Agfa

MADE IN GERMANY

AGFA KARAT IV

Film Indicator in Rewind Knob

Accessory Shoe

Rapid Winding Lever

Film Counter

Finder Eyepiece

Rewind Locking Button

Lock for
Camera Back

DEAR READER,

We would like you to make friends with your new Karat, and we therefore invite you to go carefully through this instruction booklet with us.

It will be well worth your while, for once you are familiar with the various operations of your camera, you will soon take successful pictures. The designers of the Karat have tried from the outset to make the camera as fool-proof as possible. But remember, all the same, that you are handling a precision instrument which needs a certain amount of care in manipulation.

Devote a little time to your new companion right from the beginning. Start off without a film in the camera. Try focusing on various distances, and operate the rapid winder. After only a few attempts, you will be surprised at the feeling of confidence in handling the camera—so essential for taking actual pictures later on. Your Karat uses the standard cassettes of 35 mm. film for 36 or 20 or 18 exposures 24 × 36 mm. (approx. 1 × 1½ inches).

INSERTING THE FILM

To open the camera back, pull out the small projecting latch (Fig. 1) in the direction of the arrow. This is easier if you press the back and body together in the same way as when closing the camera later on (Fig. 5). Now open the back, preferably with the camera lying lens down on something soft.

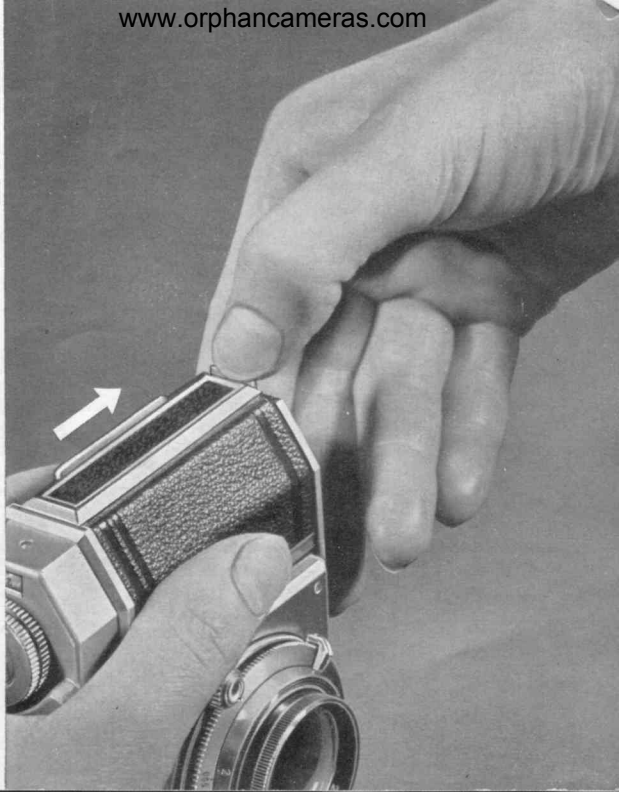


FIGURE 1

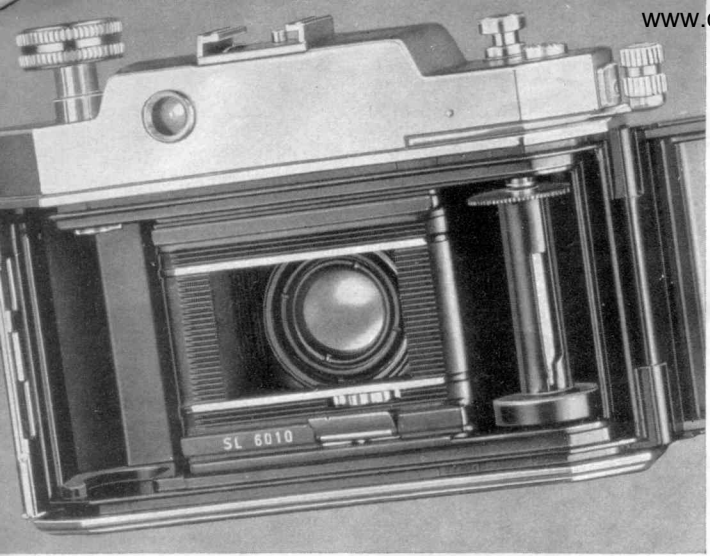


FIGURE 2

The two spool chambers are now visible (Fig. 2). The empty left hand chamber takes a standard 35 mm. miniature film cassette, not to be confused with the spool-less Karat 12 cassette for only 12 exposures. You cannot use this in the Karat IV.

The right hand spool chamber contains the built-in take-up spool. Before loading the film, turn this spool by its upper milled flange until the loading slit with the small tooth is on top as shown in Fig. 2.

Fold up the hinged flap (Fig. 2) over the sprocket wheel, and you are ready to load the film. When inserting the fresh cassette—preferably in subdued light—fully pull out the rewind knob. When the cassette is in position, push the knob back, turning it slightly at the same time so that it engages the core of the cassette spool (Fig. 3).

Now guide the narrow tongue at the beginning of the film into the slit of the take-up spool. Push in the film, hooking the small tooth of the spool into the second perforation hole to anchor the film.

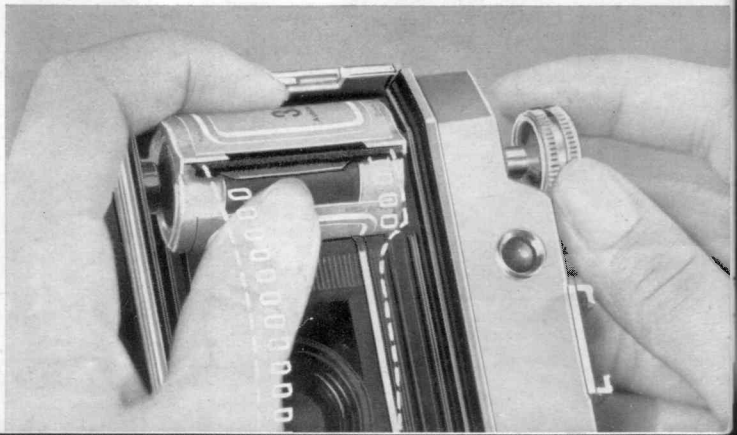


FIGURE 3

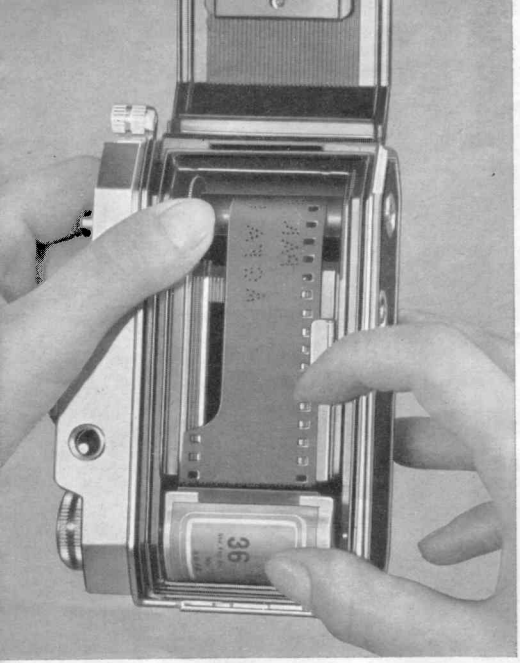


FIGURE 4

Turn the take-up spool until the film is taut (Fig. 4).

Only about a $\frac{3}{8}$ inch length of the *full width* of the film should protrude from the cassette (three perforation holes).

Now you can close the camera back. *But first fold down the hinged flap* in the middle of the film track (under the index finger—see Fig. 4) over the film. The film must be properly centred between the sides of the film channel, with the perforation holes engaging the teeth of the sprocket wheel.

Close the back by firmly (but not forcibly) pressing it against the body until the lock engages (Fig. 5).

FIGURE 5

Finally, set the film counter to "A" by pressing a finger on the milled button and turning it clockwise (Fig. 6).

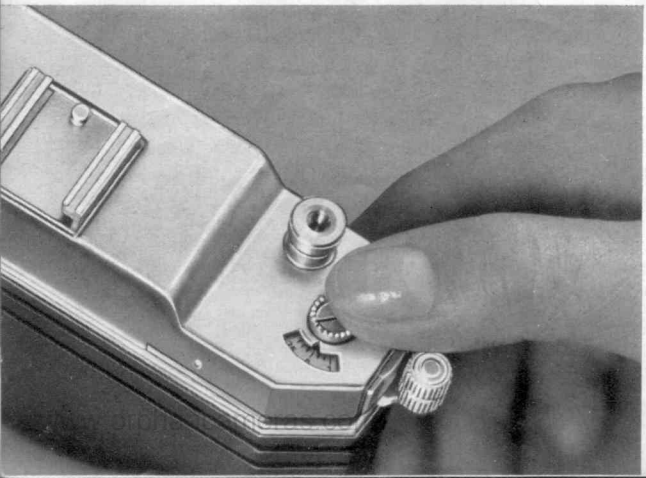


FIGURE 6

FIGURE 7

OPENING THE CAMERA. You can only work the rapid winder when the lens is extended in position for picture taking. Press the latch to allow the lens panel to spring out (in cold weather you may have to assist it by a gentle pull). See Fig. 7.

FIGURE 8

Now you can get the loaded film ready for the first exposure. Push back the rapid winder with your thumb or index finger *as far as it will go* (Fig. 8). This advances the film by one frame, and at the same time automatically tensions the shutter. Fully depress the release button with the tip of your index finger (Fig. 10).

Make *another* blank exposure in the same way, i. e. wind and release. The film counter now points to the division before No. 1.

THE DOUBLE EXPOSURE LOCK

The Karat contains a clever locking mechanism which prevents double exposures and blank frames. After every exposure the release button is locked, and only works again after the film has been advanced by one frame by means of the winding lever.

THE SHUTTER

The movement of the winding lever at the same time automatically tensions the Prontor-SVS shutter. The shutter speed should therefore be set *beforehand.*

To set the shutter speed, turn the outside milled ring with the figures 1 2 5 10 25 50 100 300 on it (Fig. 9). These numbers signify fractions of a second; for instance, 2 stands for a $^1/_2$ second, 50 for $^1/_{50}$ second, and so on. Set the required speed against the black triangular index mark on the neighbouring diaphragm ring. The "B" setting serves for time exposures with a tripod.

All the scales of the Karat can, incidentally, be read off from above.

The Prontor SVS shutter of the Karat is speed-synchronized, and carries a flash socket for connecting a flash cable, as well as a synchronizing lever with three positions, "V", "X" and "M" (see illustration on page 16). The last position allows the use of all types of flash at the fastest shutter speeds.

If the photographer himself wishes to be in the picture, he must set the synchro-lever to the "V" position, which tensions the delay mechanism. This may be done either before or after winding the shutter. Moreover, should the lever have been set to "V" inadvertently, it can be moved back again without setting the delay mechanism in operation. When set to "V" the delayed action can be used with flash, but only for X-synchronization. The lever should be returned to the X setting after each exposure using the delayed action, as a safeguard against making the next exposure with the delayed action unwittingly in operation.

FLASH TECHNIQUE

Commercial flashbulbs differ in their duration of flash, their total light output, and the delay between making contact and firing of flash (firing delay). These characteristics are all allowed for in fully synchronized shutters.

When the Prontor-SVS shutter is set to *X-Synchronization* the flash occurs at the instant that the shutter blades are fully open. It can, however, only be used with the longer shutter exposures, e. g. $^1/_{25}$; the flashbulb type recommended for this method is: Philips PF 3.

Electronic flash units generally require X-Synchronization, unless the instructions issued with the flash unit prescribe M-Synchronization.

M-Synchronization: In contrast to X-synchronization, when the synchro-lever is set to M the opening of the shutter blades is delayed by a few milliseconds (thousandths of a second), thereby permitting the use of flash with the shortest exposures. Only the more powerful flashbulbs are suitable for this method, e. g. Philips PF 14, 25, and 56 or G. E. No. 5 and 11.

The *exposure time* and the stop setting in flash photography depend upon the distance of the subject and the type of flashbulb used, and for this the instructions issued with the flashbulb must always be followed.

The Agfa Karat has an accessory shoe on which a flashgun can be mounted. The plug of the flashgun is then inserted in the flash socket on the camera front.

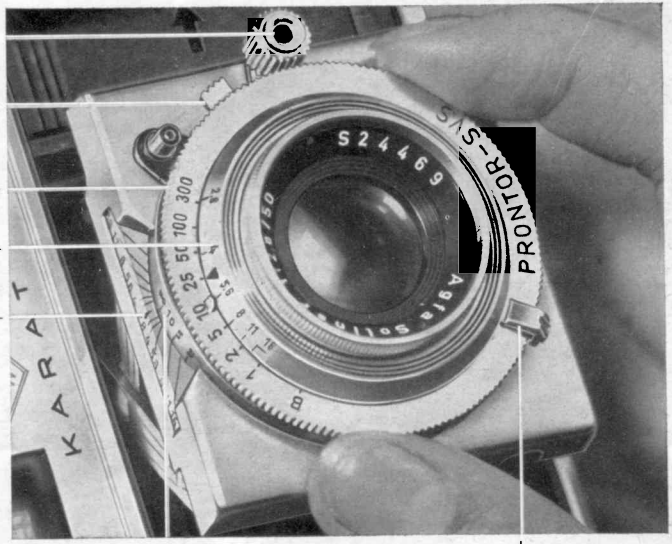


FIGURE 9

APERTURE—SHUTTER SPEED—DEPTH-OF-FIELD

To set the aperture, move the aperture lever (Fig. 9). This moves a small black pointer over the aperture scale carrying the following aperture numbers: 2 2.8 4 5.6 8 11 16

APERTURES. Before choosing the right aperture we have to go into a little more detail about the way it works. The rays coming from the subject first meet the lens aperture which at a large opening lets through a lot, and at a small opening a little, of the light falling on it. The amount of light transmitted is, however, always only a fraction of that reaching the lens.

The figures on the aperture scale as listed above are so arranged that, beginning with the full opening f/2 (f/2.8), each succeeding higher number halves the effective light passed.

EXPOSURE TIME. The amount of light required to reproduce a given subject on the film is determined by the prevailing illumination. Exposure time and aperture being dependant on each other, we have to preserve this relationship in choosing the aperture and shutter speed:

High aperture numbers call for slow shutter speeds (long exposure times) and low aperture numbers need fast speeds (short times).

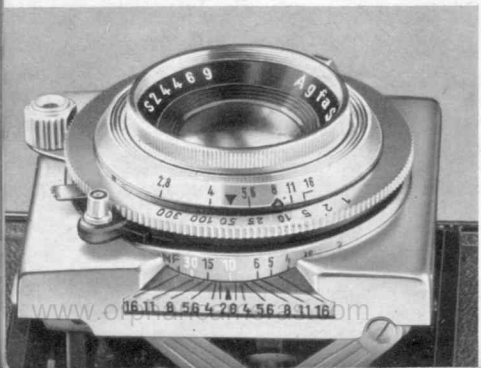
For instance your exposure table may indicate an exposure of $^1/_{25}$ second at aperture 8. If, however, you want to use $^1/_{50}$ second to avoid camera shake, the aperture must let more light through to the lens to compensate for the shortened exposure time. Therefore set it to the lower number 5.6.

DEPTH-OF-FIELD. In addition to the exposure, the aperture also determines the zone of sharpness in front of, and behind, the focused distance. Small apertures (stopping down) appreciably increase this zone of sharpness, giving what is called great depth-of-field.

The depth-of-field also increases the farther away the subject is from the camera. The aperture and the distance focused on are therefore the two factors governing the depth-of-field. The resulting zones of sharpness for the various settings are given in the table on page 31.

DEPTH-OF-FIELD SCALE

Two sets of aperture numbers are arranged symmetrically to the left and right of the focusing mark. The corresponding divisions, pointing to the focusing scale, show the limits of the zone of sharpness at any setting. In our illustration the focusing scale is set to 10 feet.



By following the lines corresponding to the two figures 8, we thus see that the depth-of-field at aperture 8 extends from 6 to about 20 feet.

For the sake of clarity the indicator has been calculated for a circle of confusion of $^1/_{500}$ inch (0.05 mm.). The figures given are therefore on the generous side, and for more accurate work the values of the Depth-of-Field Table (page 31) should be used.

To increase the readiness for action of the Karat under good lighting conditions and to simplify the use of the aperture settings, the camera carries a TWO-POINT SETTING. If you set the pointer of the aperture lever to the red dot between 8 and 11, and the focusing scale to the 10 feet or 30 feet mark—also in red—you obtain the following depth-of-field zones:

Focus on 30 feet: Everything sharp from 15 feet to ∞.
Focus on 10 feet: Everything sharp from 7 to 15 feet.

THE COUPLED VIEW AND RANGEFINDER

Getting ready to shoot

The view and rangefinder is very easy to use. A glance through the viewfinder eyepiece will reveal that in the middle of the slightly tinted field-of-view there is a circular central patch of a light colour.

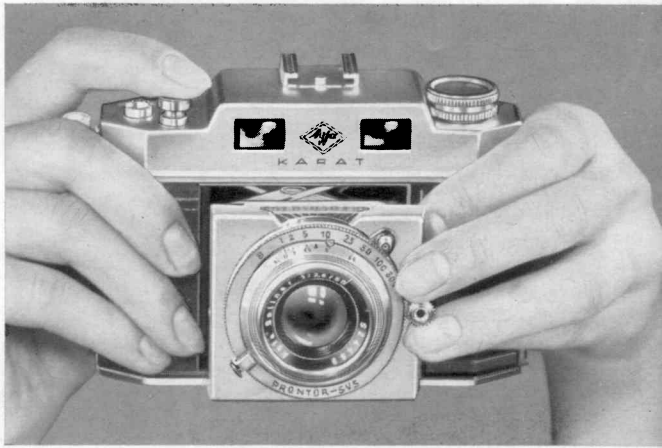


FIGURE 10

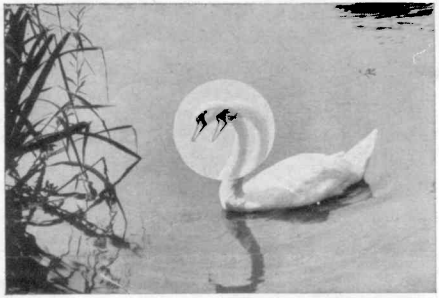


FIG. 11

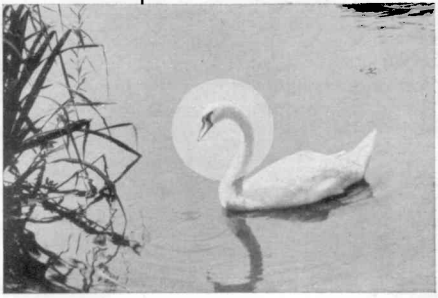


FIG. 12

This central image, which is the part used for focusing, will at first appear double, consisting of two overlapping identical images laterally displaced relatively to one another (see Fig. 11).

If the focusing lever on the front of the lens mount is now moved with the tips of middle and ring-finger of the left hand the overlapping images in the centre will approach one another and at one position of the focusing lever will completely coincide (Fig. 12).

At this point the camera lens is automatically focused on that portion of the subject which is seen in the central light image. This can be checked by noting the distance which is now indicated on the distance scale by the black triangular mark in the centre of the depth-of-field scale.

The focus settings obtained with the rangefinder can be absolutely relied upon; they entirely eliminate any need for judging distances. When the camera is used horizontal the images move sideways—with vertical pictures they move up and down.

THE PARALLAX ERROR. The finder shows a reduced image of the subject as it will appear on the film. With *close-ups*, however, the view of the finder does not correspond exactly with the film image, because the finder is situated above the camera lens. In practice this is only noticeable with subjects between 3 and 6 feet away. To compensate for the error, point the camera slightly up for horizontal shots, and turn it slightly in the direction of the finder for vertical pictures.

THE EXPOSURE

Just before taking the picture check the setting of the aperture, shutter speed, and distance. Pull out the rapid winding lever once more as far as it will go, as described on page 12. This advances the film counter to No. 1, tensions the shutter, and at the same time advances the film by one frame.

> The rewind knob turns every time you advance the film, do not therefore hold it while winding.

HORIZONTAL SHOTS

Fig. 10 shows the best way of holding the Karat. Grip the camera with both hands, leaving the right index finger free to operate the release button, while the finger tips of the left hand hold the focusing lever for any last-minute focusing adjustments that may be required.

FIGURE 13

UPRIGHT SHOTS

Fig. 13 shows the most convenient position of the hands for upright pictures. Make sure that the left hand holds back the lid of the ever-ready case to prevent it from obstructing the lens.

With both camera positions it is up to you whether you put the left or right eye to the finder eyepiece; the important thing is to stand firmly, hold the camera steady, and smoothly and gently press the release button right home.

FIGURE 14

CLOSING THE KARAT

Pull back the latch with the left index-finger, and push the lens panel back into the body pressing evenly on the left and right hand edges (Fig. 14).

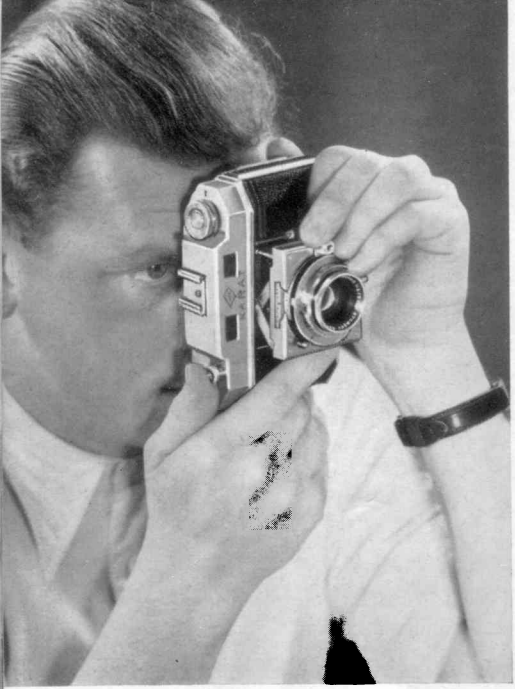


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FIGURE 15

THE FILM INDICATOR

This feature is intended to aid your memory and to show what type of film you have in the Karat at any time. Make it a habit, therefore, to set the film indicator immediately after loading the camera. To set the indicator, the rewind knob is pulled right out and taken between index finger and thumb. The indicator disc can then be rotated by the milled edge pointing downwards until the required film appears in the window.

Film speeds: 8 ASA 40 ASA 100 ASA 160 ASA

In addition there are also the following markings for the various types of Agfacolor film:

Col RD = Reversal colour film, daylight type

Col RT = Reversal colour film, artificial light type

Col ND = Negative colour film, daylight type

Col NT = Negative colour film, artificial light type

UNLOADING THE CAMERA

When the film counter indicates No. 36, the film has been advanced for the last exposure. To unload, remove the camera from the ever-ready case, after unscrewing the screw at the bottom.

The film now requires rewinding. To make this easier, *half pull up the rewind knob to its first stop* (Fig. 16).

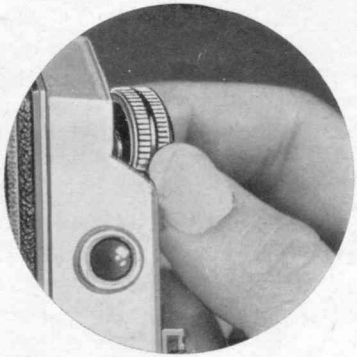

FIG. 16

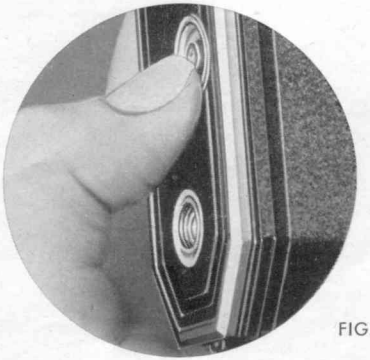

FIG. 17

Depress the rewind locking button in the bottom of the camera with the left thumb, and keep it depressed while turning the rewind knob clockwise until the film is fully rewound (Fig. 17).

This is noticeable by a slight resistance after a little while as the film leaves the take-up spool. Carefully continue rewinding, and at the same time try whether you can turn the rewind knob when you let go of the rewind locking button. Stop rewinding at this point. Remember that your photo dealer still has to develop the film, so do not let the beginning of the film disappear altogether in the cassette.

Now open the camera back as described on page 5. Fully pull out the rewind knob to its second stop to remove the cassette (see Fig. 3). Wrap it up in *a light-tight packing straight away*, and mark it appropriately as exposed. Before closing the camera back, *make sure that the hinged flap* (Fig. 4) *over the sprocket wheel is folded down.*

AGFA KARAT PROXIMETER I AND II

Order No. 6750. Size I: Focusing range 40 to 20 ins. (100—50 cm.)

Order No. 6751. Size II: Focusing range 20 to 13 ins. (50—33 cm.)

Size I and Size II: Focusing range 13 to 10 ins. (33—25 cm.)

In photographing close-ups of small subjects, Karat owners have hitherto been limited by the nearest distance of the focusing scale—3½ feet (1 m.).

The optical close-up focusing device AGFA KARAT PROXIMETER

now ideally answers the numerous requests for supplementary lenses for the Karat, for it uses the view- and rangefinder in the normal way, without parallax, down to distances as close as 10 inches (25 cm.).

This is achieved by fitting a close-up lens in push-on mount over the camera lens, and a prism unit, connected with the close-up lens, in front of the two rangefinder windows.

The Karat IV thus remains instantly ready for action even at the closest subject distances. One glance through the finder shows the exact field of the subject, and ensures accurate focus as before.

We would recommend you to have the Agfa Karat Proximeter demonstrated by your photo-dealer.

OPTICAL EQUIPMENT

The Agfa Karat is available in the following four versions:

with Agfa Solinar f/2.8—50 mm. Order No. 2053/335

with Agfa Solagon f/2.0—50 mm. Order No. 2054/335

with Rodenstock Heligon f/2.0—50 mm. Order No. 2058/335

with Schneider Xenon f/2.0—50 mm. Order No. 2057/335

To clean the outer lens surfaces use only a soft chamois leather or a well-washed linen rag. Either must be absolutely free from grease, soap residues, and dust. Breathing on the glass to facilitate cleaning will not cause any appreciable harm. Never unscrew the lens elements; if the interior should ever need cleaning, get an expert to do it so as not to upset the fine correction of these high-aperture lenses.

Remember that a lens that has steamed up owing to a sudden change of temperature will only clear when the whole camera body has reached the new room temperature.

FURTHER USEFUL HINTS

To use deformed and non-standard cassettes is asking for trouble. With all cassettes, particularly refilled ones, make sure that they are not bent or damaged, and that the film slides out easily.

If the film is too short, the rapid winding lever may lock half-way during its movement when advancing the film for the last exposure. The same may happen if you try to utilize the full length of the film to get more than 36 exposures on it. In such a case never try to force the lever forward or back. Instead, rewind a short length of the film as described on pp. 25/26, fully pull out the winding lever, and then rewind the whole film in the usual way.

FOR AGFA CAMERAS — AGFA FILTERS AND LENS HOODS

Diameter of Lens Mount 32 mm.

Agfa filters help to achieve accurate tone reproduction of the different colours. We supply parallel ground filters, evenly dyed in the mass, to satisfy the most stringent requirements. They are available in the following depths:

Light yellow, medium yellow, yellow-green, and orange-red.

The use of light-filters naturally requires an increase in exposure time. Filter factors are used which, however, depend to a large degree on the sensitization of the negative material employed. Film manufacturers therefore supply with their products details about the exposure factors of the most commonly used filters. Where these are not

available, the following information may serve as guidance for panchromatic emulsions:

Light yellow filter	No. 1:	Factor 1.5 — 2 ×
Medium yellow filter	No. 2:	Factor 1.8 — 2.3 ×
Yellow-green filter	No. 71:	Factor 2 — 2.5 ×
Orange-red filter	No. 7:	Factor 4 ×

Ask your photo dealer for Agfa Filters in the modern transparent screw top cases, and for the efficient lens-hoods which can also be used together with the filters.

Depth-of-Field Table for 50 mm. lenses: Agfa Solinar f/2.8, Agfa Solagon f/2.0, Schneider Xenon f/2.0, Rodenstock Heligon f/2.0

At Aperture	With the lens focused on				
	3 feet	3.5 feet	4 feet	5 feet	6 feet
	everything will be sharp between these limits:				
f/2	2f11¼" — 3f¾"	3f5" — 3f7¼"	3f10½" — 4f1½"	4f9¾" — 5f2½"	5f8¾" — 6f3½"
f/2.8	2f10¾" — 3f1¼"	3f4½" — 3f7¾"	3f10" — 4f2¼"	4f8¾" — 5f3½"	5f7½" — 6f5"
f/4	2f10½" — 3f1¾"	3f3¾" — 3f8½"	3f9¼" — 4f3¼"	4f7½" — 5f5"	5f5¾" — 6f7½"
f/5.6	2f9¾" — 3f2½"	3f3" — 3f9½"	3f8¼" — 4f4½"	4f6" — 5f7½"	5f3½" — 6f11"
f/8	2f9" — 3f3¾"	3f2" — 3f11"	3f6¾" — 4f6¾"	4f3¾" — 5f11¼"	5f½" — 7f4¾"
f/11	2f8" — 3f5¼"	3f½" — 4f1¼"	3f5" — 4f10"	4f1¼" — 6f4½"	4f9" — 8f1½"
f/16	2f6½" — 3f8¼"	2f10½" — 4f5¾"	3f2½" — 5f4"	3f9¾" — 7f3½"	4f4¼" — 9f3¼"
At Aperture	With the lens focused on				
	10 feet	15 feet	30 feet	∞ (infinity)	
	everything will be sharp between these limits:				
f/2	9f3" — 10f10½"	13f4½" — 17f3¾"	24f1¾" — 39f7¼"	122f11¼" — ∞	
f/2.8	8f12" — 11f3¼"	12f10" — 18f½"	22f4¾" — 45f5¼"	87f10" — ∞	
f/4	8f7½" — 11f10¾"	12f1" — 19f9¼"	20f2½" — 58f3½"	61f5¾" — ∞	
f/5.6	8f2" — 12f10¾"	11f2½" — 22f7¾"	17f10¼" — 99f7"	43f11" — ∞	
f/8	7f7" — 14f8½"	10f1½" — 29f—"	15f3¾" — 119f4¼"	30f0" — ∞	
f/11	6f11¼" — 17f10¼"	9f1¼" — 44f7"	12f10¼" — ∞	22f4¼" — ∞	
f/16	6f1¼" — 27f9¼"	7f7½" — 43f6"	10f2½" — ∞	15f4½" — ∞	

Circle of confusion: 0.03 mm.

This depth-of-field table is calculated for the highest standard of negative definition (for big enlargements). Usually there will therefore be an appreciable zone of acceptable definition outside the limits given in the table above.