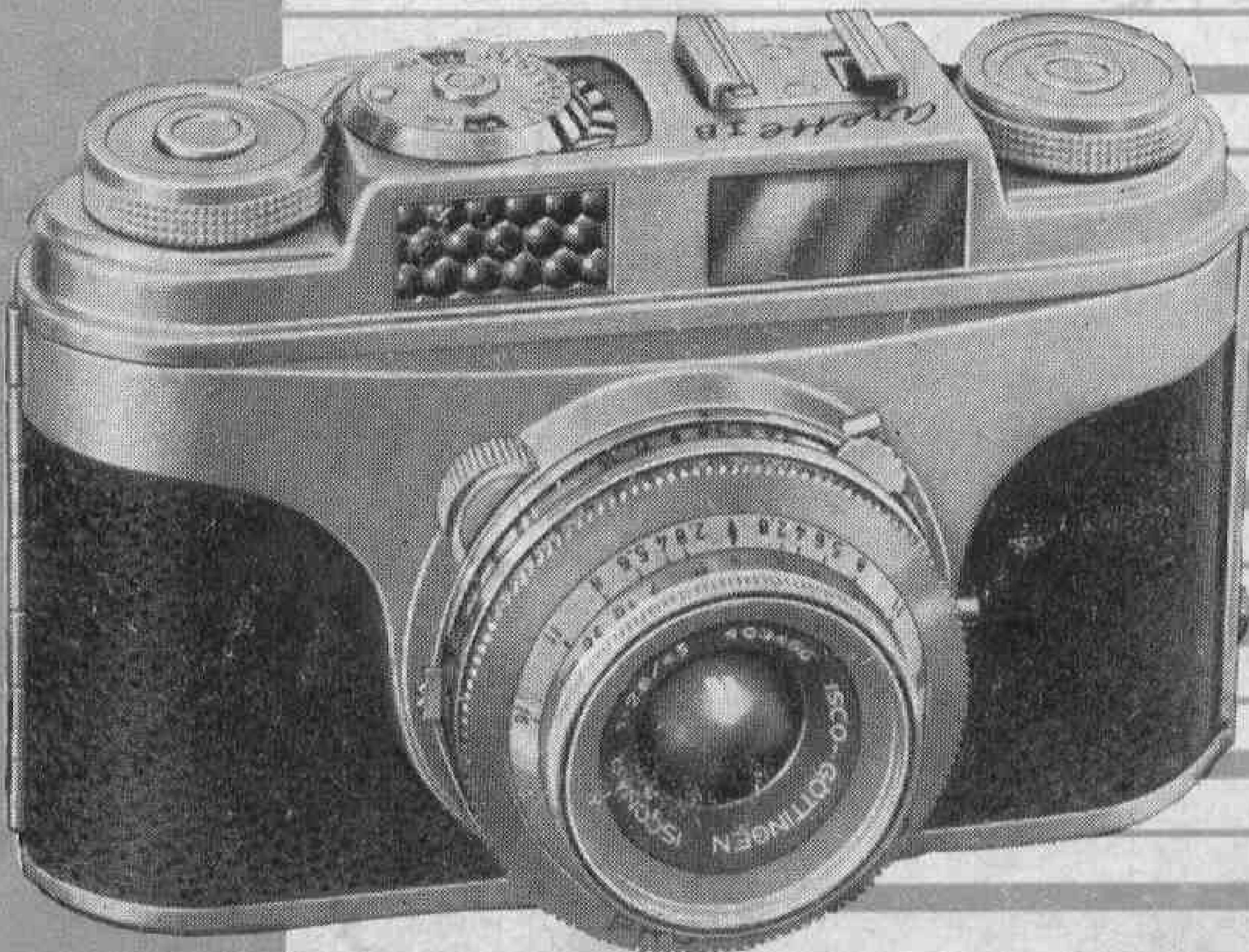
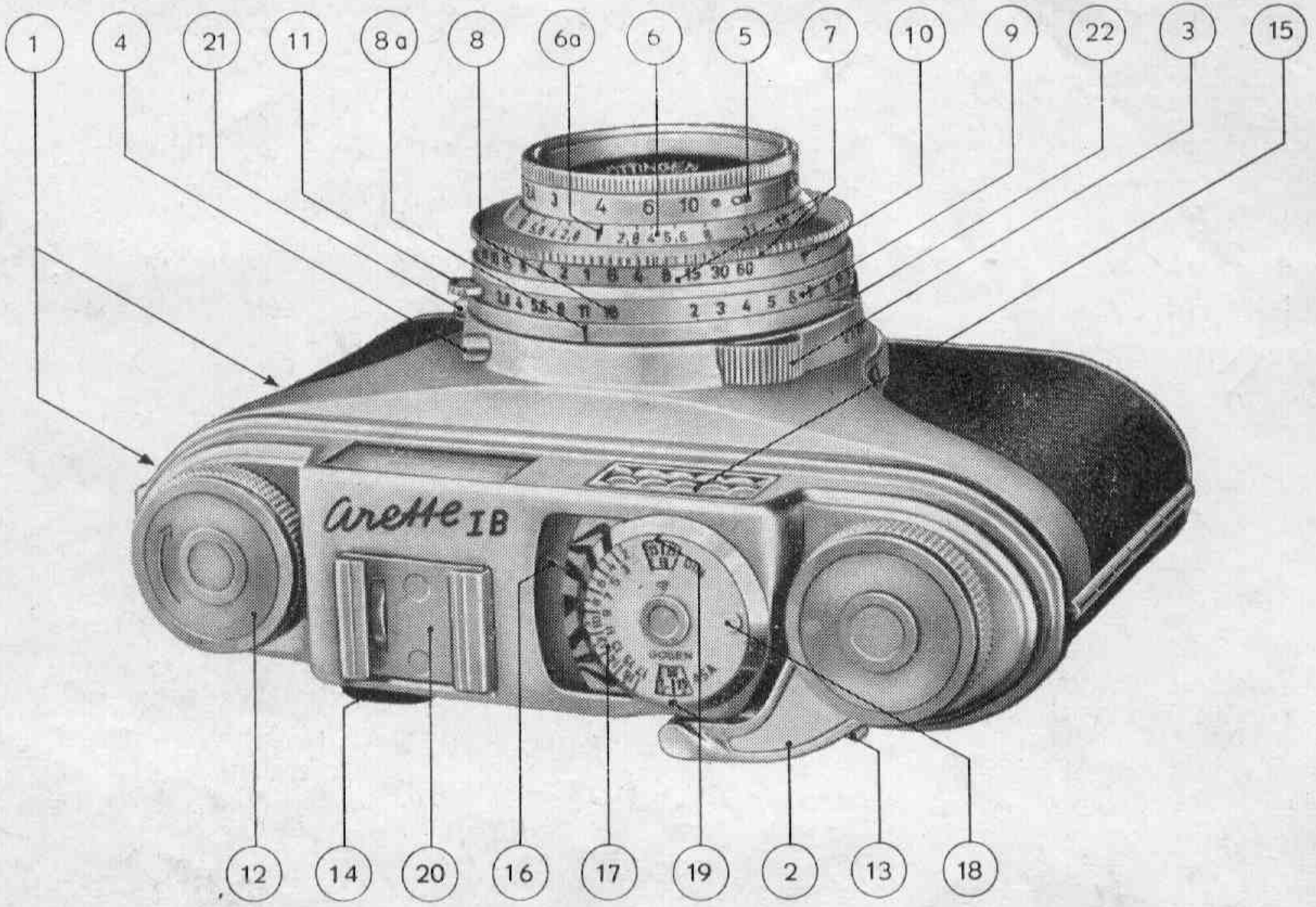
Arette IB

with exposure value meter



DIRECTIONS FOR USE

E


1
4
21
11
8a
8
6a
6
5
7
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22
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15
Arette IB
12
14
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16
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18

OPERATIONAL PARTS OF THE ARETTE IB

1 Double bolt of back
2 Rapid lever wind, simultaneously operates film transport and shutter cocking
3 Release knob
4 Cable release socket
5 Focussing ring with scale in feet
6 Depth of focus scale with focussing marker 6a
7 Time setting ring combined with scale for exposure times
8 Diaphragm scale with focussing marker 8a
9 Exposure value scale with red exposure value figures 2 to 17
10 Red focussing triangle marker for exposure value setting
11 Interlocking latch for exposure value setting
12 Rewind knob
13 R-lever for use during rewind
14 View finder eye-piece
15 Photo cell of the exposure value meter
16 Pointer of the exposure value meter
17 Dial with red exposure value figures
18 Button for adjusting figure dial 17
19 Scales for adjusting film sensitivity
20 Accessory shoe
21 Flash contact Socket
22 Synchro switch lever V-X-M on underside of camera (see page 6)
24 Exposure counter
25 Film indicator, to mark type of Film inserted

The attractive miniature camera ARETTE will become your reliable companion, soon to be indispensable. You will need to acquaint yourself with only a few manipulations in order to obtain successful pictures at all times. Contributing to this end are four distinguishing features of ARETTE; which:

ENSURE firm grip, by means of the original shape, which affords a natural grip

ENSURE faultless framing by means of the bright and accurate combined exposure meter – view finder

ENSURE rapid and reliable action by means of the rapid lever wind and shutter with exposure value setting

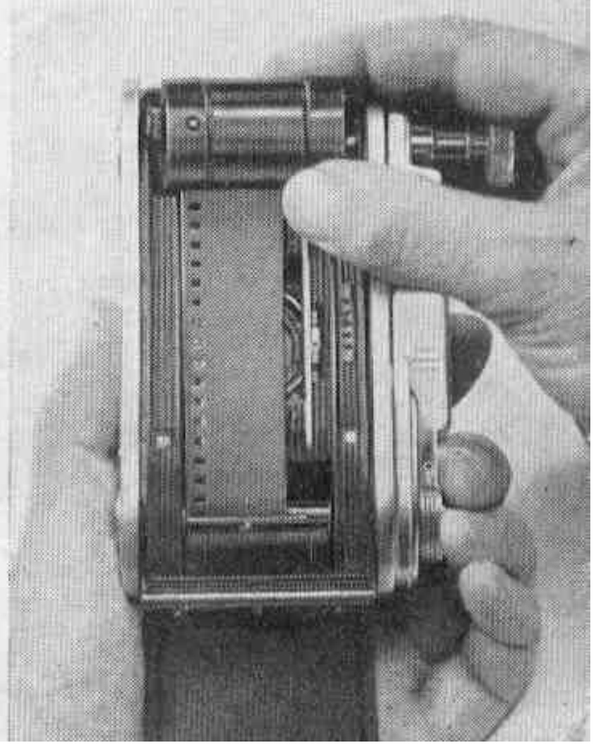
ENSURE correct exposure and colour-tone rendering by means of the built-in exposure value meter

FILM

The ARETTE takes the perforated miniature film (35 mm) as obtainable in the standard miniature cassette for 20 or 36 exposures, 24×36 mm. To open the back of the camera, the two bolts (1) are pressed against each other with the thumb and index finger of the right hand.

Thread the tapered end of the film which protrudes from the cassette into the red marked slot of the take-up spool until **a few millimeters** of the film jut out at the other side, then fold back pressing lightly with a finger. During this operation the perforated edge of the inserted film must lie against the lower wall. Care must be taken **that the end of the film not leave the slot unintentionally** as this may cause an obstruction towards the middle or end of the exposures.

The film cartridge is then inserted into the cassette chamber of the camera, after the backward winding knob (12) has been fully extended. As soon as the cassette is in its correct position, the rewind knob (12) is pushed back and by turning in the direction of the arrow the film is straightened, so that it lies on the focal plane. The back wall can now be replaced. Before taking photographs the film should be advanced as described on page 6.

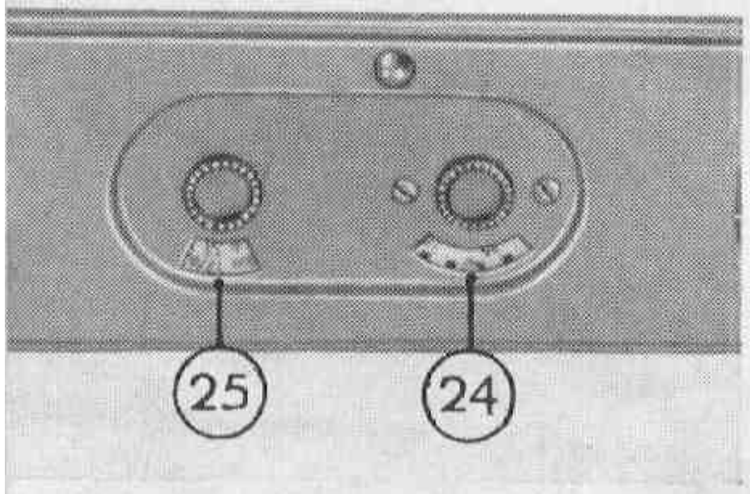


FILM TRANSPORT

To advance the film the lever wind (2) is moved until it comes to a halt. Prior to the next release, the film can be advanced by only one exposure as the built-in dual purpose interlocking device makes double exposure impossible. In order to obtain regular picture intervals on your film strip care should be taken that the rapid lever wind (2) is turned right up to the halting point. If this is not done the exposure counter (24) will not accurately indicate the correct number. This would, of course, only result in a slight imperfection which would have no bearing on the correct functioning of the ARETTE and would be rectified during the next lever action.

EXPOSURE COUNTER

The end of the film which protrudes from the cassette is always pre-exposed. Before photographs are taken this section of the film should be removed by means of 2 or 3 blank lever actions. Only after these blank lever actions should the counter (24) be brought into its basic position by pressing the knob with tip of the finger and turning the exposure indicator either right or left on to figure 0.



If, when practicing with the camera, before it is loaded, you cannot get the exposure counter (24) to indicate the expected value, don't be disconcerted. This discrepancy always adjusts itself during the next lever action. Once the camera is loaded

the blank retro-action of the counter mechanism which causes this apparent fault is completely checked and the exposure counter (24) will always reliably indicate the number of exposures made.

ADJUSTMENT OF FILM SENSITIVITY

After loading, the film sensitivity, which is shown on the package in DIN or ASA, should be transfered onto the exposure value meter. At the same time the dial (17) is set to indicate the sensitivity value of the film on the window (19) with the designation "DIN" or "ASA" as the case may be, by turning button (18). In addition, the type of film used should be shown on the film-in-use indicator at the base of the camera, the designations "Color-positive" and "Color-negative" indicating reversal colour film or negative colour film, respectively.

EXPOSURE VALUE READING AND EXPOSURE VALUE ADJUSTMENT

One of the most important factors in obtaining successful photographs is that precisely the right amount of light falls on to the film. In principle, it is the same whether this light volume is obtained by the effect of little light over a longer or of much light over a shorter period.

The principle of modern exposure value adjustment is to express this light volume, having due regard to the film sensitivity, in one number, the so-called exposure value.

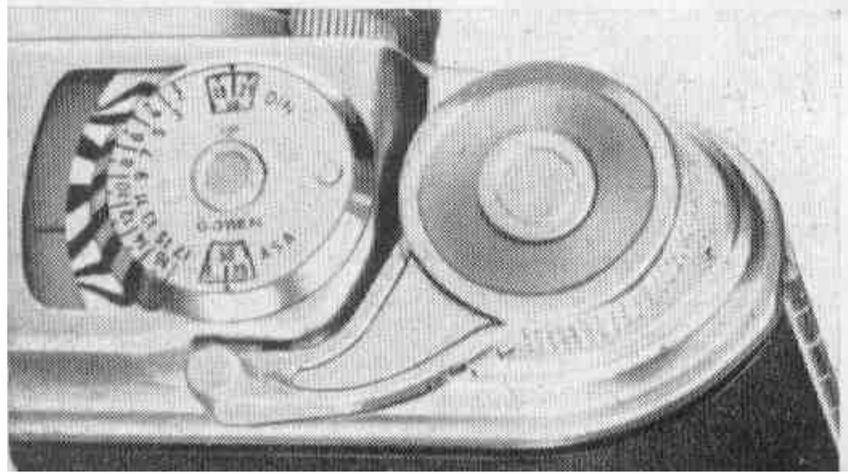
This exposure value number is read off the instrument of the exposure value meter and then adjusted on the shutter of the camera. The mechanism of the shutter takes care that the correct volume of light for exposure value adjustment always reaches the film in that it shuts the diaphragm for long exposures, so that the light only penetrates through a slight aperture and increases the aperture of the lens for short exposures.

This coupling of exposure time and diaphragm in the exposure value shutter permits facile and rapid action, unaccompanied by unnecessary mental effort. This particularly refers to colour film photographs which allow relatively little margin for exposure and must be exposured accurately.

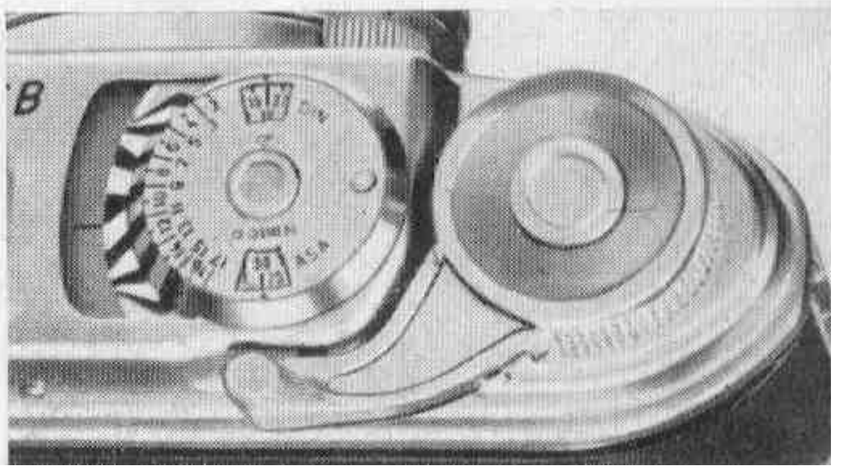
PHOTOELECTRIC EXPOSURE VALUE METER

The camera is pointed towards the object. The needle of the exposure value meter, which can be read conveniently from above, will then move. The amount of reflexion is an exact indication of how much light falls from the object onto the camera.

As mentioned on page 7, sensitivity on the exposure meter is adjusted immediately after the film has been loaded by turning knob (18). The black-and-white framed field connects the needle deflexion with the red numerals on dial (17) from which the exposure value number can readily be read. Readings must be confined to the position of the needle inside this framed field and its extension should be disregarded. As an example



the illustration on page 8 shows the position of the needle at exposure value number 10. Frequently the needle (16) does not point to the centre of the field, but, as shown on the illustration on this page, points to an intermediate value. If the accuracy of the exposure value meter is to be fully used the intermediate exposure value – in this instance 9,5 – should be read.
The exposure value arrived at should be transfered to the shutter, as described on page 14.
The built-in exposure value meter and your ARETTE always view the subject in the same manner.
In order to obtain complete uniformity the optical system of the honeycomb lens captures the same picture angle as your camera subject. You will always be successful, provided care is taken that the essential features of the subject are being held. Very bright surroundings may falsify the result; the photos will be underexposed. Honeycomb lenses should, therefore, not be exposured to the glare of the sun, strong reflexes or lamps. For out-door readings the camera should be held inclining slightly downwards. The exposure meter is thus pointed toward the usually more important fore-ground and the bright sky eliminated as an adverse factor. Very dark surroundings can also lead to imperfections, though the resulting over-exposure is usually meaningless. Should strong contrasts appear, you must draw a little nearer to the more important features without, however, casting on them the shadow of your own body.



The honeycomb window may only be cleaned with clear water, under no circumstances may cleansing agents such as benzine, etc., be used.

LENS

The ARETTE I B is fitted with a lens of universally recognized quality, focus and contrast reproduction, ensuring equal success for black-and-withe and colour photographs. Five scales will be found on the lens mount:

(5) The distance scale on the distance ring (graduated in feet, 3.3 to inf. or meters, 1 to inf.)
Focussing results on the centre marker (6a) of the near-by depth of focus scale.

(6) Depth of focus scale with diaphragm values 2,8 4 5,6 8 11 16 engraved on both sides of the centre marker (6a).

(7) Time setting ring of shutter, to which the ring with the scale of the exposure times is connected. Focussing results on the centre marker (6a) of the depth of focus scale or on marker (8a) lying in alignment with the former. Only the black values 300, 125, 60 etc. signifying fractions of seconds (125 = $^1/_{125}$ sec.) can be adjusted on the shutter. The green figures 4, 8, 15, 30, 60 cannot be adjusted;

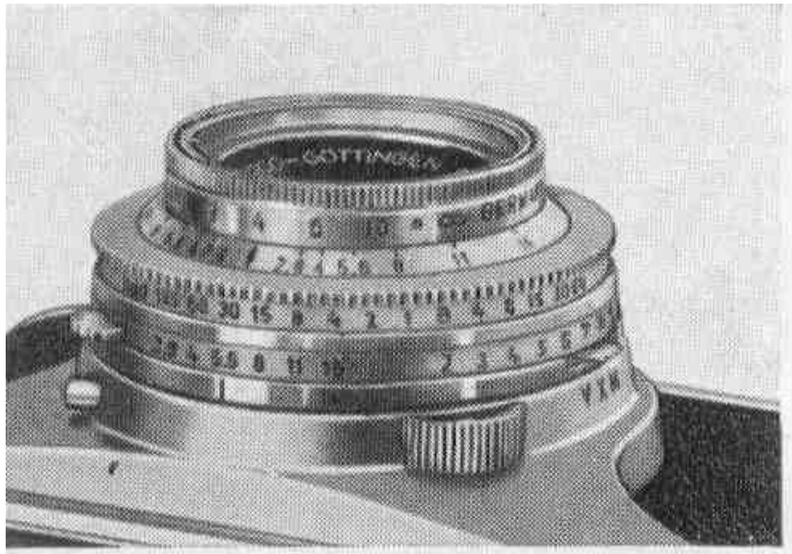
they are merely calculating aid implying full seconds for long exposures.

(8) Diaphragm scale with diaphragm values 2,8 to 16, to be adjusted on marker (8a).

(9) Exposure value line with red figures 2 to 17 to be focussed on to the red triangle marker (10).

DIAPHRAGM AND DEPTH OF FOCUS RANGE

The volume of light admitted by the lens is regulated by the diaphragm. However, this is by no means its most important function as the light volume affecting the film can also be influenced by other means, such as the selection of shutter speeds and fitting of colour filters. The diaphragm's main task in modern photography is to determine an adequate focussing area, the so-called depth of focus range. This extends from the focussing point both forward and backward and is largely dependent on the selected diaphragm aperture and focussing distance (distance from subject). This area can be easily read from the depth of focus scale (6) of the lens for any diaphragm value: The lens focusses clearly for this area which lies on the distance scale (5) between the corresponding markers of the diaphragm indicated on the depth of focus scale (6).



Example: At a distance of about 10 ft. (3 m.) selected at random and shown on the illustration, the depth of focus range extends:

		feet calibration	metric calibration
with aperture	2.8	from 9 ft. to 12 ft.	2.5 m. to 3.5 m.
„ „	5.6	„ 7.5 ft. „ 15 ft.	2.2 m. „ 4.3 m.
„ „	8	„ 6.8 ft. „ 18 ft.	2.0 m. „ 5.7 m.
„ „	11	„ 6 ft. „ 30 ft.	1.8 m. „ 10 m.
„ „	16	„ 5.2 ft. „ inf.	1.5 m. „ inf.

The less experienced may adopt the following rules for distance setting and selection of diaphragm:

When the **subject of the photograph is close at hand** set the distance in accordance with the centre marker (6a), following which the available depth of focus range can be read forward and backward, as described above.

Long distance photographs without foreground –, set at inf.

Close-up snaps – set diaphragm 8 at 8 ft. (2,4 m. or 2,5 m.), then the depth of focus will extend from about 5.8 ft. (1,7 m.) to about 13 ft. (3,8 m.).

Distant views with foreground – set diaphragm 5.6 at 30 ft. (10 m.); depth of focus then covers everything between inf. and 15 ft. (5 m.).

SHUTTER

The ARETTE is fitted with the PRONTOR SVS Shutter with exposure value. You need not concern yourself with the cocking of the camera shutter, as this is automatically controlled by the filmtransport. By adjusting time setting ring (7), 9 different exposures between 1 sec. and $^1/_{300}$ sec. can be focussed, as well as position B for long exposures (focussing marker 6a).

In order to set the shutter at the exposure value determined by means of the exposure value meter, the interlocking latch (11) is pressed down; thereafter the ring with the black diaphragm numbers (8), on which the red exposure value figures (9) are also inscribed, can be adjusted freely. You can also, on pressing the interlocking latch (11) adjust the time setting ring (7) or both rings (7) and (8) simultaneously.

The exposure value shutter is correctly set when the red triangle marker (10) points to the exposure value previously determined. Full and intermediate exposure value figures can be obtained.

Now you have adjusted the shutter to the correct exposure and can make your selection freely.

For photographs taken from the hand, select intermediate exposure, thus avoiding movement, say $^1/_{60}$ sec.

If much depth of focus is required, select a small diaphragm aperture (high diaphragm number).

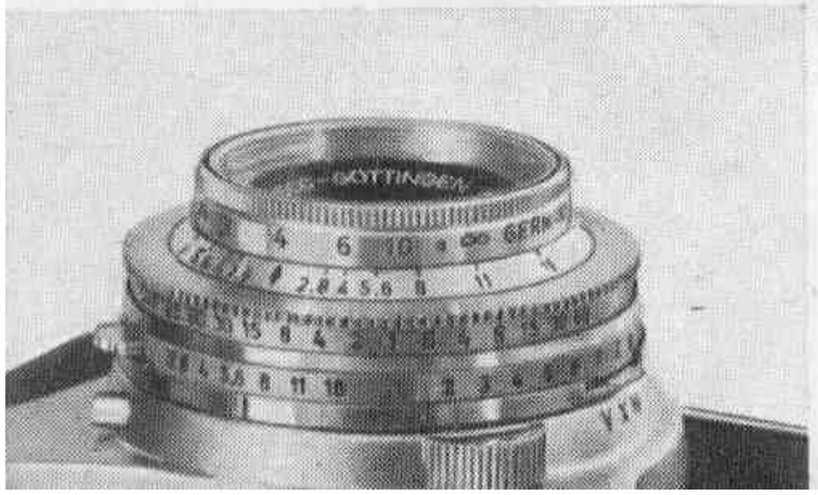
For rapid subjects select a short exposure time, say $^1/_{125}$ sec. or $^1/_{300}$ sec.

A few examples may illustrate the above. The illustration on page 12 shows (although not easily discernible from the picture) adjustment on exposure value 10. The time-setting ring was set at $^1/_{30}$ sec., the diaphragm opened automatically at 5,6. If, by adjusting the time-setting ring (7) the exposure times is altered to $^1/_8$ sec., the diaphragm shuts at 11. If $^1/_{125}$ sec., is selected, the diaphragm opens at 2,8.

Exposure time can be set before or after shutter cocking, as desired. Only the exposure times marked are available. Intermediate values cannot be indicated. If the marker points between two figures, either the shorter or the longer exposure time expires.

If, on the other hand, an intermediate exposure value (see page 9) has been indicated, intermediate graduation will be obtained on the diaphragm values. The illustration on this page shows the light value at 9,5.

For exposure value numbers over and above 12, all 6 diaphragm values can no longer be adjusted. For light values below 7, exposure times exceeding 1 sec. may result for small diaphragm apertures. In that case time-setting ring (7) should be set at "B". The green figures indicate the exposure time for the diaphragm value shown below in full seconds. For the photograph itself time-setting ring (7) should be left at "B" and, while the interlocking latch (11) is pressed downwards, diaphragm ring (8) should be set at the selected diaphragm value.



RELEASE

To release the shutter, release knob (3) is lightly pressed to the right in a downward direction with the index finger,until the shutter has operated. Sudden jerks and backward movements should be avoided, as these may blur the results. For time exposures set time setting ring (7) at "B". The shutter then remains open as there is pressure on the release. If a cable release is used, this should be screwed into socket (4). For long exposures it is adviseable to use a cable release with fixing screw.

SELF RELEASE

The self release has many uses, for instance when the camera user himself desires to appear on the photograph or when time exposures are taken from an insecure position and release is to result without the hand gripping the camera moving.

Shutter PRONTOR SVS of the ARETTE is set for self release when synchro switch lever (22) is brought into position V, **after adjustment of the rapid lever wind.** Exposure takes place approximately 8 seconds after pressing the release knob. Following release, the lever automatically returns to X.

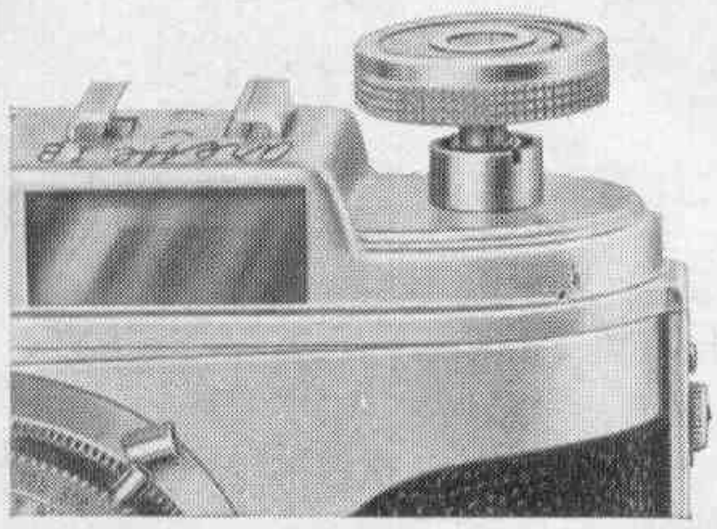
The self release mechanism always cocks automatically. When self release is not used lever (22) should remain in position X or M.

FILM REWIND

When winding the film after it has run through (20 or 36 exposures) a pronounced obstruction will be felt, this indicates the end of the film. Don't worry if the exposure counter (24) now shows a different figure from the expected 20 or 36. This is the case when the film cannot be pulled out a further full picture length due to film storage being exhausted.

Before opening the back wall the film must be re-wound into its cartridge. First, set lever for release of back winder (13) at idle (blank) by turning it towards R.

The rewind knob (12) is then pulled out a little for better grip, but only just until slight resistance is encountered. By then turning this knob in the direction of the arrow the film is wound back into its cassette. A change in the noise when windig the decreased resistance indicate that the film has now been rewound. Moreover, the exposure counter (24) ceases to revolte. Now open the back and remove the film in the enclosed cassette and have it developed. Do not forget to replace lever (13).



AFFIXING FLASH EQUIPMENT

The flash cable is fitted into the flash contact socket (21). The shutter takes flash pictures with flash tubes or expendable bulbs at all speed and enables you to master daylight exposures with additional flash light, including quick sport-action shots.

In order that the flash operates at the exact moment when the shutter opens, it is essential that the synchro switch lever (22) is correctly set. This requires no hard thinking if the table on page 18 is followed:

a) Duration of electronic tube flashes is very short. **For all exposure speeds** from 1 sec. to $^1/_{300}$ sec. the synchro switch lever is set **at X.**

b) For flash bulb equipment of the X range (say Osram XO and XP) and also for the electrically ignited flash caps, the synchro lever switch (22) is set at X. Only speeds 1 and $^1/_{30}$, possibly $^1/_{60}$, give correct exposures. **For standard conditions select $^1/_{30}$ sec.**

c) For flash bulb equipment of the M range (Osram XM 1 or Philips PF 1, PF 3 etc.) the synchro switch lever (22) is set at M. This applies to all speeds from 1 sec. to $^1/_{300}$ sec. **For standard conditions select $^1/_{60}$ sec.!** At speeds $^1/_{125}$ and $^1/_{300}$ sec. only part of the light given out by the flash lamp is utilized. In order to avoid

POSSIBLE SHUTTER SPEEDS FOR FLASH PHOTOGRAPHY

FLASH GUN	FLASH LAMP		SYNCHRO LEVER POSITION AT X or V Shutter time longer than duration of flash	SYNCHRO LEVER POSITION AT M Shutter time also shorter than duration of flash
	Manufacturer	Type		
Flash tube equipment (Electronic flash)	All outfits without ignition delay		B, 1 to $^1/_{300}$	no exposure
Flash lamps "flash bulb type" only suitable for X position	General Electric Westinghouse	SM	B, 1 to $^1/_{125}$	not suitable for M position
	Sylvania Wabash	SF		
	Osram	XO XP	B, 1 to $^1/_{60}$	
		F 1 F 2	B, 1 to $^1/_{30}$	
Flash lamps (flash bulb) suitable for M- and X-position	Philips	PF 100	B, 1 to $^1/_{30}$	1 to $^1/_{60}$
		PF 1 PF 3 PF 14 PF 25 PF 60	B, 1 to $^1/_{30}$	1 to $^1/_{300}$
	Osram	XM 1 SO S 2		
	General Electric Westinghouse	No. 5 11 22		
	Sylvania Wabash	Press 25 40 50 No. 0		
	Sylvania Wabash	No. 2	B, 1 to $^1/_{30}$	1 to $^1/_{125}$

under-exposure the directions included with flash bulb equipment should be followed.

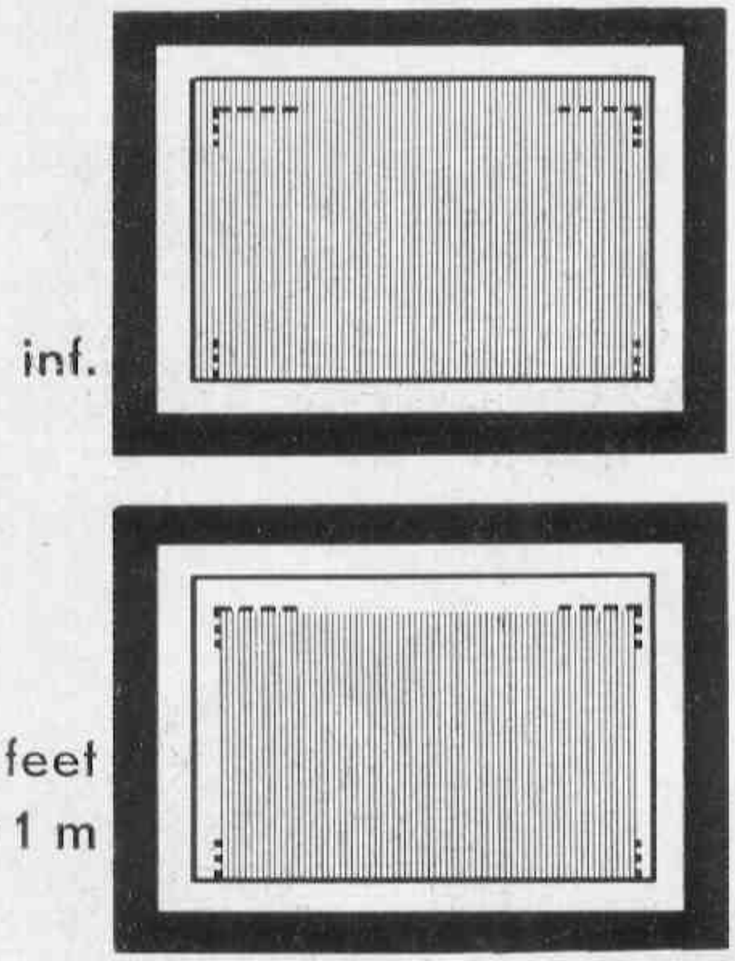
It is important that **exposure speeds are set before the diaphragm** by pressing inter locking latch (11). If the diaphragm is set first it will change again when the exposure speed is set.

For delayed action (self release) exposures, synchro switch lever (22) is set at V. Exposure then results with a delay of approximately 8 seconds and synchronization of flash lamps is always equal to setting X. When, therefore, synchronizing flash bulbs under **standard conditions select $^1/_{20}$ sec.** Following shutter release, the synchro switch lever (22) automatically reverts to X.

LUMINOUS FRAME VIEW-FINDER

The reflected frame view-finder greatly facilitates reliable definition of the image field. The image boundaries appear as brightly illuminated frames, apparently standing in the room, when applying the eye close to the view-finder eye-piece.

Strictly speaking, this luminous frame is intended only for sighting at "infinity". When observing at shorter distances the image field is slightly smaller, due to parallaxes and the fading of the image field. This smaller field is indicated at the corners by dotted lines for a distance of 3 feet (1 m.). Intermediate values can be estimated without difficulty.

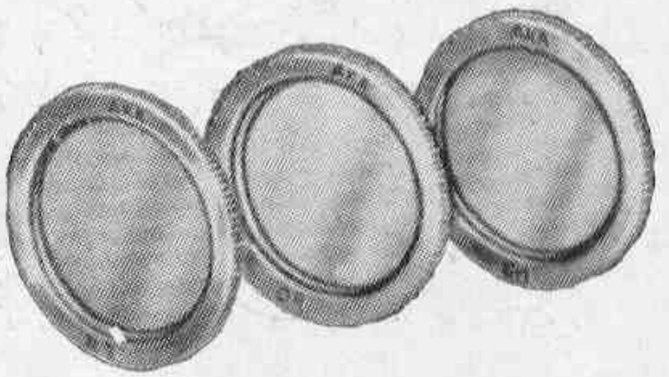


It is significant that the position of the reflected boundary lines in the view-finder image is unaffected by the direction from which the eye looks into it. Even when viewing slantwise, focussing errors cannot occur. This gives the user great confidence. He can go so close to the object as to completely the view finder-field without having the fear that parts of the image are missing on the photograph. Whatever his eye has seen inside the frame (and as a precaution a little beyond it) he will find on his film.

CONDITIONS OF GUARANTEE

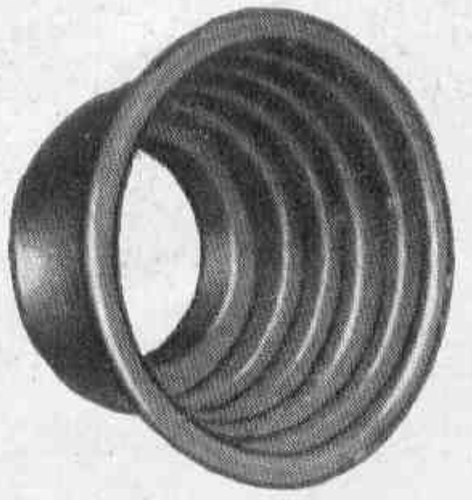
It is pointed out that markers' guarantee to repair as new extends only to cameras returned unopened within one year of purchase. Cameras and exposure meter which – for any reasons whatever – have been opened by strangers are excluded from this guarantee.

COLOUR FILTER AND LENSHOOD

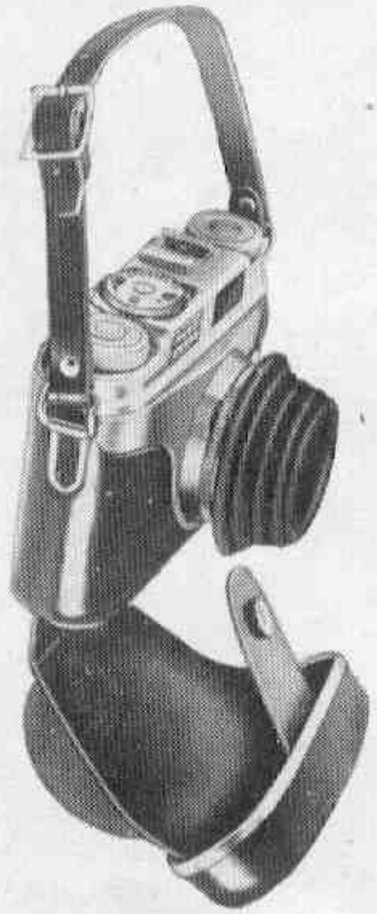


The focussing ring (5) of the ARETTE lens has an internal thread so that accessories, i. e. colour filters, lens hood or close-up lenses, can be screwed into it.

Colour filters and close-up lenses, as supplied for AKARELLE, are suitable. These are double threaded and can, therefore, be interchanged at random. It is quite safe to screw a close-up lens, a colour filter and a lens-hood on to the lens; however, when doing so, the sequence indicated above has to be observed.



The screwed-on colour filter causes the incident light to be weakened by a certain degree. To make up for this the exposure time must be lengthened or – simpler still – the exposure value obtained must be decreased by the exposure value points mentioned on page 23.



Example: When using orange filter O 3 and the exposure value number arrived at 13, the exposure value shutter is set at 13 — 2,5 = 10,5.

When taking photographs against the light and for colour photographs a lens hood is indispensable. Otherwise you will obtain dull and unsatisfactory photographs.

There is, however, no reason at all why you should not use the hood for all your photography.

In this respect the ARETTE offers you special facilities. Lens-hood and, if necessary, a colour filter may permanently remain screwed into the lens, even when the ever-ready case is shut. The lenshood only needs folding back and is thus stored away comfortably in the roomy ever-readay case.

After the ever-ready case is opened it only requires a slight movement of the hand and the lenshood returns to its correct position. Trifles may frequently by decisive. Such is the case with this special feature of the lenshood which contributes largely to the constant state of readiness of the ARETTE.

ARETTE IB ACCESSORIES

Lens Hood: 32 mm, collapsible, rubber,
the indispensible protection from light falling diagonally from the front and for use with colour photography.

Colour filters: 32 mm, in practical screw-on mount:

Light yellow	32-G 1	Extension Factor . . 2	Decrease of light value 1
med. yellow	32-G 2	" " . . 4	" " " " 2
green yellow light	32-GR 1	" " . . 2	" " " " 1
green yellow medium	32-GR 2	" " . . 4	" " " " 2
orange	32-O 3	" " . 4-6	" " " " 2,5
red	32-R 3	" " . . 8	" " " " 3
Ultra violet	32-UV	without extension	0
Blue (for artificial light photography)	32-B	f. art. lt; factor approx. 8	" " " " 3
		f. day. lt; factor . . 2	" " " " 1

Colour filter COLOR without extension to avoid the violet or blue tint when using colour films, where this may be expected. It corresponds to the Agfacolor-Photo Filter K 29 C.

Ever-ready case B, made from velvet lined smooth hide.

De Luxe ever-ready case C, with chromium plated vignette.

Lens lid (32 mm) as spare.

Close-up lenses, 32 mm, in screw-on mount

lenses 1,0 1,5 2,5 diopt. — for three distance ranges

Focussing table for close-up lenses for ARETTE IB for lenses of 45 mm focal length.

Objectives with feet-calibration

	Setting of the Focussing Scale feet	∞	60 ft	30 ft	20 ft	15 ft	10 ft	8 ft
Supp. Lens No. 1 Dioptre 1,0	Near Point inch	42,5	39,4	38,2	37,0	35,6	32,5	30,4
	Focussing Distance inch	**45,1**	**41,7**	**40,3**	**39,0**	**37,4**	**34,2**	**32,0**
	Far Point inch	47,9	44,5	43,0	41,3	39,6	36,4	33,7
	Size of Field inch x inch	19,3x29,1	17,7x27,0	17,1x26,0	16,7x25,2	16,1x24,2	14,6x22,0	13,8x2,5
Supp. Lens No. 2 Dioptre 1,5	Near Point inch	27,7	27,0	26,3	25,5	24,9	23,8	22,9
	Focussing Distance inch	**29,1**	**28,3**	**27,4**	**26,6**	**25,9**	**24,6**	**23,8**
	Far Point inch	30,8	29,7	28,7	27,8	27,0	25,7	24,8
	Size of Field inch x inch	12,2x18,1	11,8x17,7	11,2x16,9	10,8x16,5	10,6x15,9	9,8x15,0	9,4x14,2
Supp. Lens No. 3 Dioptre 2,5	Near Point inch	18,4	17,7	17,4	17,2	17,0	16,6	16,1
	Focussing Distance inch	**18,9**	**18,3**	**17,9**	**17,7**	**17,5**	**17,0**	**16,5**
	Far Point inch	19,5	18,8	18,4	18,2	18,0	17,5	17,0
	Size of Field inch x inch	7,1x10,6	6,7x10,2	6,7x10,0	6,7x9,9	6,7x9,7	6,5x9,4	6,3x9,0

The distances should be measured from the rear of the camera. It is advisable to stop the lens down to at least 5,6; very small diaphragm apertures should, however, be avoided. In view of the close-up lenses, an extension of the exposure time is unnecessary.

7 ft	6 ft	5 ft	4,5 ft	4 ft	3,5 ft
29,2 **30,6** 32,3	27,8 **29,0** 30,9	26,1 **27,3** 28,8	25,4 **26,4** 27,8	24 **25,3** 26,6	23,2 **24** 25
13,4x20,0	12,4x18,7	11,8x17,9	11,2x17,3	10,8x16,5	10,2x15,6
22,3 **23,1** 24,1	21,6 **22,3** 23,2	20,6 **21,2** 22,0	20,2 **20,8** 21,5	19,5 **20,1** 20,8	18,7 **19,3** 19,9
9,2x13,8	8,8x13,2	8,3x12,4	8,1x12,0	7,7x11,4	7,3x11,0
15,8 **16,2** 16,6	15,5 **15,9** 16,2	15,1 **15,5** 15,8	14,9 **15,2** 15,6	14,6 **15,0** 15,3	14,3 **14,7** 15,0
6,1x8,9	6,0x8,7	5,7x8,5	5,6x8,3	5,4x8,1	5,3x7,9

The figures on the uppermost line show the distance values of the scale of the lens mount. The heavy-type numerals in each group indicate the appropriate distances of the object from the camera rear, measured in feet. The depth of focus range applying to diaphragm 5,6 can be ascertained from the figure above it (front focussing boundary) and the figure below it (back focussing boundary). The size of the field is the subject area captured in the photograph.

Close-up lenses, 32 mm, in screw-on mount

lenses 1,0 1,5 2,5 diopt. – for three distance ranges

Focussing table for close-up lenses for ARETTE IB for lenses of 45 mm focal length.

Objectives with meter-calibration

	Setting of the Focussing Scale meter		∞	20 m	10 m	7,0 m	5,0 m	4,0 m	3,0 m	2,4 m	2,0 m
Supp. Lens No. 1 Dioptre 1,0	Near Point	cm	108,0	100,5	98,0	95,2	91,8	87,6	82,5	78,0	74,1
	Focussing Distance	cm	**114,5**	**106,5**	**103,5**	**100,4**	**96,6**	**92,7**	**86,6**	**81,7**	**77,5**
	Far Point	cm	121,8	113,4	109,8	106,2	102,0	97,6	91,1	85,6	81,0
	Size of Field	cm x cm	49x74	45x68	44x67	43x65	41x62	39x60	37x56	35x52	33x50
Supp. Lens No. 2 Dioptre 1,5	Near Point	cm	70,4	69,3	67,5	66,1	64,3	62,5	60,2	58,2	56,1
	Focussing Distance	cm	**74,0**	**72,5**	**70,5**	**68,9**	**67,0**	**65,1**	**62,6**	**60,4**	**58,2**
	Far Point	cm	78,2	76,3	74,0	72,2	70,1	68,1	65,3	62,9	60,5
	Size of Field	cm x cm	31x46	30x45	29x43	28x42	27x41	26x39	25x37	24x36	23x34
Supp. Lens No. 3 Dioptre 2,5	Near Point	cm	46,7	45,6	44,8	44,4	44,0	43,5	42,6	41,1	40,3
	Focussing Distance	cm	**48,0**	**46,8**	**46,0**	**45,5**	**45,1**	**44,6**	**43,6**	**42,2**	**41,2**
	Far Point	cm	49,5	48,2	47,3	46,8	46,3	45,8	45,0	43,3	42,3
	Size of Field	cm x cm	18x27	17x26	17x25	17x25	17x25	17x24	16x24	16x23	15x22

The distances should be measured from the rear of the camera. It is advisable to stop the lens down to at least 5,6; very small diaphragm apertures should, however, be avoided. In view of the close-up lenses, an extension of the exposure time is unnecessary.

1,7 m	1,5 m	1,3 m	1,2 m	1,1 m	1,0 m
70,5 **73,5** 76,8	67,7 **70,4** 73,4	64,2 **66,7** 69,4	62,0 **64,3** 66,9	60,0 **62,2** 64,6	57,8 **59,8** 62,0
31x47	30x45	28x42	27x41	26x40	25x37
54,2 **56,2** 58,4	52,4 **54,2** 56,3	50,5 **52,2** 54,1	49,2 **50,8** 52,6	48,2 **49,8** 51,6	46,8 **48,3** 49,9
22x33	21x32	20x30	19x29	19x28	18x27
39,3 **40,3** 41,3	38,7 **39,6** 40,6	37,8 **38,7** 39,6	37,4 **38,3** 39,2	36,9 **37,7** 38,6	36,4 **37,2** 38,0
15x22	14x22	14x21	14x21	14x20	13x20

The figures on the uppermost line show the distance values of the scale of the lens mount. The heavy-type numerals in each group indicate the appropriate distances of the object from the camera rear, measured in cms. The depth of focus range applying to diaphragm 5,6 can be ascertained from the figure above it (front focussing boundary) and the figure below it (back focussing boundary). The size of the field is the subject area captured in the photograph.

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