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# Voigtländer

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## VSL 3-E



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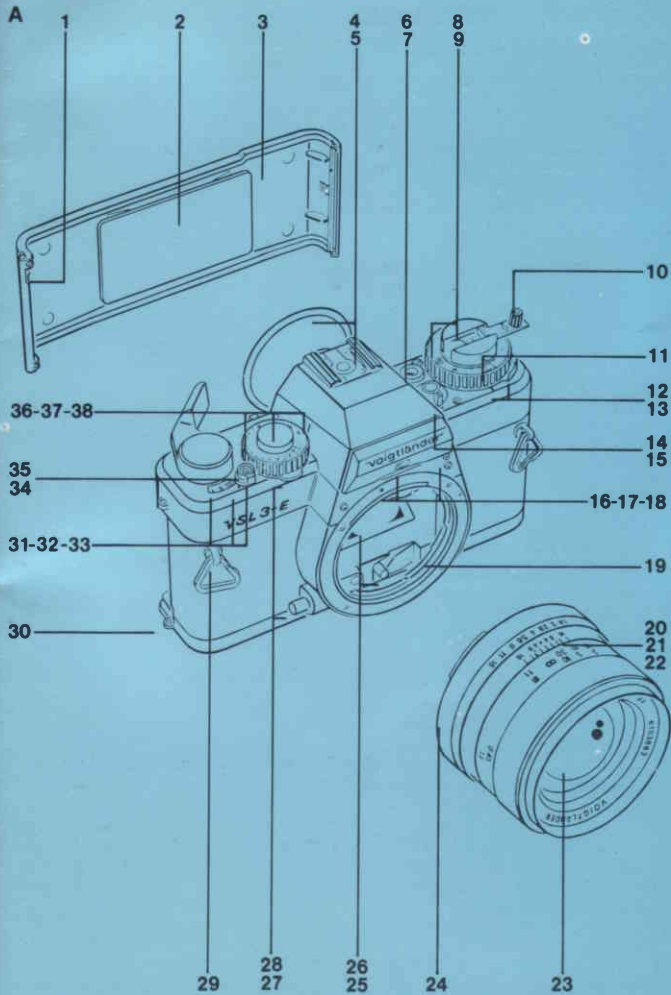
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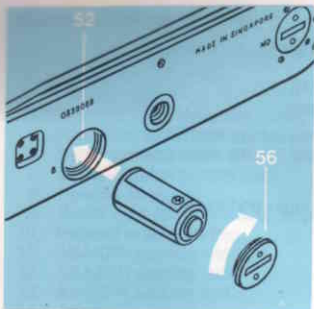
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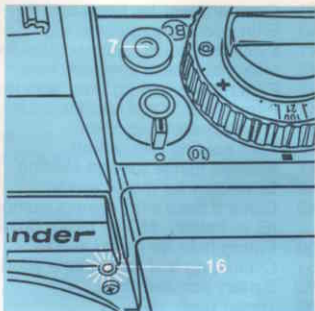
## Controls and components

- 1 Camera back locating pin
- 2 Film pressure plate
- 3 Camera back
- 4 Eye cup, also eyepiece mask
- 5 Hot shoe with flash centre contact
- 6 Battery check mark (BC = battery check)
- 7 Battery check button (red)
- 8 Rewind knob
- 9 Cover disc for continuous exposure correction
- 10 Rewind crank, folding
- 11 ASA/DIN setting window
- 12 ASA/DIN setting lock
- 13 ASA/DIN setting index
- 14 Self-timer setting lever
- 15 Self-timer lock index
- 16 Red LED signal for self-timer and battery check
- 17 Aperture scale port
- 18 Red dot on camera bayonet
- 19 Camera bayonet
- 20 Depth of field scale
- 21 Aperture and distance index
- 22 Infrared index (red)
- 23 Interchangeable lens
- 24 Aperture ring
- 25 Camera diaphragm plunger
- 26 Instant return mirror
- 27 Stop-down pin for checking depth of field and working aperture measurement
- 28 Shutter speed lock
- 29 Right-hand neck strap lug
- 30 Camera back bottom hinge
- 31 Frame counter window
- 32 Shutter release lock index (red)
- 33 Shutter release lock
- 34 Camera back top hinge
- 35 Cable release socket
- 36 Shutter speed dial (fast exposures = white, slow exposures and B = orange, X for flash exposures = yellow, A for automatic exposures = red)
- 37 Shutter release formed as combination button for battery switching, metering (first pressure), meter reading memory (second pressure) and releasing
- 38 Shutter speed dial index

- 39 Compartment for film cassette
- 40 Film spool engagement lug
- 41 Eyepiece mount, also location for eyepiece accessories
- 42 Interchangeable eyepiece lens
- 43 Film rewind setting lever with mark (R)
- 44 Film advance and shutter cocking lever
- 45 Film transport sprocket
- 46 Film holding clip (white)
- 47 Knurled flange for film loading
- 48 Drive cam for motor winder
- 49 Camera base with camera number, origin and marking  
(B = battery, MD = motor drive)
- 50 Fitting hole for motor winder
- 51 Oscillating leaf focal plane shutter
- 52 Battery compartment
- 53 Tripod bush 1/4"
- 54 Motor coupling cover (MD)
- 55 Locking button of bayonet mount (red)
- 56 Battery compartment cover (B)
- 57 Lens diaphragm plunger
- 58 Distance scale in meters (white) and feet (green)
- 59 Lens bayonet
- 60 Focusing ring
- 61 Red dot on lens bayonet
- 62 Lug for aperture simulator
- 63 Signal contacts for motor winder
- 64 Left-hand neck strap lug
- 65 X flash cable terminal
- 66 Film speed setting disc in ASA (orange) and DIN (white)



C



D

### Before taking your first picture

#### Make a note of the serial numbers

Camera bodies and lenses have serial numbers which should be noted and kept in a safe place. These numbers will help you in recovery or proof of ownership in case of loss.

#### Fill in the guarantee card

It is supplied with the camera and should be filled in and returned as soon as possible after purchase.

#### Insert battery

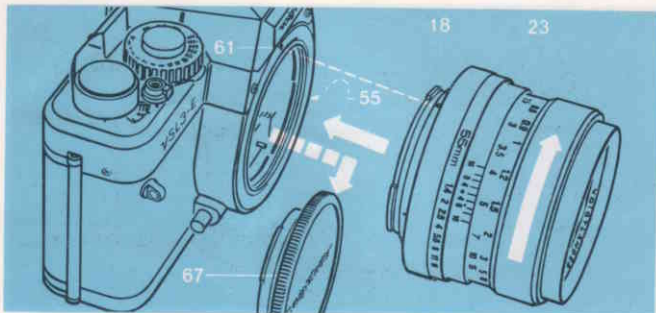
Undo cover 56 by turning anti-clockwise with a coin. Rub batteries on both sides with a cloth to remove any oxidation. Insert battery in battery compartment 52 with the plus sign facing outwards (corresponding to the plus sign in the cover) → fig. C. Do not touch the battery poles when doing so. Screw cover in position again and tighten gently (in an emergency cover 54 will also fit).

You should use new 6 V silver oxide batteries such as Malory PX-28, Varta V 28 PX or equivalent makes of other manufacturers.

#### Check battery voltage

Depress lock button 28 and engage shutter speed dial 36 at A or set between 1/1000 and 16 sec.

Briefly depress button 7, diode 16 illuminating red indicates sufficient battery voltage → fig. D.



E

**Important:** Battery life is 1 – 2 years, but replacement every year is recommended. If out of use for any considerable periods keep the battery in a safe place away from the camera. Remove spent battery immediately. After prolonged periods out of use clean battery as described above.

### Fitting the lens

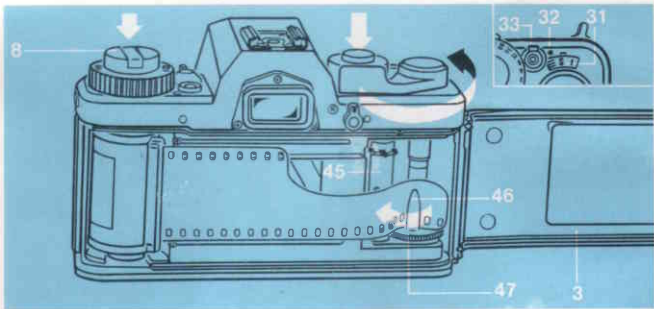
Depress red locking button 55, release cap 67 from camera bayonet 19 by turning anti-clockwise →→ fig. E. Pull front and rear caps off the lens (the former by depressing the two catches). Fit lens 23 so that the red dot 61 on the lens bayonet is opposite red dot 18 on the camera bayonet, then lock by turning clockwise to fullest extent.

### Changing the lens

Here as well depress the red locking button 55 and release the lens as shown in fig. E. The "quick bayonet mount" of the lenses permits particularly fast single-handed changing: the right hand unlocks button 55 with the index finger and at the same time releases the lens. When fitting the interchangeable lens both red dots must be in alignment.

**Important:** As far as possible change the lens in the shadow of your body, avoid bright sunlight and dust. When changing the lens do not touch instant return mirror 26. When no lens is fitted insert cap 67 into camera body. Fit front and rear caps on interchangeable lenses when not in use.





F

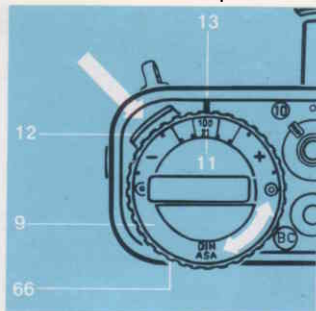
### Loading the film

Depress shutter speed lock 28 and engage shutter speed dial 36 at X (slow speeds would make film advance difficult for the first exposure). Release camera back 3 by pulling rewind knob 8 and open → fig. F. Pull out rewind knob to its fullest extent and load film cassette. Turn rewind knob until it can be pushed in again. Turn knurled flange 47 until one of the white film holding clips 46 is on top. Pull film leader out of cassette and engage in the top holding clip.

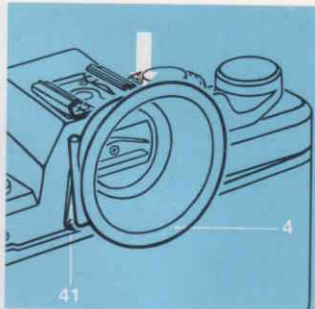
Turn knurled flange in direction of arrow in order to secure the film leader, move shutter release lock 33 right over to the left. Move lever 44 over to its fullest extent and allow to spring back, then fully depress shutter release 37. Repeat this process until the film perforations engage on both sides of sprocket 45. Close the camera back and ensure that the catch engages.

Window 31 now indicates that the film is loaded but cannot yet be used: ≡ S (Start). Continue to operate the shutter release and cocking lever alternately until the figure "1" appears under the index.

Check for correct film advance: the frame counter will only count if the film is correctly loaded and advanced! The rewind knob 8 will also rotate as the film is advanced (with 20 and 12 exposure cassettes or short lengths of bulk film possibly only after several exposures). For this reason do not hold the rewind knob while operating the lever 44.



G



H

### Setting the film speed

Set cover disc 9 with window 11 to the speed of the film loaded. Depress lock 12 and allow setting disc 66 to engage with the previously set value against index 13 → fig. G.

The DIN ratings are in white and the ASA ratings in orange, the dots represent DIN/ASA intermediate values. The range of adjustment is from 15 to 39 DIN and from 25 to 6400 ASA.

Note: Constant exposure correction (for example effective for all exposures on a film) can be obtained by turning setting disc and cover disc → Hint 2.

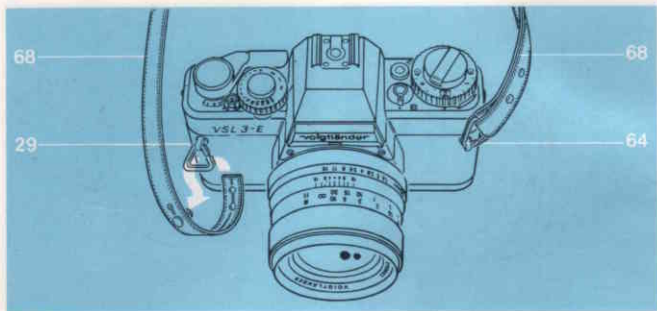
### Locking the shutter release

Engage release lock 33 → fig. F against red index 32. Shutter release 37 is now locked, thus preventing inadvertent switch-on the electronic system.

Move setting lever 14 to index 15 to prevent unintentional self-timer exposures as well.

### Fitting the eye cup

As shown in fig. H, push eye cup 4 to its fullest extent onto eyepiece mount 41 from above. In this position the viewfinder window is open and screened from extraneous light when shooting; at the same time the camera back is also locked to prevent unintentional opening. Eyepiece 42 is closed by pushing the eye cup upwards (e.g. for long time exposures without constantly checking the viewfinder image → Hint 5).



**J**

The eye cup can if necessary be folded back against the eyepiece. Interchangeable eyepieces from +4 to -4 dioptres are available as an accessory to correct eyesight defects.

### **Fitting the neck strap**

Pull neck strap 68 as shown in fig. J with the seam facing inwards through the loops on the non-slip attachment and then through the rings of lugs 29 and 64. Secure ends at required length. Move non-slip attachment to center of neck strap length.

### **Before each exposure**

#### **Unlock shutter release**

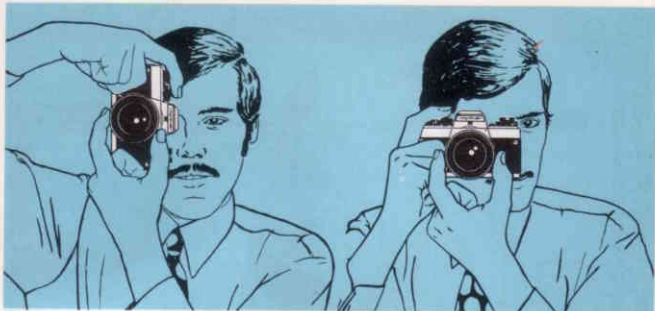
Move lock 33 right over to the left and engage.

#### **Holding the camera correctly**

is made practically automatic by virtue of the functional shape and logical arrangement of the camera controls:

For horizontal format pictures

Hold the camera with the right hand – index finger on shutter release 37→ fig. K. The left hand is held round the lens and also sets the range and aperture. Keep the eye close to eye cup 4, thus firmly supporting the camera on your forehead.



K

For vertical format pictures

Turn the camera round through  $90^\circ$  as shown with the same grip. This position allows the fastest changeover from vertical to horizontal format, but according to requirements other camera positions are possible or more practical, for example holding the camera above your head in a crowd or held down with your arm outstretched for unobserved snapshots.

### Selecting picture area and focusing

These operations are usually carried out simultaneously in practice, the picture area or the depth of field predominating according to the subject.

Point camera at subject, hold camera straight and without tilting. When looking centrally into the viewfinder eyepiece all four corners of the viewfinder image should (with normal eyesight) be fully visible.

Align split-image rangefinder 70 or microprism spot 71 or ground glass screen 72 with the most important section of the picture area. Turn focusing ring 60 until the picture section appearing distorted in the rangefinder is straightened, or the unsharp or flickering image is sharply defined  $\rightarrow$  fig. L.

According to subject and exposure conditions the focusing aids should be used as follows: rangefinder 70 (diagonal distorted partial image) for rapid focusing on subjects with distinct outlines; microprism spot 71 (sharp definition, clear transition from sharp to unsharp) for sporting events, reportage and snap shots as well as for spacious subjects with gradual transition;



ground glass screen 72 for general focusing of important off-center sections of the picture, and for close-ups, macro, micro and copying work where sharpness is checked right up to the edge of the frame (uniformly bright illumination from the center to the edge by virtue of super-fine Fresnel lens structure).

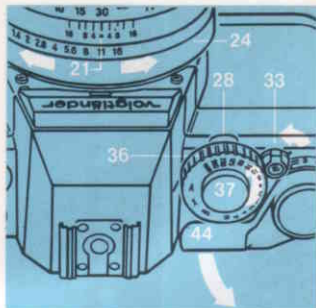
### Selecting the aperture

Turn aperture ring 24 and set required aperture against index 21 → fig.M. The setting ring has click stops for each aperture, but any intermediate positions can also be used. The aperture set is reflected directly from the lens and is visible in window 74 → fig. L underneath the viewfinder image.\*

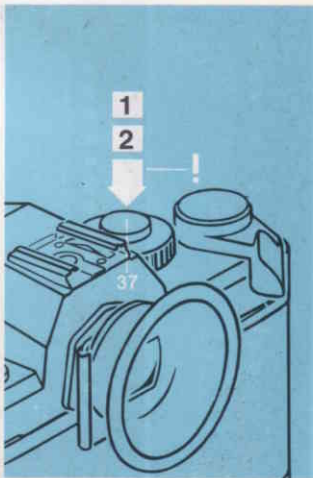
Typical values for aperture settings according to brightness, film speed and subject:

f/11-22 in bright daylight in summer, for seaside and mountain shots or for high and extra-high speed 200-6400 ASA films; f/8-22 for increased depth of field; f/2.8-5.6 for shutter speeds with rapid movement; f/1.4-2.8 for low depth of field; f/4-8 for slow to medium speed 25-160 ASA films; f/1.4-4 for dim lighting, interior shots, mist and rain.

\* only with original lenses fitted directly into the camera bayonet.



M



N

### Exposure metering with LED automatic control

After selecting the aperture, move cocking lever 44 to ready position → fig. M. Depress shutter speed lock 28 and engage dial 36 in A = automatic position. Unlock shutter release 37 with lever 33. Point camera at subject and align center of viewfinder with center of interest. First of all *only take up the first pressure* on the shutter release → fig. N.

The shutter speed now measured will be indicated in the viewfinder by a red LED\* signal on scale 73:

*one* LED lighting up = indication of shutter speed directly opposite, in case of intermediate speeds two adjacent LED's illuminate → fig. O.

*All* LED's in row 75 lighting up simultaneously (or LED indication below 1/1000 sec at plus) → fig. P = warning signal – measured exposure time is outside range of camera; the pre-selected aperture must be corrected with ring 24: larger aperture with dim light, smaller aperture with very bright light.

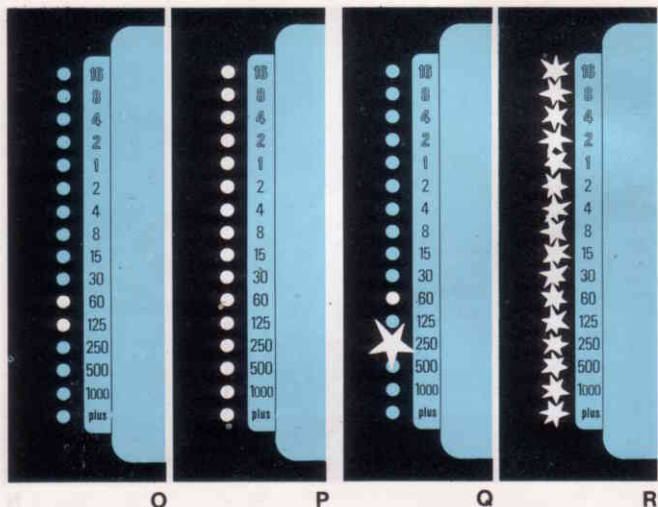
### Exposure metering with LED follow-up system

With pre-selected shutter speed

Depress lock 28 and set dial 36 with required shutter speed to index 38. Fast speeds from 1/1000 to 1/60 sec are white, slow-speeds from 1/30 to 16 sec are

\* LED = Light Emitting Diode





orange. Settings from 1/1000 to 1/2 sec are shown as fractions of a second, settings from 1 to 16 sec in whole seconds. The setting dial does *not* have click stop engagement at these speeds.

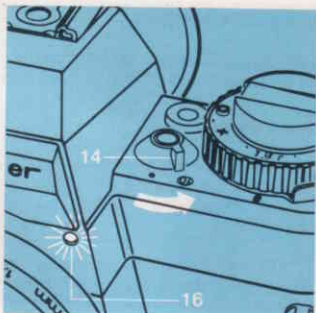
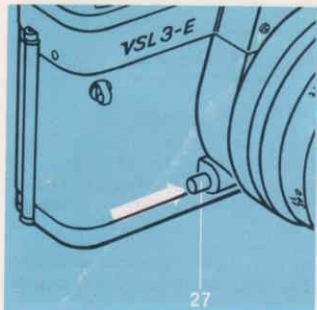
#### With pre-selected aperture

Select the required aperture as described with ring 24; the f-number is displayed underneath the viewfinder image.

Point camera at subject and take up *the first pressure* on the shutter release, then note viewfinder displays: shutter speed setting is indicated by continuous illumination of the adjacent LED's → fig. O.

If, in addition, as a warning signal another shutter speed or the plus symbol or the whole row of LED's starts to flash → figs. Q and R, there is a danger of incorrect exposure: change aperture and/or shutter speed until this flashing stops.

The interval between continuous light and flashing signal of one or two LED's (between 16 and 1/1000 sec) also indicates the difference between the selected and the measured shutter speed → fig. Q; thus, for example, it is possible to obtain intentional over- or underexposure. Here, a change of *one* shutter speed or f-number corresponds in each case to *half* or *double* the exposure.



S

T

### Open aperture or working aperture measurement

Exposure is measured with original lenses fitted directly into the camera bayonet at "open aperture", i.e. *without* depressing the stop-down pin (these lenses have an aperture simulator as can be seen by lug 62).

When using lenses without aperture simulator (e.g. lenses for VSL 1, M 42 lenses with adapter, lenses of other makes) or when using extension tubes, bellows and adapters, measurement should be carried out at "working aperture": depress stop-down pin 27 until it engages → fig. S. Simultaneous illumination or flashing of all LED's (with otherwise correct setting) indicates incorrect setting of the stop-down pin if lens without aperture simulator or no lens inserted at all. Working aperture measurement is also possible with original lenses, either with or without automatic control.

### Shooting

Hold camera firm and steady, if possible with support and ensure a firm stance – then fully depress shutter release 37 *past first pressure and past second pressure* – the picture will be ideally exposed at the shutter speed indicated by continuous illumination.



## Using cable release

With long exposures, as from about 1/30 sec screw cable release into socket 35 and use tripod or firm camera support. Time exposures → Hint 5.

## Using the self-timer

Set lever 14 to index "10" → fig. T. Fully depress shutter release *slowly and gradually*, the red diode 16 lights up. When the button is released the delay time of 10 sec starts to run; the red diode 16 extinguishes when exposure commences.

To interrupt the self-timer: *during* the delay time depress the shutter release *again* and keep it depressed. Restart delay time by letting go the shutter release.


To switch off the self-timer: move setting lever to ● *before* the delay time starts to run.

The self-timer should also be used for hand-held shots of stationary objects at 1/30 sec and over to permit exposure with minimum camera shake.

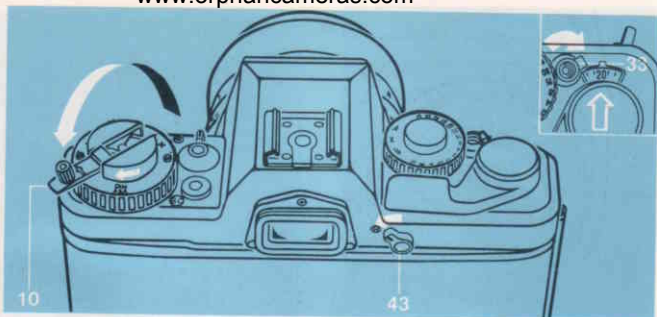
Note: the self-timer is inoperative when the shutter is set to X and B → Hint 3.

## After each exposure

Let go the shutter release and (after the shutter action) fully cock lever 44 and allow to spring back → fig. M. When shooting in rapid sequence keep the camera held up to your eye. The cocking lever can be actuated in a single operation or in stages and when not in use should be returned to the stop. Before longer intervals between shooting secure shutter release with lock 33.

The frame counter 31 indicates how many exposures have been taken on the film loaded. The 20th and 36th exposure (corresponding to 20 and 36 exposure films) are marked in orange, the intermediate readings being indicated by strokes. After the 36th exposure, according to film length and whether the leader has been fully used up, it is sometimes possible to expose further frames. When these additional frames are used the  will appear in the window (do not use force as this may cause scratching or even tearing of the film).

Note: the frame counter only works with loaded and advanced film and with the camera back closed; when the shutter is next cocked it springs back to "S".



U

### After the last exposure

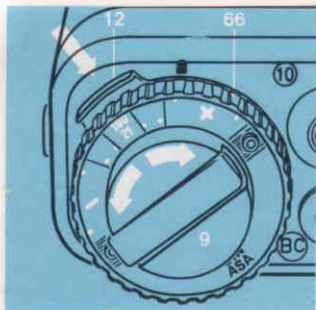
Secure shutter release, engage lock 33 against red index. Set rewind lever 43 to R → fig. U. Unfold rewind crank 10 and turn in direction of arrow until the resistance from the film tension ceases. When rewinding the film the frame counter also runs back and finally stops at "S" (rewind check) – the film leader remains *outside* the cassette. If the film is wound back further the "S" will continue to appear – the film leader is *inside* the cassette. Push up or remove eye cup, pull up crank 10. Fully open the camera back 3 after it springs open, pull rewind knob out to its fullest extent and remove the cassette. The film should be removed at least in the shadow of your body, bright sunlight and dust should be avoided.

### Practical hints

#### Memory metering

**Normal condition:** subject illuminated from the front or diagonally from the side – highlights and heavy shadows are absent, light and dark areas are balanced.

**Special condition:** high brightness contrast between main subject and surroundings – backlit shots, persons in bright sunlight in front of areas of snow or ice, mediterranean beach scenes etc., center of interest being only a small part of overall picture area (e.g. portraits not filling the frame against the sky as background).



V

Measurement from the actual exposure position would lead to incorrect exposure. A remedy can be the following

**Close-up reading:** Take the camera close up to the subject until the main subject mainly or completely fills the viewfinder. Measure the exposure, then take up *second pressure* on the shutter release and hold down—→fig. N, in order to keep the correct reading now taken; then take the picture from the original position. If a close-up reading is not possible we recommend the

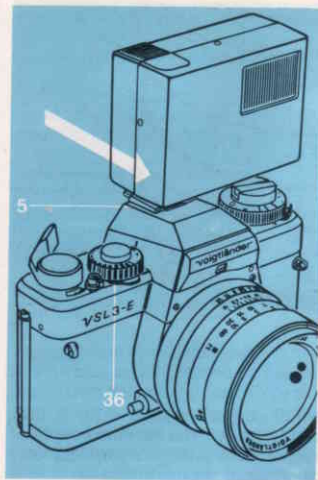
**Substitute measurement:** Point the camera at a similar subject (if necessary the back of your own hand) with normal range of brightness and uniform illumination (you can also use a "grey card" available from photographic dealers for this purpose). Measure the exposure, keep reading by taking up *second pressure* with shutter release, then expose according to this reading.

### Continuous exposure correction

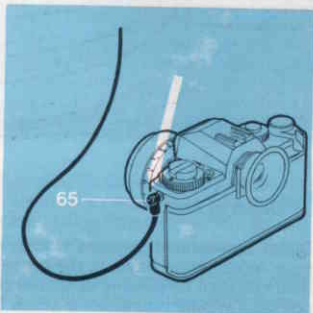
Depress lock 12 and turn setting ring 66 (together with cover disc 9) allowing to engage—→fig. V. In case of over-exposure turn in direction of +, in case of under-exposure in direction of -. The exposure will be corrected by 1/3 light value from one engagement point to the next; the inner dots correspond to half or double and the outer dots to 1/4 or 4 times exposure.

Note: *any* position of engagement can be used even past the dots marked on the cover disc.

The continuous exposure correction is advisable when all exposures of a series or of a complete film should intentionally be over- or underexposed (at variance with the rated speed).



W



X

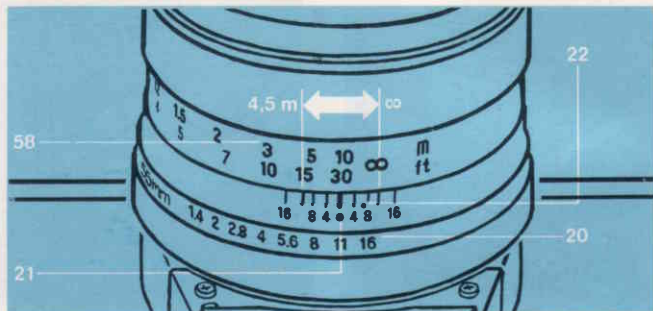
### Exposure with flash

Fit flash unit *with* center contact in hot shoe 5 → fig. W. Fit flash unit *without* center contact by means of the flash bracket to tripod bush 53. The necessary flash cord between flash unit and camera should be connected to flash terminal 65 → fig. X. When using a flash cord synchronization the hot shoe will no longer be live.

Set shutter speed dial 36 correctly: for flash bulbs or flash cubes set to 1/30 to 16 sec – for electronic flash with a flash duration *below* 1/800 sec, set to X or between 1/125 and 16 sec; for electronic flash with a flash duration *over* 1/800 sec, set to 1/60 – 16 sec.

**Important:** Electronic flash exposures *with self-timer* should only be made at settings between 1/125 and 16 sec, as on X setting the electronic system and thus the self-timer as well are switched off. Check the setting selected using the red LED display in the viewfinder!

Flash exposures are also possible on automatic setting where the shutter speed indicated in the viewfinder is no faster than 1/125 sec for electronic flash, and not less than 1/30 sec for flash bulbs or cubes.



Y

### Depth of field

**Direct assessment:** depress stop-down pin 27 until it engages → fig. S, thus stopping aperture down to the pre-selected  $f$ -number. The expected depth of field can then be directly assessed on ground glass screen 72 (normally only possible in bright conditions where the aperture is not too small).

**Reading from the depth of field scale:** here from the aperture set on scale 20 it is possible on either side of index 21 to read off the depth of field zone on scale 58 → fig. Y.

Example: 55 mm Ultron  $f/1.4$ , stopped down to  $f/11$ , focused on 10 m (30 ft), depth of field from approx. 4.5 m (15 ft) to ∞.

**Reading from tables:** the depth of field table supplied at request contains all necessary details with scale reading examples.

**With infrared film** (of maximum sensitivity at 770 nm): first focus as usual. Then, read off the distance against index 21, fit infrared filter and reset distance read off against infrared index 22 → fig. Y.

### Time exposures

Mount camera using tripod bush 53; according to the type of tripod mounting use the spacer supplied between camera base and tripod to prevent possible jamming of the lens. A ball and socket head or pan and tilt head will facilitate alignment. Screw cable release into socket 35; the self-timer provides additional protection against vibration when the shutter is released.

Note: In poor light do not take the reading too quickly as the response time of the measuring system becomes somewhat longer.

After exposure measurement, mask viewfinder eyepiece off from extraneous light by pushing up the eye cup if exposure is to take place without continuous checking through the viewfinder.

With electronic exposure

the longest exposure time is 16 sec; if in the process the whole LED row remains illuminated, the correct exposure time should be determined by multiplication.

Without electronic exposure

Example: 100 ASA film, f/2.8, illumination of LED display indicates exposures time over 16 sec. Move setting disc 66 to higher film speed by doubling the ASA values until continuous illumination of the LED row ceases. If the ASA rating found in this way is 400 ASA, the correct exposure will be  $4 \times 16 = 64$  sec at f/2.8, 128 sec at f/4 etc. Here, a double ASA value will mean always doubling the exposure time.

The exposure time determined in this way should be considered as an approximate value and increased by approx. 25 to 50 % (or even more!), as the film reacts with decreasing sensitivity in the case of long time exposures ("reciprocity failure").

Engage shutter speed dial at B, keep shutter release depressed during exposure or secure with lock. It is best to use a cable release with locking device.

### **Exposure in case of battery failure**

When the camera is in continuous use (such as for example with sequences) check battery voltage frequently and change battery at the proper time. If no replacement battery is available, switch off automatic control, set shutter speed dial to X or B. These two speeds are mechanically controlled and remain in operation even in the event of battery failure.

### **Care of the camera**

Cleaning

regularly, at frequent intervals according to use: remove lens from camera and pull off eye cup, remove battery. Fully open camera back 3, push locating pin 1 down, remove camera back from hinge mounts 30 and 34.

Clean camera and accessories inside and out with camel hair brush and rubber blower. Clean the outside parts with a soft dry cloth, glass components with lens cleaning tissue. Do not allow your fingers to come in contact with return mirror 26, camera interior or the segments of focal plane shutter 51. Clean ever-ready case or holdall and lens cases by blowing and brushing out.

Storing

of your camera only with the shutter *uncocked* and the battery removed when not in use.

## Facts and figures

**Type:** Compact 24x36 mm single lens reflex camera with TTL-metering at full aperture and electronic automatic shutter speed control operating by aperture pre-selection.

**Equipment:** Voigtländer QBM-bayonet for interchangeable lenses, lens adapters, extension tubes and bellows;  
combined shutter cocking and film advance lever, double exposure and blank frame lock;  
detachable back;  
combination button for battery switching, exposure metering, meter memory reading and shutter release;  
lockable cable release socket, self-locking stop-down pin for working aperture metering and depth of field check;  
camera provided for motor drive, auto winder as accessory;  
self-zeroing forward and reverse counting exposure counter, also acting as film advance and rewind check;  
1/4" tripod bush, neck strap lugs.

**Viewfinder system:** Pentaprism, instant return mirror;  
Δ interchangeable bright focusing screen with diagonal split-image viewfinder, microprism ring and ground glass screen with Fresnel lens;  
achromatic interchangeable full-figure viewfinder eyepiece, field of view 93°, with mount for viewfinder accessories, sliding fold-back eye cup acting as eyepiece mask;  
shutter speed scale with optoelectronic display using 16-digit GaAsP LED row, over- and underexposure warning signal, warning signal for incorrect setting of stop-down pin, reflected aperture indication\*;  
low power consumption by virtue of time/multiplex-control of LED warning signals.

**Exposure measurement:** Through-the-lens system with silicon photo diode, integral and center-weighted, metering program switched on by combination button;  
alternatively open aperture or working aperture metering according to lens equipment and connection;  
film speed setting from 25-6400 ASA/15-39 DIN, exposure correction disc, digital meter memory reading by combination button;  
measuring range with 100 ASA/21 DIN film and f/1.4 lens exposure value (EV) 1-18 or 0.5-32,000 cd/m<sup>2</sup> or 0.8-100,000 asb.

**Focal plane shutter:** Vertical acting metal oscillating leaf design, electronically controlled speeds 1/1000-16 sec, mechanically controlled speeds X (with 1/125 sec) and B, partially locked shutter speed dial with 4-colour marking;  
shutter release direct by combination button or cable release, indirect with self-timer.

**Self-timer:** With electrical function, activated by combination button, delay time of 10 sec displayed by LED on camera front; cancellation of time delay before release.

**Flash synchronization:** By X hotshoe contact or X cable contact socket on camera body, hotshoe contact dead when cable connected; synchronization 1/125 to 16 sec for electronic flash, 1/30 to 16 sec for flash bulbs or cubes, automatic flash lock when shutter speed too fast; synchronization optionally with or without automatic exposure control and also with self-timer.

**Power supply:** 1 6V silver oxide battery e.g. Mallory PX 28, Varta V 28 PX or equivalent types, for all electr. measurement and control functions; current consumed only when combination button depressed, switch-on prevented by locked combination button.

**Dimensions:** 135 x 86 x 49 mm/5.31 x 3.39 x 1.93 in without eye cup and lens, 135 x 86 x 99 mm/ 5,31 x 3.39 x 1.97 in with eye cup and 50 mm f/1.8 lens.

**Weight:** 540 g/19.05 oz without eye cup, battery and lens, 760 g/26.81 oz with eyecup, battery and 50 mm f/1.8 lens.

**Interchangeable lenses:** Wideangle lenses of 14 mm/f 3.5°, 21 mm/f 4, 28 mm/f 2.8, 35 mm/f 2.8; standard lenses of 55 mm/f 1.4, 50 mm/f 1.8; telephoto lenses\*\* of 85 mm/ f 2.8, 105 mm/f 2.8, 135 mm/f 2.8, 200 mm/f 3.5.

**Accessories<sup>†</sup>:** Lens hoods and filters.

Retroadapter, microscope adapter, M 42 adapter, set of extension tubes, bellows; auto winder.

Supplementary lenses, right-angle viewfinder; interchangeable focusing screens, interchangeable eyepieces, folding eye cup.

Ever-ready case, caps for camera body and lenses; carrying strap, non-slip shoulder pad.

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Δ by Voigtländer service

\* with original lenses

° Fisheye lens with 4 built-in filters

\*\* with built-in sliding lens hood

+ in some cases included with camera and lenses

Technical modifications and inclusion of accessories reserved



