket head

This tripod is divided into twelve sections, and is eight inches long when closed, and 46 1/2 inches long when fully extended. It may be adjusted to any intermediate height required, and is very suitable for copying work and exposures on close objects. (For very close objects, attachment rings, extension tubes, and supplementary lenses may be required.)



Small - but important - Accessories

Colour correction with Kine-Exakta light filters

Grades: Yellow, for orthochromatic film. Green, for panchromatic film. Blue, for panchromatic film with high red sensitivity, in artificial light. Red, for panchromatic and infra-red film, especially for long-distance subjects and night effects in daylight.

Filters are stocked in push-on mounts for the various lens diameters, so that when ordering it is essential to specify the type of lens, its focal length, and its full aperture. Apart from this, the grade of filter should be indicated (yellow filters have light, medium, and deep grades). Exakta filters in yellow, green, red, and blue grades are also available in push-on mounts of suitable diameters (32 mm., 42 mm., etc.). Prices will be found on page 17.



Without Bernotar polarisation filter



Removing reflections with a polarisation filter

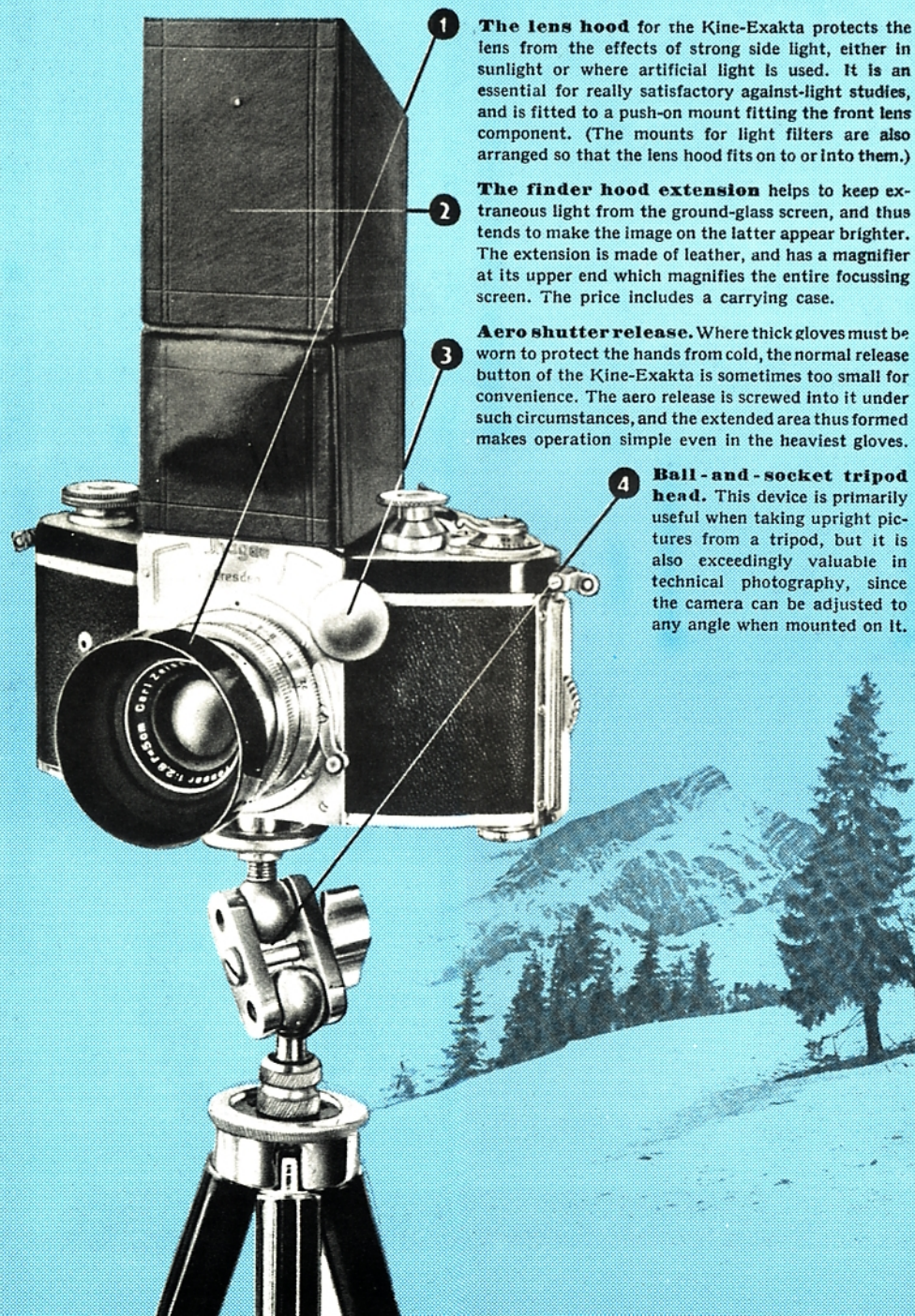
Light that is reflected at a particular angle from such polished surfaces as glass, water, and enamel, is polarised to a large extent, which means that it has a particular form of vibration. The polarisation filter acts as a trap, in which these particular vibrations are caught, and much of the glancing light will not reach the film. The orientation of the filter is a very important matter, and the angle at which the light is reflected is also critical, for polarisation does not take place at all angles of reflection. Also in such cases the focussing screen of the camera acts as an excellent guide: the camera position may be varied and the polarisation filter rotated on the lens with its mount until the correct effect is seen on the ground glass.

With Bernotar polarisation filter



Duto discs for soft-focus effects

These are not normal lenses, but are specially ground to soften the image and give an artistic effect. The depth of focus is also affected, because of the change of image character. The outlines of objects in the picture are preserved unchanged, but the bright parts of the image tend to flow over into the shadows, giving an unusual and quite unique effect in the print. The discs are naturally very suitable for portrait studies. (Duto "0" should be used with strong subject contrast, Duto "1" for medium contrast.)



1 The lens hood for the Kine-Exakta protects the lens from the effects of strong side light, either in sunlight or where artificial light is used. It is an essential for really satisfactory against-light studies, and is fitted to a push-on mount fitting the front lens component. (The mounts for light filters are also arranged so that the lens hood fits on to or into them.)

2 The finder hood extension helps to keep extraneous light from the ground-glass screen, and thus tends to make the image on the latter appear brighter. The extension is made of leather, and has a magnifier at its upper end which magnifies the entire focussing screen. The price includes a carrying case.

3 Aero shutter release. Where thick gloves must be worn to protect the hands from cold, the normal release button of the Kine-Exakta is sometimes too small for convenience. The aero release is screwed into it under such circumstances, and the extended area thus formed makes operation simple even in the heaviest gloves.

4 Ball-and-socket tripod head. This device is primarily useful when taking upright pictures from a tripod, but it is also exceedingly valuable in technical photography, since the camera can be adjusted to any angle when mounted on it.

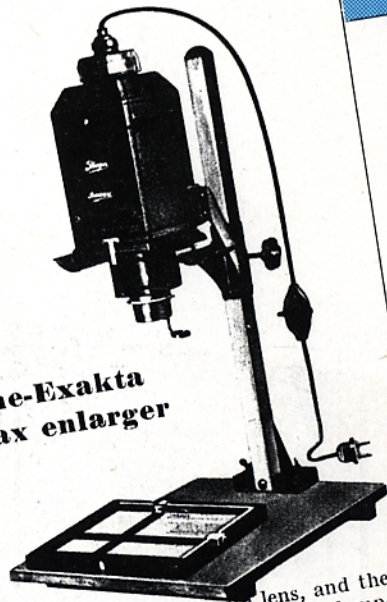


To enlarge... or to project?

Ideally, both!

Any miniature image must necessarily be enlarged before it can be seen in its full detail, for otherwise it has no pictorial effect whatever. The user of the Kine-Exakta has a wide range of both enlargers and projectors available to him, and with the enlargers (including the Lumimax Projector-Enlarger) save cost by utilising the actual camera lens for the process. At the same time, a projector is really an essential if colour films are to be shown to their best advantage.

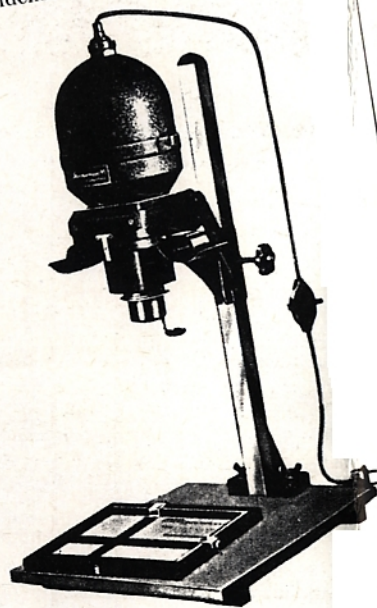
The Kine-Exakta Lumimax enlarger



This instrument takes the camera lens, and the focussing is adjusted (1) by moving the lamp-house on its pillar and (2) an extra long helical lens focussing mount. The carrier takes either film strips or single negatives in book-form mask-slides. Ventilating channels are provided, and the upper part of the lamp-house can be opened in order to keep the heating effect on the negative down to the lowest limit. Two models A and B are available: A uses diffused light, and B includes a condensing lens in the optical system, giving somewhat increased contrast. Model B can also be used to project monochrome transparencies up to some 30 inches wide on a screen. For this purpose it can be attached in a horizontal position to the pillar. The price includes in each case the baseboard, pillar, lamp-house, focussing mechanism and carrier masks, but no lamp.

The Lumimax M enlarger

This enlarger also takes the Kine-Exakta lens, and is similar to the instrument described above except that the lamp-house is of metal. The film guides are still made in wood, however, since this material gets hot less rapidly than metal. Focussing is arranged by helical screw lens mount, and book-form carrier masks take single negatives when necessary. The ventilation is carefully arranged, and the price includes pillar, baseboard, lamp-house, condenser, and carrier.



The Ihagee enlarging printer

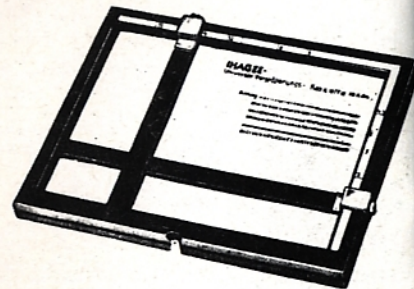
This is a special instrument for printing the miniature $1 \times 1\frac{1}{2}$ " picture in $3\frac{1}{4} \times 2\frac{1}{4}$ ", $4\frac{3}{4} \times 3\frac{1}{2}$ ", or post-card size. The strip of film (uncut) is placed in a special guide, and a lamp and optical system projects an enlarged image of the

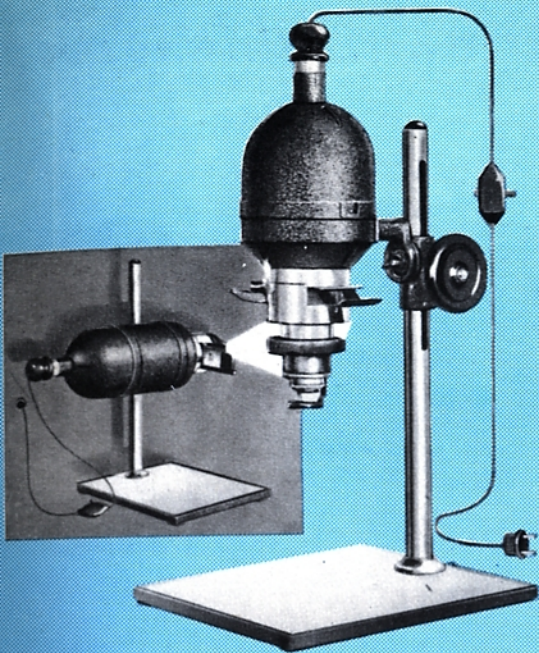


negative on to a piece of bromide paper over the top of it. A ground-glass screen is provided to ensure correct focussing, and the convenient way in which the instrument is handled makes for very rapid printing. The projection lens is a Meyer Trioplan f/4.5, of focal length 2" (5 cm.), which gives needle-sharp images. To obtain the larger print sizes, an extra extension is placed on top of the printer in order to bring the paper far enough away from the lens and negative. The illumination system includes a condenser, while the paper is held in place by a pressure pad during exposure. Smaller prints, including only a portion of the original negative area, can naturally be made when the printer is adjusted for the larger $4\frac{3}{4} \times 3\frac{1}{2}$ " and post-card pictures. The enlarging printer is delivered complete with lens, condenser, extension for larger sizes, electrical cable and switch, but without a lamp. The enlarging printer can also be used as a projector for both colour and black and white lantern slides. For this purpose the film negative carrier is removed and replaced by a special slide carrier, moreover a lighthouse is placed over the screen at the top.

Ihagee Universal Paper-holders

These holders keep the printing paper really flat during exposure. They open on a hinge, and their inner surface is painted white so that the negative image can be focussed on it. The paper-holders are delivered to take paper in the maximum sizes $7\frac{1}{4} \times 5\frac{1}{8}$ ", $9\frac{3}{8} \times 7\frac{1}{8}$ ", 8×10 ", $11\frac{1}{4} \times 9\frac{3}{8}$ ", 11×14 " and $15\frac{1}{4} \times 11\frac{3}{4}$ ". Adjustable steel bands serve as masks when any smaller size of paper is used, and the most common print sizes are indicated on scales. These bands form a white border round the print, and considerably add to its effectiveness later on. In order to stop the holder moving on the enlarger baseboard, four sharp pegs are provided on its under surface.





The Lumimax Projector Enlarger

This is a highly efficient enlarger that can also be used as a very effective transparency projector in the home. For the latter purpose, it is swung into a horizontal position, and upright or longitudinal pictures may both be shown by the simple expedient of rotating the carrier and projection lens as a body. Special carriers for 35 mm. film strips or single transparencies in glass are provided. The negatives may either be printed on to positive film in strips, or else on to single glass plates 2" (5 cm.) square.

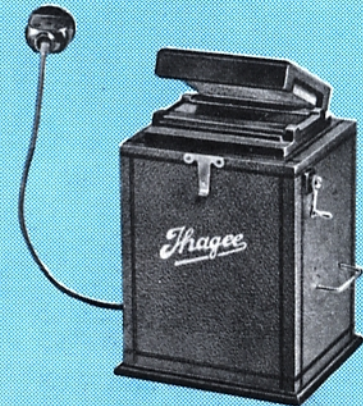
The lens of the Kine-Exakta is used with the instrument both for enlarging and projection, and a specially long helical focussing mount ensures that focussing is convenient and accurate under all working conditions. Although the enlarger is normally used in a vertical position, it may be swung horizontal where very large prints are to be made. Coarse focussing is arranged by a friction drive with a large hand wheel, while a condenser ensures that the light is used efficiently. The film carrier takes either negatives in strip form, or else as single cut images in a special pressure frame, and a carefully designed ventilation system does away with overheating the negatives. In view of the fact that the entire instrument can be swung sideways on its pillar, perspective distortion can be corrected without difficulty. A projection lamp is necessary when using the instrument as a projector (a 200 watt lamp is required for colour transparencies), and when using it, an extra extension must be fitted to the lamp-house in order to place the lamp the correct distance from the condenser lenses.



Special leaflets describing the Lumimax enlargers, the Projector-Enlarger, and the Ihagee miniature Diaskop are available on request.

The Ihagee miniature transparency printer

Designed to produce strips of positive transparencies on ordinary perforated cinema film, which can later be shown in the Lumimax B, Lumimax Projection-Enlarger, Miniature Diaskop, or any other type of miniature transparency projector. The negative and positive films pass in contact through the guide of the printer, emulsion to emulsion, and the pilot red lamp serves to show that the two are correctly placed before exposure. The working of the printer is particularly simple. The upper guide plate of the printer is interchangeable, and can be replaced by a special glass which is used when the negative is to be printed on a 2" (5 cm.) square transparency plate.



The projection of colour transparencies: the Ihagee miniature Diaskop projector

The miniature Ihagee Diaskop is a completely new instrument, and is exceedingly attractive externally. It will project both film strips and single transparencies in glass, and the carrier rotates through a right angle in order that both upright and longitudinal pictures may be correctly shown. The change-over from film strip to glass slides is done in a moment, and it is very simple to remove a strip of film that has been shown and to insert another. Film strips with either 18 x 24 mm. or 24 x 36 mm. (1 x 1 1/2") pictures may be projected, and can be moved continuously through the carrier or else one by one. During the movement of the film, the glass pressure plates are automatically released, so that no pressure is put on the film and emulsion as it moves. A triple condensing lens and concave mirror use efficiently the light from the 100 watt projection lamp, and the projector can be connected direct to the 110 or 220 volt mains, the lamp to be chosen accordingly. The lamp-house has double walls, covered with insulating material, and the outer housing is of synthetic resin. Excellent ventilation is provided, and the price includes a first-class projection anastigmat with a focal length of 3" (75 mm.) and an aperture of f/2.5. The connecting cable and switch is also included, but not the lamp. The miniature Diaskop is specially suitable for projection at home, and for amateur use, but is also suitable for small gatherings and meetings of societies, and gives excellent pictures from coloured transparencies. At a distance of about eight feet from the screen, it gives a brilliant picture 41 x 27 inches from the miniature image 24 x 36 mm. (1 x 1 1/2") in size. The every-ready carrying case is strongly recommended in connection with the projector, since it serves as a projection stand (with adjusting screw for tilt) during use.

For prices, see page 17

Type Exaktar, Primotar,
Xenar f/3.5, Tessar

Xenar f/2.8

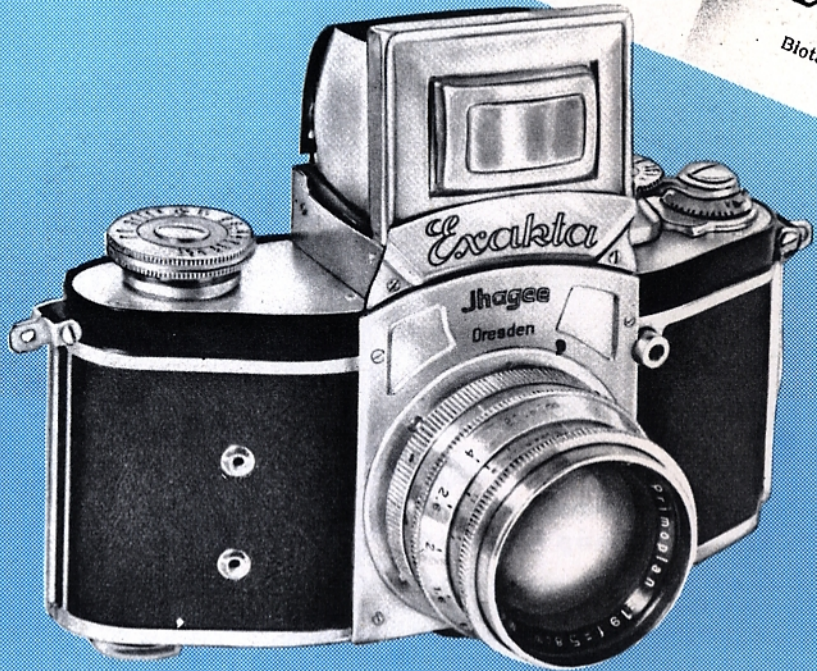
Xenon

Biotar

Primoplan

The choice of a suitable lens

The lens chosen with the Kine-Exakta depends on the demands made on the camera and the length of the photographer's purse. It can be stated, however, that any lens of the series shown below will prove of the highest quality within its own sphere of work. The differences between similar lenses so far as price goes depend on variations between manufacturing methods, and thus on differences in manufacturing costs. The Exaktar, Primotar, Xenar f/3.5 and the two Tessars of f/3.5 and f/2.8 are examples of unsymmetrical four-component anastigmats. The Xenar f/2.8 and Primoplan f/1.9 have five components, and the Xenon and Biotar six components, and are all unsymmetrical anastigmats. The lenses of the "night model" Kine-Exakta have naturally been specially designed with an eye to the maximum possible aperture value, but the definition given by such lenses still remains exceedingly satisfactory even at their full working aperture. Such ultra-rapid lenses are essential where photography is done in the streets at night, or where artificial light—or even weak light of any kind—must be used for exposure.



Kine-Exakta taking 24x36 mm. (1x1 1/2") pictures

Specification: Light alloy body, with finder hood opening automatically by pressing a button, and including frame finder. Accessory magnifier for enlarging the focussing screen in critical work, and normal magnifier embodied in screen for ordinary use. Film rewind and film knife. Mechanically connected film and shutter winding gear, giving automatic film winding and avoiding double exposure. Picture counter up to 36 exposures. Focal-plane shutter (self-capping) giving Time, Bulb, and instantaneous speeds, the latter including 1/1000th second to 1/25 second, and short automatic time exposures up to 12 seconds (6 seconds when automatic delayed-action release is in use). Interchangeable lens in bayonet mounting, with helical focussing mount for distances between infinity and 3 feet. Automatic shutter lock put into action by lowering the finder hood. Simple but accurate film guide. Tripod bush. Leather neck strap. Contact points for synchronised flash-bulb outfit. Flexible wire release. Chrome-plated external metal parts.

Instruction booklet and handbooks

Each Kine-Exakta is naturally sent out with a special book of instructions that only refers to this particular model. But since miniature photography today has spread over such a very wide range of photographic fields, a special handbook is frequently both of practical use and general interest to the photographer himself.

"Practical work with the Kine-Exakta", written by Dr. Gerhard Isert, fills the needs of the ordinary user excellently. The book is written in simple form, for ordinary photographers, and it deals with everyday practice as well as touching on a number of specialised fields of photography. The book can be obtained through any photographic dealer or book-shop.



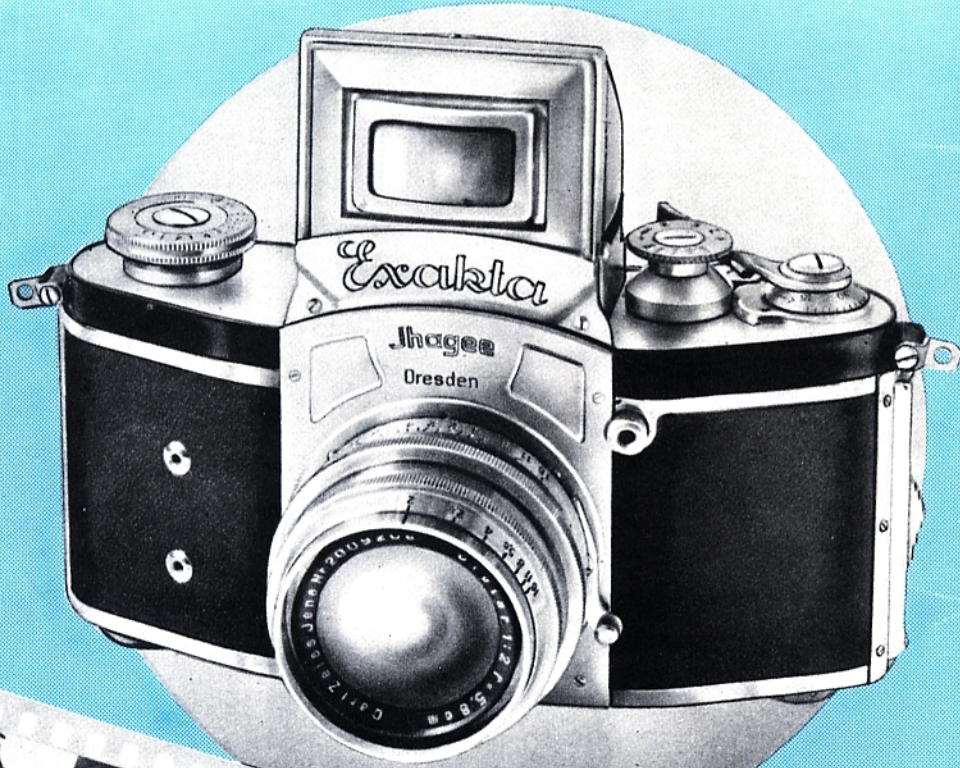
The Ihagee information service is at the disposal of all users of Ihagee cameras, and their help and advice may be obtained without cost. They can also trace the earlier history of a camera, since deliveries are only made to photographic dealers.

Examples of photographs taken with the Kine-Excakta



KINE-EXAKTA

a miniature reflex taking 24x36 mm. (1x1 1/2") pictures, and adapting itself to any kind of photographic work



MR. WILL POTTER
 14. Januar 1930

Ihagee-Kamerawerk Dresden.

Kine-Exakta-Kamera

Sehr geehrte Herren!

Bevor ich mir meine Kine-Exakta-Kamera kaufte, habe ich sorgfältig die verschiedenen Kleinbild-Kameras auf dem Markt geprüft und festgestellt, dass die Kine-Exakta für alle Gebiete am besten geeignet ist.

Nun, nachdem ich sechs Monate mit der Kamera arbeite, kann ich zu meinem Vergnügen feststellen, dass das Urteil durch den praktischen Gebrauch der Kamera seine Bestätigung findet.

Ob der Fotograf schöne Landschaftsaufnahmen, Sportbilder, Interieurs oder Hochaufnahmen herzustellen will - die Kine-Exakta ist die ideale Kamera, weil ihre lichtstarken Objektive und der vielseitige Schlitzverschluss sie befähigen, einfach alles in Bild festzuhalten.

Ich habe besonders gefunden, dass man sie sehr gut zur Herstellung von Reproduktionen benutzen kann. Es war für mich ohne Mühe und Verlust Buchseiten, Diagramme, Tabellen und Illustrationen aufnehmen konnte.

Es ist nicht übertrieben, wenn man die Kine-Exakta also anspricht.

Hochachtungsvoll
 W. H. de la Mar

SERVICE PUBLICITE SOCIÉTÉ ANONYME

Ihagee Kamerawerk
 Steubenbergen & Co.
 Dresden A 19

UN SERVICE DE PUBLICITE RAPIDE ET SUR

MIRAMONTE le 9-9-1937
 54 RUE DES COLONNES

Messieurs,

Vous avez l'avantage de vous signaler que les résultats que nous avons obtenus grâce à votre appareil "EXAKTA" sont excellents. La vidéo directe par nous évite les erreurs habituelles et l'obscureté nuisant dans aux clichés une rare perfection. La technique impeccable, le format agréable et le maniement facile sont d'autres avantages précieux qui nous donnent le désir d'acquiescer un deuxième appareil "KINE-EXAKTA", ce qui est la meilleure preuve de notre entière satisfaction.

Veuillez agréer, Messieurs, avec nos félicitations, l'expression de nos sentiments distingués.

S.A. Service Publicité
 L'Administrateur-Délégué
 W. H. de la Mar

ALFRED MANSKE
 Berlin-Schwarzendorf
 StraÙe 10
 Den 15. November 1937

An das
 Ihagee-Kamerawerk
 Steubenbergen & Co.
 Dresden A 19

Seit dem 1. Juli 1937 bin ich im Besitze einer Kine-Exakta Nr. 483896 mit Xenar 2,8 Nr. 1057043.

Ich möchte Ihnen hiermit meine vollste Zufriedenheit und Dankbarkeit über die von Ihnen geschaffene Transitionskamera aussprechen. Trotzdem ich auf photographischem Gebiet vollkommenerer Anschaffungen, sondern es sollte gleich eine hochwertigere Kleinbildkamera sein. Die große Anzahl der heute die Auswahl.

Auf der Ausstellung "Geht mir vier Jahre Zeit" hatte ich Gelegenheit, Ihre Exaktamodelle zu sehen, und nun würde ich, das die Kine-Exakta die ideale Kleinbildkamera ist. Sie ist ein Kamerawerk der Präzision und Kleinbildkamera ist. Sie ist handhabbar. Der sich mit der Arbeitsweise der Kine-Exakta werden Gebiet mit ihr vollbringen. An ihr ist nichts besonderes hervorzuheben, alles ist erstklassig. Das Formschöne der Kine-Exakta, die schnelle Einstellmöglichkeit, das zuverlässige Vorlaufwerk, die schnelle Schuttermechanik, der Schlitzverschluss mit seinem Spiegelreflexmechanismus, das zuverlässige Objektiv, die Scharfstellungsmöglichkeit, diese gestattet es eine zuverlässige Scharfstellung bei gleichzeitiger Kontrolle der Tiefenschärfe. Die Auswahl der Parallaxe läßt sich nur mit der einmütigen, echten Spiegelreflex absolut genau vornehmen.

Die Kine-Exakta ist die Königin unter den Kleinbildkameras und verdient weiteste Verbreitung.

Mit Deutschen Gruß
 Alfred Manske



THE HARMONY DRUG STORE, LTD.
 HARMONY, ALBERTA, CANADA
 October 22, 1937

Ihagee Kamerawerk,
 Steubenbergen & Co.,
 Dresden A 19,
 Germany.

Dear Sirs:-

This will acknowledge with thanks, the receipt of your Kine Exakta (No. 485260) with both the appearance and performance of the remarkable camera. We are sure that it will soon fulfill our expectations.

We are contemplating the establishment of a separate photographic store during the summer of 1939. We can assure you that your product will be featured exclusively.

Yours very truly,
 THE HARMONY DRUG STORE
 W. H. de la Mar

Prices of Kine-Exakta and Accessories

Kine-Exakta Models (taking 24 x 36 mm = 1 x 1 1/2" pictures) (No. 8140) Optical equipment:	Focal length	Mount diameter	Price £	No.
Ihagee-Exaktar f/3.5 } Angle of field	2 1/8" (5.4 cm.)	32 mm.	27.10.0	8140 BR
Primotar f/3.5 } 43°	2 1/8" (5.4 cm.)	32 mm.	—	8140 PR
Xenar f/3.5 } Angle of field	2" (5 cm.)	32 mm.	—	8140 N
Xenar f/2.8 } 45°	2" (5 cm.)	32 mm.	35. 0.0	8140 AX
Tessar f/3.5 }	2" (5 cm.)	32 mm.	34.10.0	8140 Q
Tessar f/2.8 }	2" (5 cm.)	32 mm.	38.10.0	8140 E
"Night models" (with large-aperture lenses)				
Xenon f/2 Angle of field 45°	2" (5 cm.)	32 mm.	45. 0.0	8140 O
Biotar f/2 Angle of field	2 1/4" (5.8 cm.)	42 mm.	55. 0.0	8140 LR
Primoplan f/1.9 } 40°	2 1/4" (5.8 cm.)	42 mm.	45. 0.0	8140 PL

Page 3

Kine-Exakta cassette in synthetic resin	Price £	No.
	3.3	7600

Page 5

Kine-Exakta ever-ready carrying case	1. 0.0	7234
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Page 6

Interchangeable lenses:

	Price £	No.			
Meyer wide-angle anastigmat f/4.5, 1 1/8" (4 cm.)	14.14.0	7613	Leather case	7.0	7813
Zeiss Tessar f/4.5, 1 1/8" (4 cm.)	18. 0.0	7601	Leather case	7.0	7801
Meyer Primoplan f/1.9, 3" (7.5 cm.)	27. 0.0	7602	Leather case	8.6	7802
Zeiss Triotar f/4, 3 1/8" (8.5 cm.)	20. 0.0	7603	Leather case	8.6	7803
Meyer Trioplan f/2.8, 4 1/8" (10.5 cm.)	16. 0.0	7604	Leather case	12.6	7804
Meyer Trioplan f/4.5, 4 1/8" (12 cm.)	14. 0.0	7605	Leather case	15.0	7805
Zeiss Triotar f/4, 5 1/8" (13.5 cm.)	24. 0.0	7606	Leather case	8.6	7806
Meyer Tele-Megor f/5.5, 6" (15 cm.)	16. 0.0	7607	Leather case	8.6	7807
Meyer Tele-Megor f/5.5, 7 1/8" (18 cm.)	20. 0.0	7608	Leather case	8.6	7808
Zeiss Tele-Tessar f/6.3, 7 1/8" (18 cm.)	31.10.0	7609	Leather case	8.6	7809
Meyer Tele-Megor f/5.5, 10" (25 cm.)	30. 0.0	7610	Leather case	12.0	7810
Zeiss Tele-Tessar f/6.3, 10" (25 cm.)	39.10.0	7611	Leather case	12.6	7811
Zeiss Distance lens f/8, 20" (50 cm.)	75. 0.0	7612	Leather case	1.10.0	7812

Normal lenses, when obtained separately

Xenar f/2.8, 2" (5 cm.)	10.10.0	140AX	Leather case	7.0	151
Tessar f/3.5, 2" (5 cm.)	10.10.0	140Q	Leather case	7.0	152
Tessar f/2.8, 2" (5 cm.)	14.15.0	140E	Leather case	8.6	153
Xenon f/2, 2" (5 cm.)	20.10.0	140O	Leather case	8.6	154
Biotar f/2, 2 1/4" (5.8 cm.)	32. 0.0	140LR	Leather case	8.6	155
Primoplan f/1.9, 2 1/4" (5.8 cm.)	20.10.0	140PL	Leather case	8.6	156

Page 7

Small flash-bulb outfit	—	8472
Large flash-bulb outfit	2. 5.0	8473

Page 8

Micro-attachment, including wooden case	5.15.0	8928
Pair of attachment rings, adapting extension tubes to bayonet lens and camera mounts	1. 0.0	8835
Extension tube C (0.5 cm.) chrome-plated	8.6	8844
Extension tube B (3.0 cm.) chrome-plated	8.6	8846

Page 9

Close-lens (supplementary)* for lens mount 32 mm. diameter	10.6	3645
As above*, but 42 mm. diameter	16.6	3646
Tele-lens (supplementary)* for lens mount 32 mm. diameter	10.6	8445
As above*, but 42 mm. diameter	16.6	8446
(The Tele-lens must be used in conjunction with the adapting Rings No. 8835)		
Kine-Exakta pocket tripod with ball-and-socket head	2.10.0	8070
Lumimax reproduction stand (Baseboard 27 x 21 inches)	6.10.0	5445
Kine-Exakta reproduction stand, in metal	—	8812
Extension to the reproduction stand	—	8813

Page 10

Colour filters*: yellow, green, blue or red:		
For lens mount 32 mm. diameter	12.6	9651
For lens mount 42 mm. diameter	1. 5.0	9655
Bernotar polarisation filters*:		
For lens mount 32 mm. diameter	3. 5.0	9012
For lens mount 42 mm. diameter	4.10.0	9014
Duto soft-focus disc, grade "0" or "1"*:		
For lens mount 32 mm. diameter	1.10.0	8862
For lens mount 42 mm. diameter	2. 0.0	8864
Lens hood*:		
For lens mount 32 mm. diameter	7.6	9654
For lens mount 42 mm. diameter	10.6	9656
Finder hood extension, including special magnifier and case	17.6	9658
Aero shutter release	2.0	9662
Ball-and-socket head	6.6	9663

Page 12

Kine-Exakta Lumimax enlarger (without condenser) on wooden pillar	—	6040A/a
As above, but metal pillar	5.15.0	6040A/b
As above, with wooden pillar and condenser	—	6040B/a
As above, with metal pillar and condenser	—	6040B/b
Carrier for projecting film strips in the Kine-Exakta Lumimax	—	5501
Carrier for single glass slides in the Kine-Exakta Lumimax	—	5502
Spare glass masking frames for Kine-Exakta Lumimax	—	5613
Lumimax M enlarger, with wooden pillar	—	6402a
As above, but with metal pillar	7.15.0	6402b
Spare glass masking frame for use with single negatives in the Lumimax M	7.0	5614
Ihagee enlarging printer	6. 6.0	4925
Universal paper-holders for enlarging:		
Taking paper up to 7 1/8 x 5 1/8"	—	5556
Taking paper up to 9 3/8 x 7 1/8"	—	5557
Taking paper up to 8 x 10"	1. 1.0	5558
Taking paper up to 11 3/4 x 9 3/4"	—	5558
Taking paper up to 11 x 14"	1. 7.6	5569
Taking paper up to 15 3/4 x 11 3/4"	—	5589

Page 13

Lumimax Projector-Enlarger, taking Kine-Exakta lens	11.11.0	9704
Pressure frames for use with single negatives in Lumimax Projector-Enlarger	—	9734
Carrier for glass slides 2" square	6.6	9733
Spare glass masking unit	—	9741
Metal frame taking film-strips for projection	7.0	9743
Extension to lamp-house for use when projecting	17.6	9745
Ihagee miniature transparency printer	3. 0.0	5595
Glass plate for use when printing on 2" (5 cm.) square glass slides	—	5497
Ihagee miniature Diaskop projector (without lamp)	10. 0.0	9800
Every-ready carrying case for Diaskop	2.10.0	9805

* When ordering, it is essential to give the make of the lens in question, its focal length, and its full aperture.

KINE EXAKTA

everywhere

For sale at:



Thagee
KAMERAWERK
STEENBERGEN & CO

DRESDEN A 19

C. G. Böder, Leipzig