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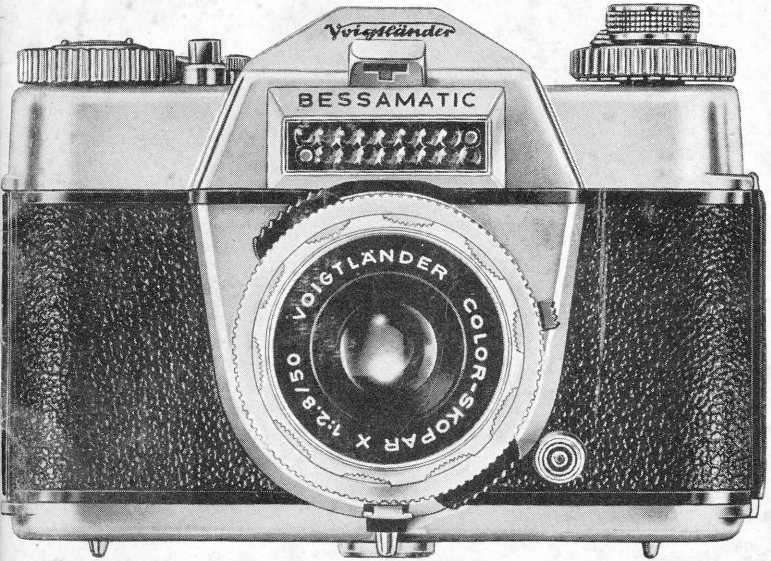
BESSAMATIC

Voigtländer



Single Lens
Reflex Camera
24 x 36 mm

INSTRUCTIONS
FOR USE

BESSAMATIC

24 x 36 · 35 mm

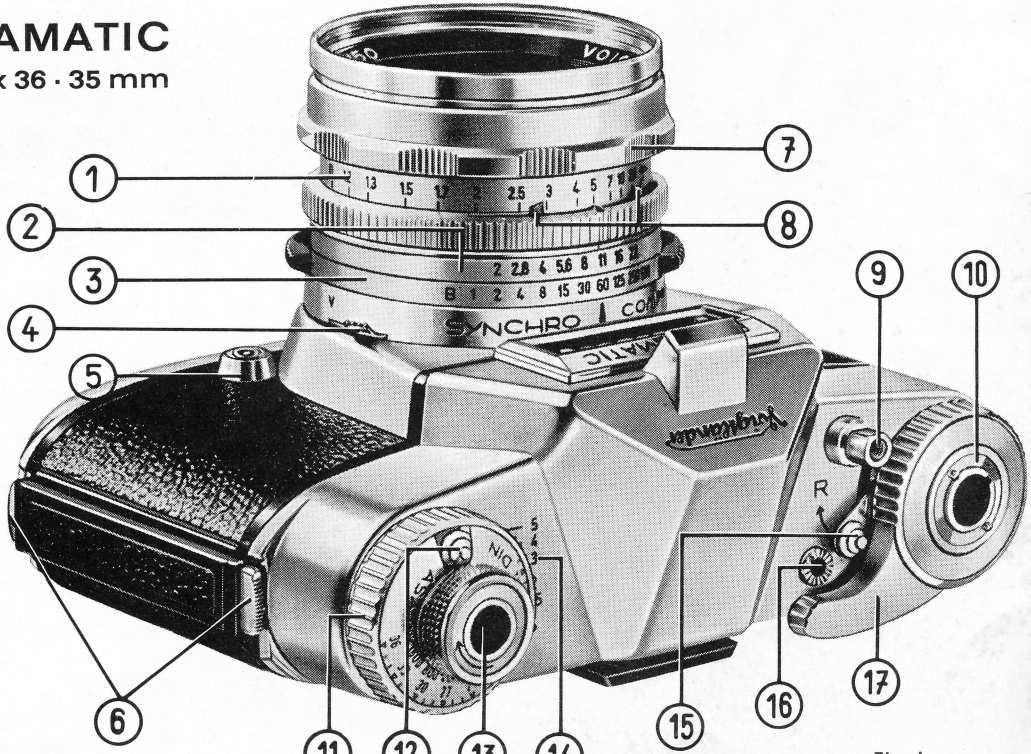


Fig. 1

1 **Focussing scale** in feet

2 **Aperture scale**

3 **Control ring**
with shutter speeds scale

4 **Catch**
for setting self-timer – V

5 **Flash socket**
for plug from flashgun

6 **Spring-loaded** camera latches
for closing the camera

7 **Focussing ring**
for rangefinding (distances indicated in feet on the lens mount)

8 **Depth of field indicator**

9 **Release**

10 **Film type indicator**

11 **Automatic aperture knob**
for pre-selected shutter speed and automatic aperture adjustment

12 **Film speed disc**
in DIN and ASA, with locking catch

13 **Film rewind knob**

14 **Filter factor**
compensation numbers

15 **Reversing lever**
for film rewind

16 **Milled knob**
for film counter (exterior adjustment)

17 **Rapid Film Wind**
for tensioning the shutter and moving on the film

18 **Lens locking catch**

19 **Tripod bush**

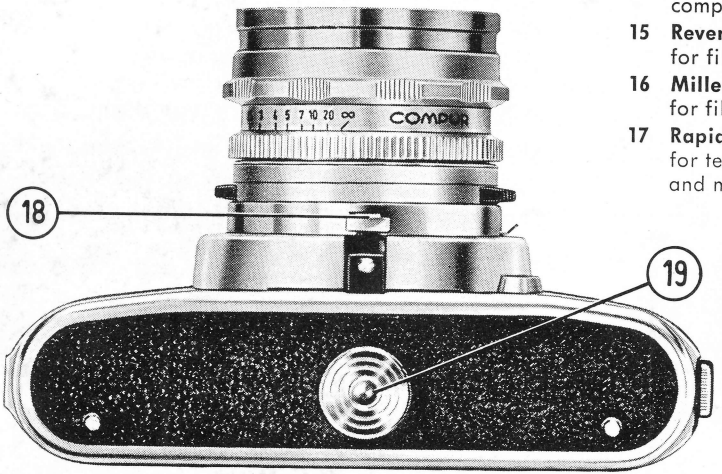
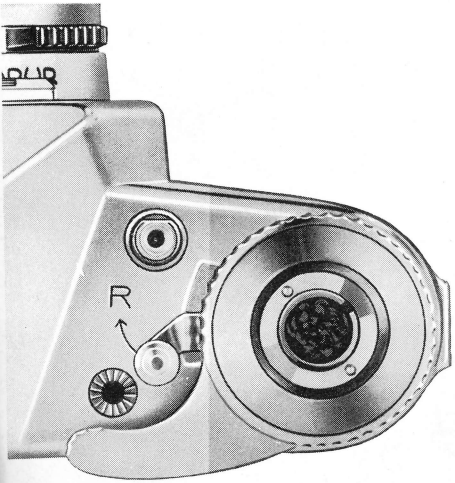


Fig. II

Loading and unloading the camera



You can use any type of film you like in the BESSAMATIC camera. The usual cassettes with perforated 35 mm black-and-white or colour film give 37 or 20 exposures on colour reversal film for colour transparencies, or on colour negative film for colour prints on paper.

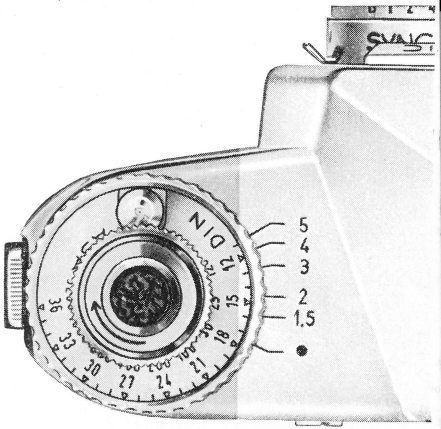
Although the cassettes are light-tight, it is not a good idea to handle them in full sunlight. Always load or unload the camera in the shade – or if there is none, use your own shadow.

The film type indicator (10) is a constant reminder of the type of film actually in the camera. It is very easily set by turning the central disc, using the two lugs: White = black-and-white film; blue = colour film for daylight, and yellow = colour film for artificial light.

Setting the film speed

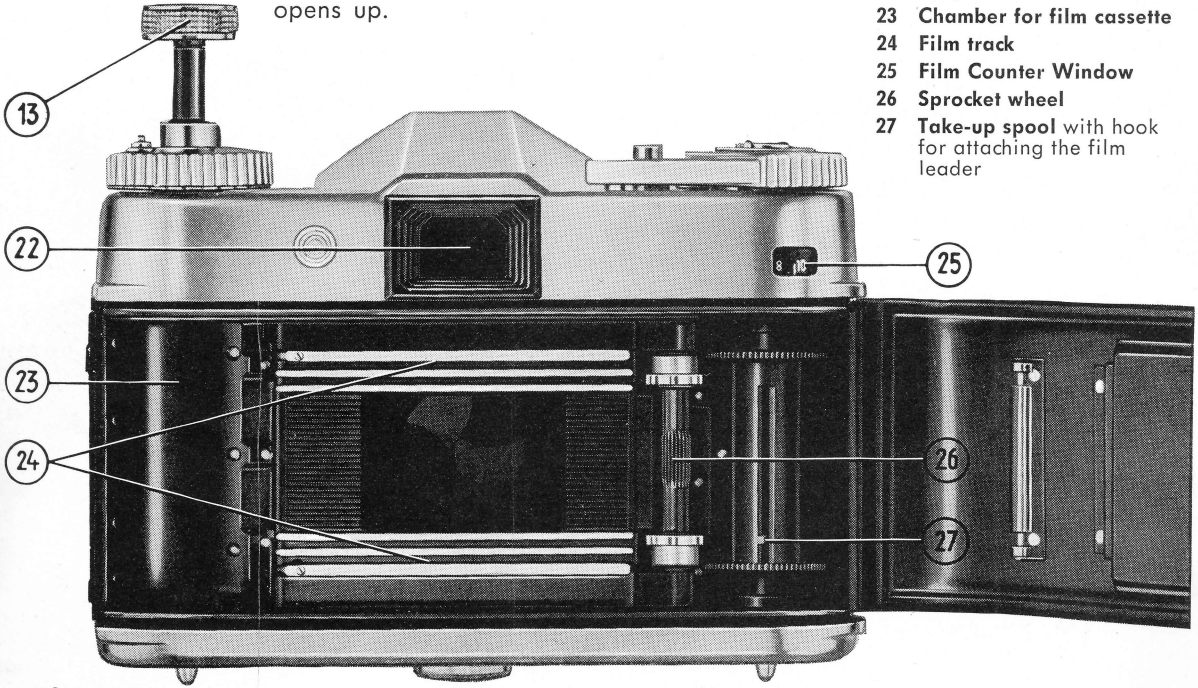
Make it a rule always to set the film speed before loading the camera as the automatic exposure control depends entirely on this setting. You will find the film speed marked in ASA or DIN on the film carton or in the leaflet accompanying the film.

To set the film speed, first pull out rewind knob (13) as far as it will go (see p. 6); then press the locking catch of film speed disc (12) to the right or left until the appropriate ASA or DIN number is opposite the red index mark. The dot before 12 ASA indicates 10 ASA, the dot after 25 indicates 32 ASA.



To open the camera

Simply press the two spring-loaded latches (6) together, and the camera back opens up.



13 **Film Wind Knob**
22 **Eyepiece of viewfinder**
23 **Chamber for film cassette**
24 **Film track**
25 **Film Counter Window**
26 **Sprocket wheel**
27 **Take-up spool** with hook for attaching the film leader

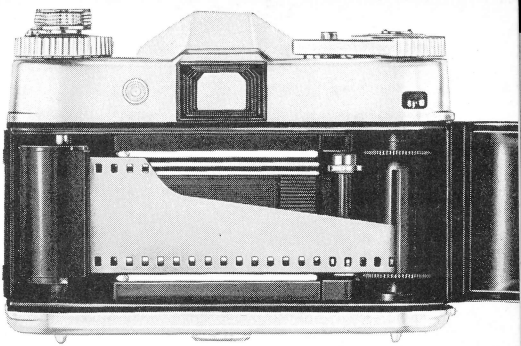
Inserting the film cassette

Pull out film rewind knob (13) as far as possible (see Fig. 3).

Anchor the beginning of the film to the hook of the take-up spool (27). Draw the cassette across the film track, insert into the cassette chamber, and push back the film rewind knob (13) as far as it will go. See Fig. 4.

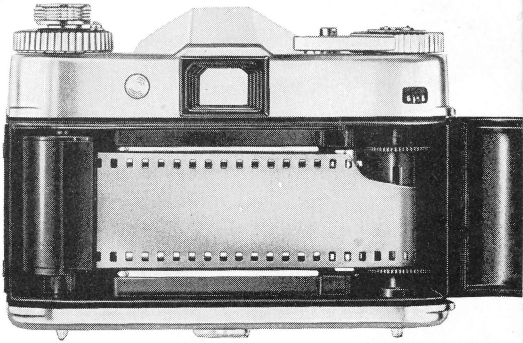
Now turn the take-up spool until the full width of the film is lying taut over the sprocket wheel, (26) and two of its teeth engage two film perforations (see Fig. 5).

Finally close the camera-back; press firmly into place until you hear the two latches click into the locked position.



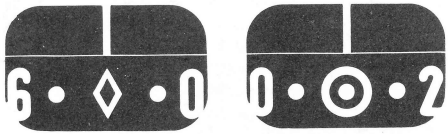
▲ Fig. IV

▼ Fig. V



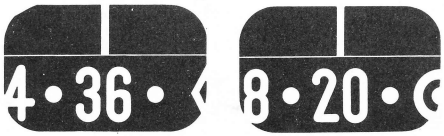
Adjusting the film counter

Turn milled knob (16) until either ◊ (for 36 exposure films) or ⊙ (for 20 exposure films) appears under the white mark in the film counter window (25).



Preparing for picture taking

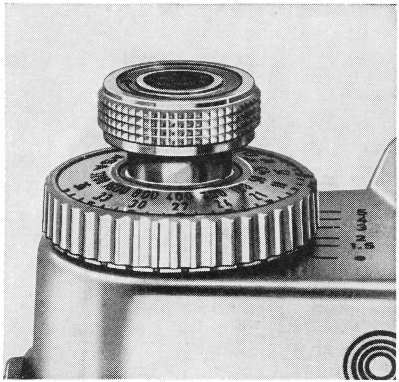
Operate the release button (9) and the rapid film wind (17) alternately until the number "36" or "20" appears in the film counter window (25).



Rapid Film Wind

This should always be turned as far as it will go – only then will it return to its initial position. This action tensions the shutter and after each exposure, the film counter will show the number of exposures still available. The numbers therefore decrease from 36 (or 20) to 0.

When the film has been correctly loaded, the rewind knob should turn against the direction of the arrow when the rapid film wind is operated. Owing to different tensions of films in their cassettes, the knob will first turn after between 3 to 6 exposures.



Sometimes, when trying to make more than 36 or 20 exposures on one roll of film, the rapid film wind lever cannot be swung round completely and is locked. In this case, do not apply force – this would only result in tearing the perforations or causing the end of the film to slip out of the cassette.

Proceed as follows: Set reversing lever to "R" (which may be rather difficult), turn the rapid film wind as far as it will go and let it slide back to its original position. You can now rewind the films as described above.

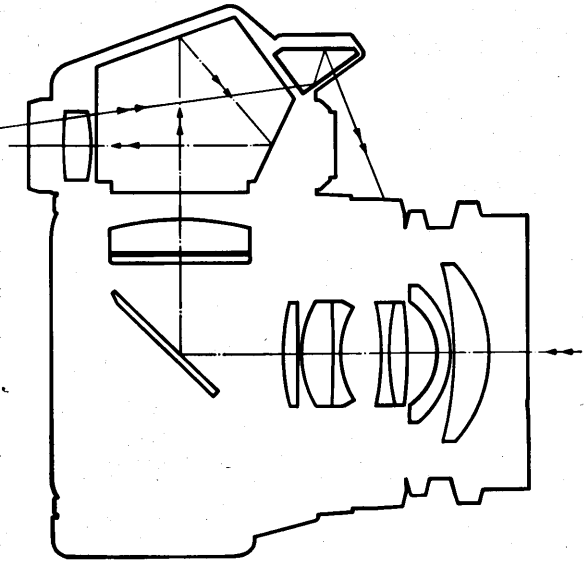
Unloading the camera

Set the reversing lever (15) to the "R" position and pull out rewind knob (13) but only to the first stop (see illustration). Then turn the rewind knob in the direction of the engraved arrow until the mark ⧫ (36-exposure cassette) or the mark ⊙ (20-exposure cassette) is opposite the white index line in the film counter window once again. Now you can open the camera-back, pull out the rewind knob as far as possible, and remove the film cassette from the camera.

Changing partly exposed films

Rewind the partly exposed film as described above. Remember to make a note of the number of the last exposed frame, and to re-set the film speed and film type if necessary.

When reloading the original film, first of all place the black lens cap over the front lens mount. Then insert the film in the usual way and alternately work the rapid winder and press the release until the number of the frame you originally noted appears in the film counter window. Advance the film once more, and you can carry on shooting.



The technique of picture taking

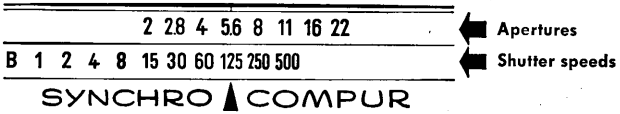
The automatic exposure device simplifies working with the BESSAMATIC camera and makes its operation very simple indeed. To this we can add the advantages of a perfect reflex system. A single glance in the large viewfinder – made so radiantly brilliant by its Fresnel lens – shows you:

- the subject upright, right way round and free from parallax, with the exact film of view covered by the film frame;
- you can then adjust the automatic exposure device after having preselected the shutter speed;
- you can accurately focus with all interchangeable lenses by one or the other of the two rangefinding devices;
- you can keep a continual check on the setting of the shutter speed-aperture combination while in operation, and without taking the camera away from the eye.

① Pre-setting the shutter speed

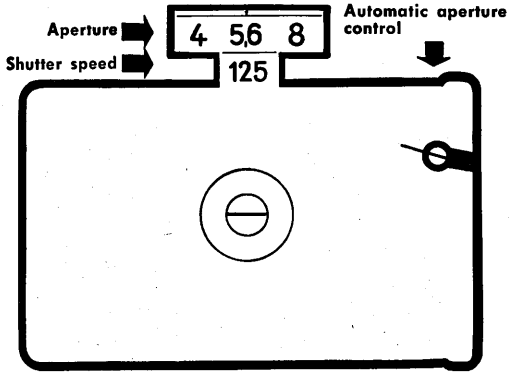
Turn the automatic exposure knob (11) to the left or right until the required shutter speed clicks into position opposite the ▲ mark. The shutter speed should be chosen according to subject movement and prevailing light conditions.

This turning motion is easy when only the aperture scale (2) is moved; the knob is more difficult to actuate when one of the end values of the aperture scale is also opposite the ▲ mark, because then the clicked-in shutter speed scale (3) must also be moved along.



The black numbers on the shutter speed scale (1/500–1/60 second) are the speeds at which you can normally take pictures without a tripod. The yellow numbers (1/30–1 second) indicate that the camera must be firmly supported on a tripod, tree trunk, etc. to avoid camera movement during exposure.

At "B" the shutter remains open as long as the release button is pressed. Here too, a tripod is necessary, as well as a cable release which can be screwed into the cable release socket (9).



② Automatic aperture control

Sight the subject in the viewfinder and turn the automatic aperture knob (11) until the circular mark in the viewfinder is exactly over the pointer of the exposure meter (see illustration).

The correct exposure is now automatically adjusted and you can read off the shutter speed-aperture combination not only at scales (2) and (3) but also in the top of the viewfinder in the taking position.

General note:

Always adjust the automatic aperture control with the camera in a horizontal position, even if you intend to take an upright picture. In so doing, you will obtain the most exact result with the exposure meter.

If the depth of field is not sufficient for a particular shot (see p. 17) or if it is necessary to give a still shorter speed than the one adjusted, because of fast subject motion, you quite simply act as follows:

Turn control ring (3) by its two finger grips until the shutter speed and aperture values shown opposite the ▲ mark are the ones you require. This action will not change the position of the already correctly adjusted exposure meter pointer in the viewfinder in any way. But do try to keep the aperture limit values of the lens you are using in mind the whole time and do not try to rotate the control ring beyond those limits!

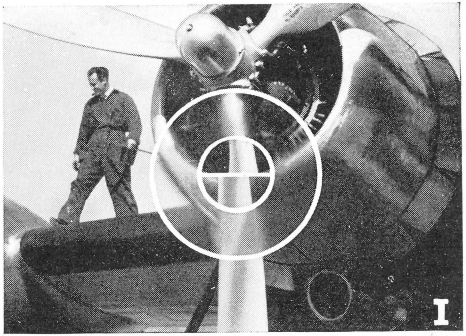
③ Focussing

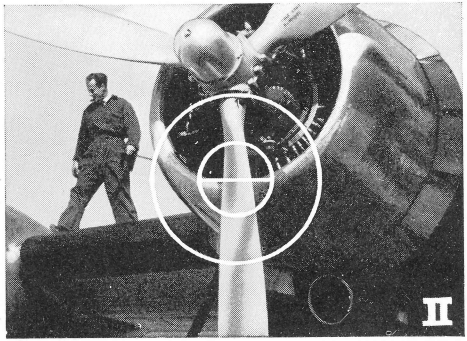
The halved central circle is the split-image rangefinder. When turning the focussing ring (7), the vertical subject lines will be displaced to the left or right (with the camera held horizontally) (see example 1).

or horizontal lines upwards or downwards (with the camera held upright). The lens is accurately focussed when the two parts of the image register precisely across the split circle (see example 11).

The ground-glass screen is placed around the split-image rangefinder area and is most useful for subjects without straight lines. In this case the focussing ring must be turned untill the subject is rendered sharply on the ground-glass ring.

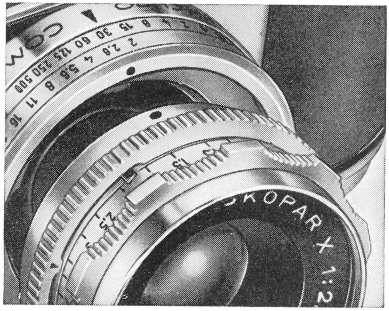
Always press the release button as smoothly as possible – never jerk it! The image in the viewfinder disappears at the instant of exposure and returns immediately when the rapid wind lever is operated.





Interchangeable lenses

A full range of Voigtländer high-performance lenses are available for the Bessamatic – from 35 mm. wide-angle to 350 mm. telephoto and also the f 2.8 36–82 mm. Voigtländer Zoomar lens. All lenses are fitted in a quick change bayonet mount and are accurately focussed with the double rangefinder system.



Insertion and Removal

When inserting a lens, make sure that the red dot on the lens mount is opposite the red dot on the aperture control ring (see illustration). Then turn the ring to the right until it clicks into position, and the lens will be firmly mounted on the camera.

To remove the lens, press the lens locking catch (18), turn the lens to the left and pull it out of the shutter (see illustration).

The "pre-selection diaphragm"

allows subject viewing and focussing at full aperture under all circumstances. Only when the shutter is released is the diaphragm automatically stopped down to the value pre-determined by the automatic aperture control. You should try to remember that with the automatic exposure control all interchangeable lenses can only be adjusted to their largest aperture.

Aperture and depth of field

Depth of field is that part of the picture area, in front of and behind the point of focus, which will be rendered sharp. This is dependent on the aperture, which you have set. At large apertures (e. g. f 2.8 or 4) the depth of field is limited – at smaller apertures (e. g. f 8 or 11) it is greater.

Reading off the depth of field

- When using the Color-Lanthar f 2.8/50 mm., and having already set the distance, hold the camera so that the focussing scale (1) as well as the double row of aperture numbers on the lens are visible. Depth of field extends now from the distance shown above the aperture number at the left of mark ▲ to the distance above the same aperture to the right of ▲.
- All other interchangeable lenses with fixed focal length have an automatic depth of field indication. This consists of two red marks (8) which ride over the focussing scale and automatically show the depth of field, i. e. the marks move to a smaller or greater distance from each other when you turn the automatic aperture knob (11).
- The Voigtländer Zoomar f 2.8 36–82 mm. lens is an exception. This is supplied complete with a depth of field table in the shape of a calculating disc.

Self-timer

Place the camera on any firm support (preferably a tripod) and set the self-timer lever to the "V" position. You then press the shutter release in the normal way and the exposure will follow approximately 8–10 seconds later. When set to this position the lever cannot be returned by hand – only by releasing the shutter.

Flash pictures

The camera has "X" synchronization. Connection between the camera and flashgun is made by flash cable inserted into flash socket (5). Shortest shutter speed with capless bulbs – XM 1/PF 1 or AG 1 – is 1/30th second. With electronic flash speeds up to 1/500th can be used. The lens aperture required for correct exposure can be obtained from the so-called guide number. This is usually quoted on the flash bulb carton or in the leaflets issued with the electronic flash unit. To find the correct aperture, divide the appropriate guide number by the distance in feet between the subject and the flash; therefore: –

$$\text{aperture} = \frac{\text{guide number}}{\text{distance}}$$

$$\text{e. g.} \quad \frac{\text{guide number } 80}{\text{distance } 10 \text{ feet}} = \text{f } 8.$$

Close-ups

of small objects and creatures as well as the copying of pictures and documents can be made with the Focar supplementary lenses, available in different powers – from $^1/_4$ to $6^1/_2$ diopter. With certain lenses it is possible to use more than one Focar lens and obtain a power of 10 diopters, representing a reproduction ratio of 1 : 1.85.

Simply screw the Focar lenses on the camera lens mount. Focus in the usual way with the rangefinder or ground-glass screen.

You should always stop down to f/5.6 or f/8 to ensure sufficient depth of field, in the case of copying documents we would even say f/11 or f/16. Exposure is practically unaffected by the Focar lenses. If filters are to be used, screw the filter in front of the Focar lens. When using more than one Focar lens, place the one with the highest power (i. e. with the largest number of diopters) immediately in front of the camera lens.

A detailed Focussing Table for all Focar lenses and interchangeable lenses, including data on scales of reproduction, depth of field, etc. is available from your photographic dealer.

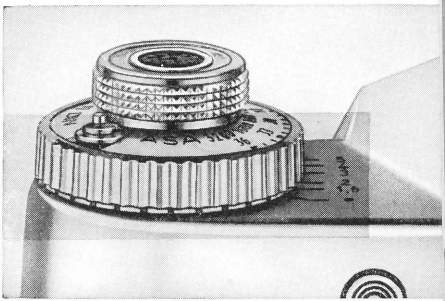
Voigtländer filters

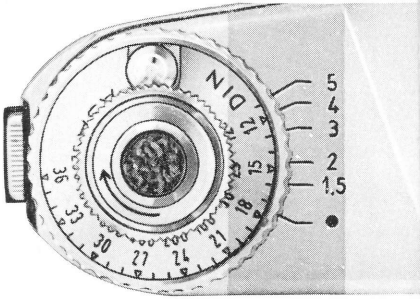
are hard coated and do not impair the lens performance in any way. The yellow, green and orange filters can, of course, only be used with black-and-white films; ultra-violet, sky-light and polarizing filters are suitable for colour film as well.

		Filter factor
Yellow filter G 1.5 x	Slight filtering effect for outdoor shots such as sports and action subjects	1.5–2
Yellow filter G 3 x	Universal filter for landscapes and other outdoor subjects; indispensable for snow pictures	3
Green Filter Gr 4 x	Lightens green tones in landscapes. Recommended for artificial light portraiture and for copying of coloured originals	3–4
Orange Filter Or 5 x	Strongly cuts blue light for dramatic effects. Reduces atmospheric haze in distant views	5
Ultra-violet filter UV	Cuts out ultra-violet radiation in high mountains or near the sea. Eliminates unpleasant blue casts in colour shots. Requires no exposure increase	–
Skylight filter SF	A combination of the UV Filter and a weak conversion filter; it completely eliminates the ultraviolet part of the spectrum	–
Polarizing filter Pol	Reduces or cuts out disturbing reflections from shiny surfaces (spectacles, polished areas, water) other than metal	see special instructions

Compensating for a filter

With all but the UV filters the exposure requires some correction. You can carry out this adjustment simply by bringing the coloured marks at the lower side of the automatic aperture knob (11) opposite the adjoining filter factors 1.5x to 5x; turn the automatic aperture knob until the coloured mark opposite the black dot points to the appropriate filter factor compensation number (14). This will evidently upset the coincidence position of the exposure meter pointer in the viewfinder.





Tips for colour pictures

The most suitable subjects for colour pictures are those containing large coloured areas without excessive light contrasts. Persons should be placed in good contrast against a quiet and neutral background; outdoor portraits give best results when the sun is slightly covered by clouds.

When shooting landscapes try to include a coloured foreground in your picture. In high mountains and on the beach a UV haze filter or a sky-light filter helps to avoid a bluish colour cast.

The film speeds (in ASA or DIN) of daylight colour reversal film are valid in sunny, fine weather; you will need to give more exposure under conditions of poor light and little contrast.

Attention should therefore be paid to the instructions which accompany every colour reversal film. If the manufacturer states, for example, that the aperture should be increased or the light value changed in the absence of direct sunlight, i. e. in diffused light or in the presence of dark or backlit subjects, follow this simple procedure; for an increase of half a stop (light value 0.5) turn the automatic aperture knob (1) to 1.5; for an increase of a full stop (light value 1) turn this knob to 2; for 1½ stops (light value 1.5) to 3; for 2 stops (light value 2) to 4; and for 2½ stops (light value 2.5) to 5.

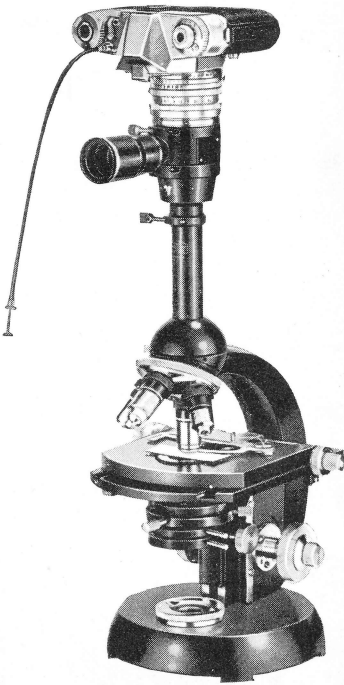
Photomicrography

The value of photomicrography in the Natural Sciences does not need any special mention; many professional people and scientists could not do without this form of photography.

But microscopy should not only be confined to institutes, clinics and research laboratories; nor should micro pictures only be taken of biological preparations and living organisms; this captivating and interesting field of picture taking is wide open to nature lovers, just for the fun of it.

The accessories needed are not expensive; they are handy, quickly prepared for action, and the entire photomicrographical set-up can be arranged on any table. Thanks to cassettes of colour or black-and-white miniature film it is possible to take 36 exposures in rapid sequence, for instance of the growth of a crystal, a biological process, etc.

A special instruction book is available to tell you more about micro pictures with the BESSAMATIC camera.



How to use the exposure meter

Generally speaking we can say that all that is needed is to point the camera from the taking position to the subject and bring the pointer to the correct position.

This technique is suitable for all average subjects which do not show excessive lighting contrasts.

In many cases, however, a more refined method must be adapted, using close-up readings

- of light subjects against a dark background, and vice versa;
- of all persons, in particular posed portraits.

In these caes one goes so close to the subject that only the important parts are "read". But take care that your own shadow or that of the camera does not fall on the part of the subject you are measuring!

Practical accessories

Right Angle Finder: for a more convenient method of taking certain subjects, e. g. close-ups as seen from below (worm's eye view) the right angle finder is recommended. It is fitted to the eyepiece of the viewfinder by sliding it into the accessory shoe and can be used to shoot round the corner.

Portrait lens for SUPER-DYNAREX 135 mm. With this portrait lens you can fill the frame when taking portraits and thus focus down to 6 feet. The lens is screwed on and can be used at full aperture.

Lens Hood. This small accessory should always be used. It not only shields the lens from harmful side light, which can cause reflections and cut down contrast, but also protects the lens from rain, snow, etc. Lens hoods are available for standard, wide-angle and telephoto lenses.

Adaptor ring for accessories. With the help of this adaptor, all 54 mm. accessories can be fitted to those interchangeable lenses with a diameter of 40.5 mm.

Care of camera and lens

Successful results and long life of your BESSAMATIC camera depend largely on proper care and correct operation.

- Therefore always handle the camera gently and never use force. In particular protect the camera against hard knocks. Don't keep the camera in your car's glove compartment; the exposure meter will not appreciate the constant vibration!
- Clean the lens only with a soft, fluffless cloth. However, first remove coarse particles of grit (or sand at the sea-side) with a soft sable brush. Finger marks can be removed with a piece of cotton wool moistened with pure alcohol or ether.
- Clean the interior of the camera periodically with a soft brush and remove any dust or film particles, being careful not to press against the mirror! Dust which has accumulated in the viewfinder can only be removed by taking out the lens and blowing out with a small blower.