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Leica R3 and R3-MOT

Instruction Manual

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You will quickly make friends with your new LEICA® R 3/R 3-MOT. It is a modern single-lens-reflex camera with automatic shutter control, offering the choice of integrating or selective light metering through the lens. The "automatic" setting of the shutter speed dial allows rapid picture taking without problems, (see also the enclosed Brief Instructions).

After switchover to manual operation the LEICA R 3/R 3-MOT opens up all possibilities for individual pictorial composition. The large, bright viewfinder of the LEICA R 3/R 3-MOT supplies the necessary information. It is the control and composition centre: focusing, exposure measurement, assessment of the pictorial effect and perspective are virtually simultaneous. The LEICA R 3-MOT with MOTOR WINDER extends the possibilities of dynamic photography and fully automatic photographic recording. The arrangement of all the controls is so convenient that the few necessary actions soon become second nature. All the same, please take the trouble to read these brief instructions, and you will derive even greater enjoyment from taking pictures with your new LEICA® R 3/R 3-MOT.

ERNST LEITZ WETZLAR GMBH

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Brief description for the reader in a hurry

- | | |
|---|--|
| 1 Selector for multiple exposures | 7 Illuminating window for shutter speed indication |
| 2 Rapid shutter wind and film transport lever | 8 Locking button for DIN/ASA setting of the exposure meter |
| 3 Release button with thread for cable release | 9 Folding rewind crank |
| 4 Shutter speed dial | 10 Push-button for exposure corrections |
| 5 Selector for integrating or selective light measurement | 11 DIN scale |
| 6 Accessory shoe with flash contact | 12 Self-timer (delayed-action mechanism) with separate release. In the LEICA R 3-MOT the function of the self-timer is |

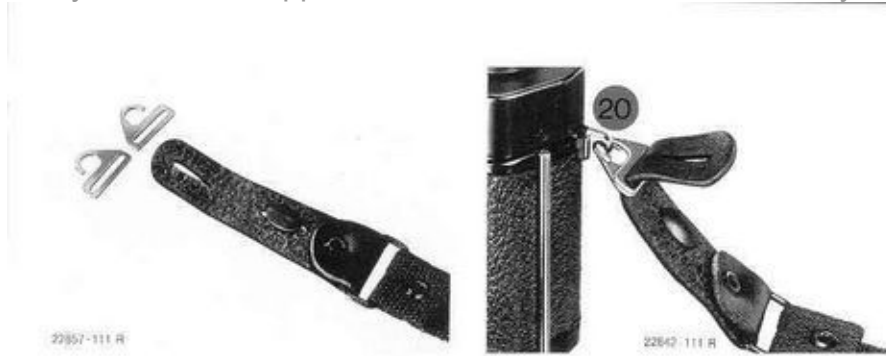
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- | | |
|---|--|
| performed by the RC LEICA R electronic unit | 22 Battery test knob |
| 13 Lens bayonet catch | 23 ASA scale |
| 14 Depth-of-field lever | 24 Viewing window for loaded film |
| 15 Red dot mark for lens change | 25 Eyepiece shutter |
| 16 Diaphragm preselection ring | 26 Viewfinder window, mount for correction lenses can be pushed on |
| 17 Depth-of-field scale | 27 Camera main switch |
| 18 Distance-setting ring | 28 Control window for film transport |
| 19 Contact bushes for flash units | 29 Automatic film counter |
| 20 Eyes for the carrying strap | 30 Battery cover |
| 21 Illuminated window for battery test | 31 $\frac{1}{4}$ " tripod thread |
| | 32 Bush-button for rewind release |

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Attaching the carrying strap

The eyes (20) serve for attaching the carrying strap. Detach the doubled leather strap from the round part of the shackle, pull both metal parts off and hook them into the camera in opposite directions. Push the leather holder back through the slots of the metal parts provided for it, and button it on the round part of the shackle.

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Inserting the lens

Pick up the lens on the fixed ring (17). The red dot (15) on the lens mount must face the bayonet catch (13) on the camera body. Insert the lens in this position. After a short turn to the right the lens clicks into position.

Attention: To ensure coupling with the spring-back diaphragm, do not depress the depth-of-field lever (14) or leave the shutter open when inserting the lens.

Taking out the lens

The LEICA R lenses are exchanged as follows, independently of the setting of distance and aperture:

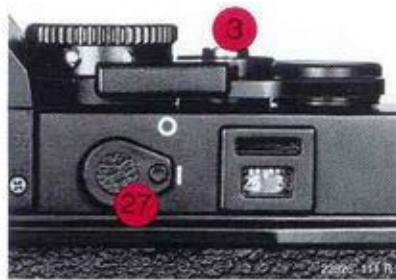
Grip the fixed ring (17) of the lens, depress the bayonet catch (13) on the camera.

Turn the lens to the left and take it out.

Change lenses only in the shadow of your body.

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Switching on the camera

The electronic shutter and exposure meter of the LEICA R 3 are switched on with the main switch (27). To save the battery, switch off the camera during prolonged non-use. When the camera is switched off, the functions are disconnected and the release (3) is blocked.



Testing the batteries

The LEICA R 3 requires electrical energy for the exposure measurement and shutter control. Two silver oxide button cells of 1.55v each serve as current source, whose energy is theoretically sufficient for the exposure of about 400 films of 36 exposures each at $\frac{1}{30}$ sec. When the camera is switched on, a set of batteries has a life of up to 2 months. The manufacturers claim a life of 1-2 years for the switched-off battery. It is therefore recommended to carry out the battery test before the camera is used — especially after a long interval. Depress the test button (22) (also indicator for the DIN setting) with a fingernail. A red warning

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light in the window (21) reliably indicates whether the available energy is still sufficient. Only when the warning light fails to light up are the silver oxide button cells discharged below their operational value or exhausted and must be exchanged to avoid faulty exposures. If no fresh button cells are available, it is possible to work with the shutter speeds X ($= \frac{1}{90}$ sec) and B **with the battery set removed**. Exposure measurement, however, is not possible. Attention: Always take out exhausted batteries.



Changing the batteries

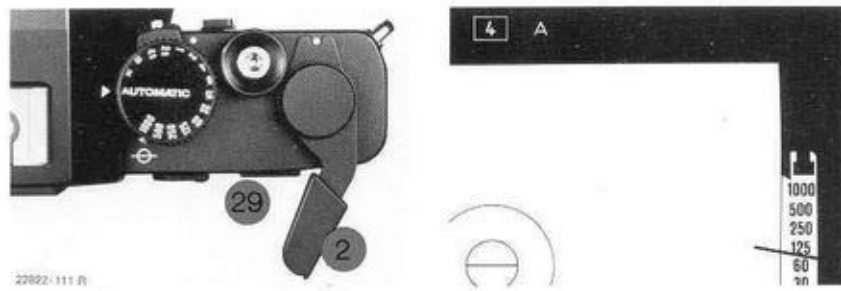
Unscrew the cover (30) on the underside of the camera body with a coin. Replace the exhausted batteries in the holder with new ones. Make sure that the engraved details face upwards.

The following silver oxide button cells can be used:

Varta	V 76 HS	Mallory	MS 76 H
Ucar	S 76 E	Eveready	S 76 E
Ray-o-vac	RS 76 G	National	G 13

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Rapid winding lever

The rapid winding lever (2) winds the film through 1 frame at each full stroke, cocks the shutter and advances the film counter (29).

The composition and control centre

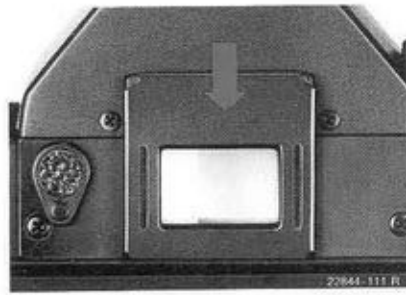
The viewfinder of the LEICA R 3 is both the control centre for all important items of information: focusing, picture area and perspective, measuring field for selective and integrating light measurement and display of the chosen measuring mode (in model R3-MOT only). The F/stop number is read above the view finder image. It is reflected directly from the lens barrel into the view finder via an optical system. Also seen is the shutter speed selected or an orange letter 'A' if automatic operation has been chosen. The pointer of the exposure meter indicates the electronically calculated exposure time on the righthand margin of the viewfinder image.

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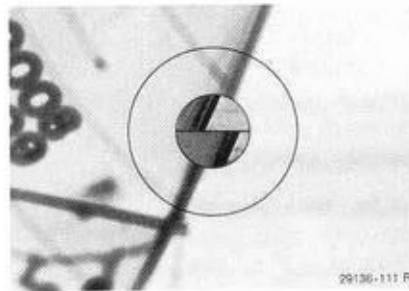
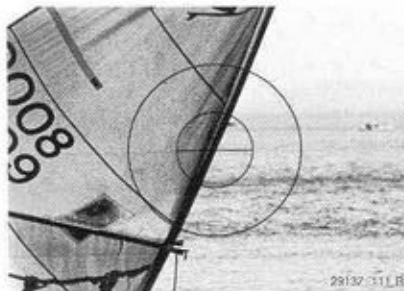


Correction lenses

To exhaust the possibilities of the LEICA R3 and the excellent performance of the LEICA R 3 lenses fully, the viewfinder image of the camera must be seen by the user at optimum sharpness whether he looks through the eyepiece with or without spectacles. It is important to see the measuring edge of the split-image rangefinder at maximum sharpness and with good contrast. Many people suffer from minute visual defects, which remain unnoticed until maximum accuracy of adjustment of eye and instrument is essential during the use of optical instruments, such as a viewfinder eyepiece.

If any difficulties are experienced in focusing, the use of LEITZ correction lenses for the LEICA R 3 is recommended. They are supplied in the following + and — values: 0.5, 1.0, 1.5, 2.0 3.0 (please enclose your optical prescription with your order). The additional use of correction lenses may be an aid also to spectacle wearers if they cannot see objects at optimum sharpness at a distance of 1m (without looking through the camera eyepiece).

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Focusing

The distance setting ring (18) on the lens is turned to focus the image.

Unless the image is in perfect focus, edges and lines of the object are mutually displaced in the horizontal split-image field of the viewfinder.

The central split wedge is surrounded by a ring with a square microprism screen, which serves for the focusing of objects with weak contours. Notable flickering indicates that the image is not focused properly.

The surrounding field consists of ground triangular microprisms, which produce a groundglass screen effect. The surrounding

field is used for focusing mainly with long-focal-length lenses and in the close-up range, or if the pictorially important feature is situated outside the measuring field.

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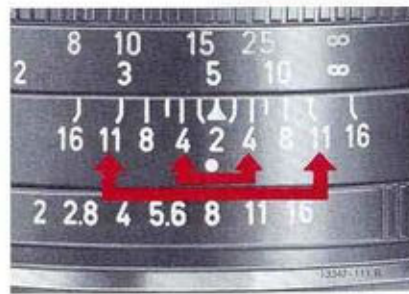
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Depth-of-field lever

The LEICA R 3 measures the exposure at full lens aperture. The depth-of-field lever (14) permits the assessment of the depth of field to be expected with the preselected aperture value in the viewfinder. When the lever (14) is operated, the lens diaphragm closes to the preselected aperture value.

Please note: Do not depress lever (14) during exposure measurement to avoid wrong results.



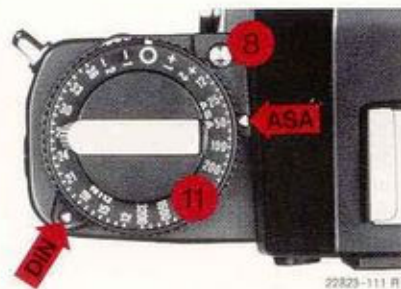
Depth-of-field scale

The depth-of-field scale indicates the extent of the depth of field for the focusing distance set.

If, for instance, you have focused the 50mm SUMMICRON®-R f/2 lens at 5m, your object will be in focus from 3m to about 20m when the lens is stopped down to f/11. If, however, you stop down only to f/4, the depth of field will extend from 4m to about 8m.

More detailed information about depth of field with all focal lengths is contained in our Depth-of-field Table No. 110-57.

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Exposure meter

Setting the film speed

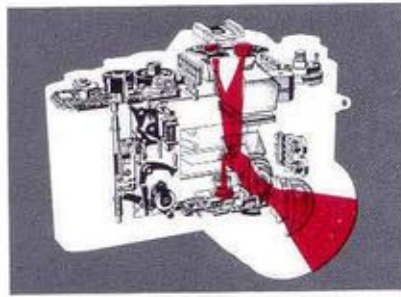
Correct setting of the film speed is essential to correct exposure measurement. The setting ring (11) has a scale of DIN/ASA values. To set the value for the film in the camera depress the locking button (8) and at the same time turn ring (11) until the desired figure faces the index mark.

The viewing window (24) in the camera back indicates whether a film has been loaded. As a rule, type of film and film speed can also be read.



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Choice of Measuring Method

The LEICA R 3 has an exposure meter for two different methods of measurement — integrating or selective. The exposure is measured through the lens.

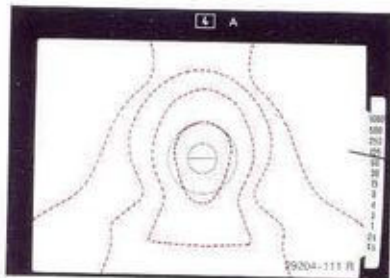
In conjunction with the LEICA-R lenses measurement is carried out at full aperture. With the selector (5) the exposure measurement is preselected. The symbol integrating (□) or selective (●) of the measuring method set appears when you depress the white button and move the switch according to the desired setting. In the LEICA R3-MOT the chosen measuring mode is also displayed in the viewfinder window.

Most subjects are composed of details of different brightness. The reflection of such average subjects is about 18%. This corresponds to a mean grey value.

Generally the details of different brightness are evenly distributed throughout the entire subject. For such cases the largefield integrating measurement is chosen. Selective light measurement will be used whenever

1. great brightness differences occur in the subject,
2. the image is to be measured accurately
3. a certain detail is to receive precise exposure.

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Largefield integrating measurement

Two CdS double photo-resistors are arranged above the viewfinder prism for largefield integrating measurement. They are coupled with the CdS double photo-resistor built into base of the camera for selective light measurement. This ensures that about 80% of the entire picture area is measured, with the centre and the area a little below it being weighted compared with the rest of the picture area.



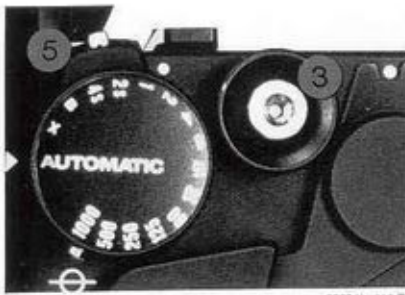
Selective light measurement

Part of the light coming through the lens is deflected to the CdS double photo-resistor in the camera base via a cylindrical deflecting mirror installed behind the partially-transmitting hinged mirror. The arrangement of the CdS double photo-resistor for selective light measurement has been chosen so that no stray light can influence the measurement. The measuring field is clearly defined in the viewfinder by the large central circle, has the same size irrespective of the focal length of the lens, and is prominently indicated.

The measurement method set with the selector (5) can be identified without the need

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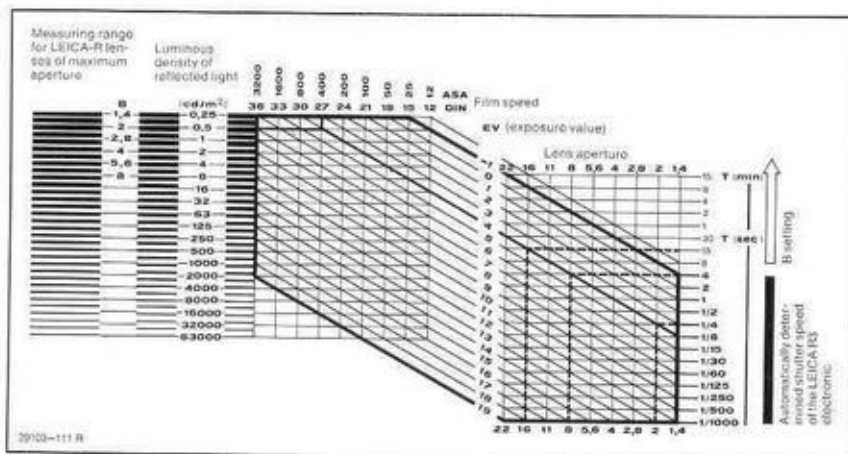
22824b-111 R

Nomogram of the exposure meter of the LEICA R3

The nomogram provides all the important data of the exposure meter system of the LEICA R3, such as the measuring sensitivity and measuring range as well as what extreme shutter speed can still be measured at a given lens aperture and film speed.

for taking the LEICA R3 from the eye: only with the selective light measurement setting will the measuring pointer move downwards when the strain of the release button (3) is taken. In the LEICA R3-MOT the chosen measuring mode is also displayed in the viewfinder window.

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Example

Lens: 50mm SUMMICRON-R f/2

Set aperture: f/2

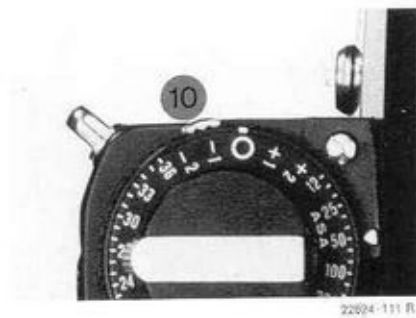
Film speed: 400 ASA (27 DIN)

The minimum luminous density measured is 0.5cd/sq.m. This corresponds to the exposure value (EV) 4 and indicates a shutter speed (T) of 1/4sec, or, at f/8, of 4sec.

The nomogram also shows that at f/16 the film must be exposed for 15 seconds. Shutter speeds of up to 4 seconds are determined electronically; longer exposure times of any duration can be obtained manually with the "B" setting.

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Exposure corrections

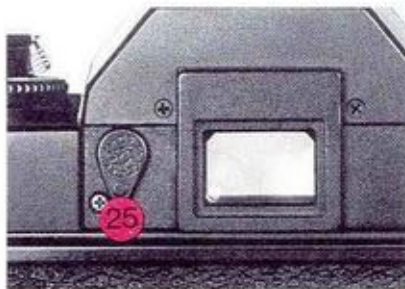
The exposure meter is calibrated for a mean grey value. With largefield integrating measurement it may therefore be desirable, for instance for pictures in the snow or of bright sand to feed a general correction of +1 aperture value. Contre jour subjects may require an adjustment of +2 aperture values. A minus correction must be made for mainly dark subjects such as pictures in twilight or at night. Press button (10) for the adjustment.

Exposure corrections are limited at the end values of the DIN/ASA scale.

The same applies to selective light measurement. It is, however, possible as a rule to

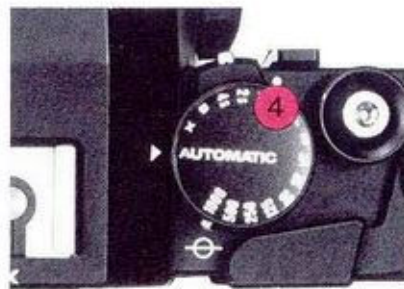
take a reading of a representative detail of mean grey value from the whole subject because of the smaller and exactly defined measuring field. In these conditions no correction is required.

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Eyepiece shutter

Part of the exposure meter for largefield integrating measurement is housed in the prism seating of the camera. With the setting at largefield integrating measurement light entering through the eyepiece may therefore affect the result of the measurement if the user, for instance when working with a tripod, does not look through the eyepiece. To close the eyepiece, it is covered by shifting the lever (25) towards the ocular.



The shutter speed dial

With the "Automatic" setting the electronic shutter is controlled to give **continuously variable** values. All shutter speeds between $1/1000$ and 4sec are automatically determined and indicated by the pointer of the exposure meter on the shutter speed scale on the right in the viewfinder.

Shutter speeds are manually set with the shutter speed dial (4). Press chrome button on edge of shutter speed dial to release dial from "Automatic" setting. These engraved values, too, are electronically determined. The shutter speed dial can be set before or after film transport and clicks

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into position at the engraved values. It does **not provide for intermediate settings**. At the "B" setting the shutter remains open as long as the release button is depressed.

When electronic flash units are used the setting is at "X" (further details: Flash Table). The same setting ($= 1/50\text{sec}$) is used when the batteries are defective (see p. 9).

Automatic operation

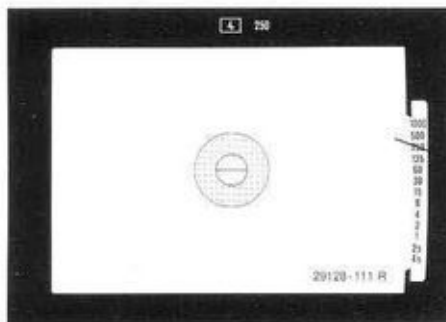
Set the shutter speed dial (4) at "Automatic". An orange-coloured letter "A" appears in the top of the viewfinder. The automatically determined shutter speed is indicated by the measuring pointer on the shutter

speed scale along the right-hand margin of the viewfinder. The shutter speed can be varied with variations of the aperture value.

With the setting at selective light measurement, the measured value can be stored with slight pressure of the release button (3) (taking up the slack); now the desired picture area can be determined. The storage process is indicated by the rapid downward movement of the exposure meter pointer. Continued taking up of the slack stores the value for about 30sec.

Attention: Do not touch the release button before raising the camera to your eye, to avoid faulty exposures owing to accidental storage of the measured value.

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Manual operation

A) With aperture preselection

After aperture preselection set the shutter speed dial (4) at the value indicated by the exposure meter pointer. Selected shutter speed appears in the top of the viewfinder.

B) With shutter speed preselection

Set the shutter speed and adjust the measuring pointer of the shutter speed scale to the preselected shutter speed value by turning the diaphragm ring (16) of the lens.

With manual operation set only full shutter speed values for both measuring methods.

Carry out any corrections with the diaphragm ring (16).

Measurement through working aperture

Some accessories, such as extreme telephoto lenses, the ring combination for the close-up range, and the focusing bellows-R, do not include an automatic spring-back diaphragm. The shutter speed must be measured through the working aperture. Here the photo-resistor receives more or less light as the lens aperture is adjusted. The rest of the operation is identical with that of lenses with automatic spring-back diaphragm.

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The use of filters

Generally, light metering through the lens automatically allows for the loss of energy caused by filters. But the sensitivity of various films in certain regions of the spectrum differ. With dense and extreme filters deviations from the measured shutter speed can therefore occur.

Orange filters, for instance, thus require as a rule an increase by 1 aperture value, red filters on average by about 2 aperture values. A generally valid figure cannot be given because the red sensitivity of black-and-white films varies widely.

With the circularly polarizing filters supplied with our lenses, measurement and settings can be carried out as with ordinary filters. With polarizing filters without circular effect, the slowest shutter speed is determined by rotation of the filter and set, the desired effect obtained and the exposure made.

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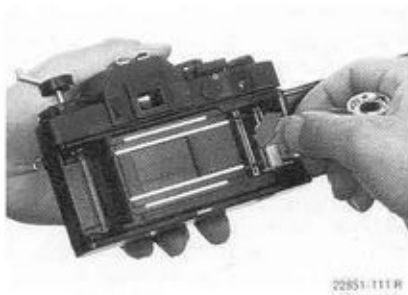


Inserting the film

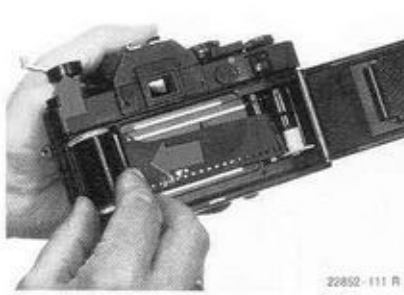
Open camera back; pull up the rewind crank (9). After a spring resistance is overcome the camera back opens automatically. The film counter (29) returns to "S". Wind the camera and press the release button. Insert the end of the film in one of the slots of the take-up spool as shown in the illustration. Ensure that the film is gripped by at least one retaining bracket.

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Now insert the film cartridge in the empty chamber. It may be necessary briefly to pull up the rewind crank. Push the rewind crank in. The edge of the film must be parallel to the film guide, and the sprockets of the transport drum must engage the perforation holes of the film leader when the rapid winding lever (2) is slowly moved as far it will go.



Close the camera by snapping the back shut. Release the shutter. Wind the film on once and again release the shutter. Wind the film on again. The camera is now ready for exposure. The film counter (29) points at 1. The film is correctly inserted and wound when an orange-coloured mark appears on the left in the control window (28), moving towards the right as more and more exposures are made. Push the beginning of the film into one of the slots of the take-up spool from the top and the left.

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Removing the film

After the last frame of the film has been exposed, increased resistance of the rapid winding lever (2) will be noticed. To remove the film from the camera, it must be re-wound into its cartridge.

Press the rewind release button (32) on the underside of the camera body, unfold the rewind crank (9) and turn it in the direction of the arrow until you feel a slight resistance; after a further full turn the film will have been wound back into its cartridge. Pull out the rewind crank (9), open the camera body and take out the cartridge.

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Holding the camera correctly

Grip the camera with your right hand to ensure steady 3-point support. The index finger lies on the release button (3), the thumb against the rapid winding lever (2). The left-hand supports the lens from below.

Simply rotate the LEICA R 3 when taking upright pictures. The hands remain in the same position as for horizontal pictures, ready to wind the film and to focus.

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Multiple exposures

Make your first exposure. Set the selector (1) to the right at symbol (••) before you move the rapid winding lever (2) again. The already exposed piece of film can now be exposed again. At the end of its travel the rapid winding lever automatically returns the selector to single exposure, symbol (•). If further exposures are desired on the same piece of film, the selector must be set at multiple exposure, symbol (••), each time the rapid winding lever is operated. On the LEICA R 3-MOT the selector must be returned by hand if multiple exposures are taken during motor winder operation.

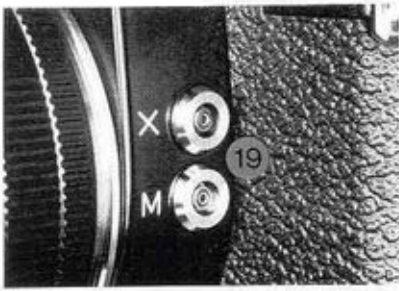
Self-timer (not on model R 3-MOT)

The self-timer (delayed-action mechanism) functions irrespective of the shutter speed. Cock the shutter, wind the self-timer by turning lever (12); the separate release button for the self-timer becomes visible. The delay before the exposure is about 10sec. During this time the lever (12) returns to its end position, releasing the shutter just before it does so.

When the shutter is not wound, the self-timer is blocked before it reaches the end position. Wind the self-timer again and wind the shutter. For structural reasons the LEICA R 3-MOT does not include a self-timer. Its function is performed by the RC LEICA R electronic control unit.

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Flash synchronization

All flash units on the market with standardized flash contacts (coaxial contacts) or with accessory shoe contact can be used on the LEICA R 3.

The 2 contact bushes (19) are situated on the left front of the camera. The upper contact bush, marked X, accepts electronic flash units, the lower one, marked M flash-bulb units. Flash units with accessory shoe contact and adapter without cable connection can be connected via the X flash contact in the accessory shoe (6).

Electronic flash units can be connected either through the accessory shoe or through the X contact bush. The two con-

tacts for electronic flash units must not, however, be connected simultaneously. Flash-bulb units are connected to the M contact bush. Both types of flash can be used simultaneously.

The table on the facing page offers information about the various possibilities.

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LEICA		R 3	
		X contact	M contact
Electronic flash		X (1/90) 4 S → 1/60, B	—
Flashbulb units	AG 1 AG 3 Flash cubes PF 1 XM 1	4 S → 1/30, B	—
	M 2	4 S → 1/60, B	—
	PF 5 XM 5 M 3 25 GE 5	4 S → 1/30, B	1/125 → 1/1000
	FP 26 PF 6 XM 6	4 S → 1/15, B	1/30 → 1/1000
	PF 45	4 S → 1/15, B	1/30 → 1/250
	PF 60	4 S → 1/30, B	—
	PF 100	4 S → 1/15, B	1/30

For flash exposures the camera should be set at "manual".

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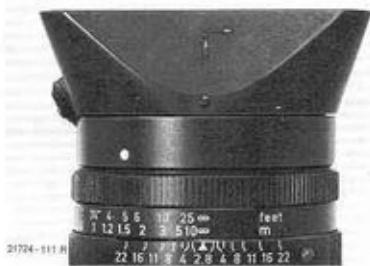
Design of the LEICA R lenses

All LEICA R lenses have the same external design, i. e. the same arrangement of the rotatable diaphragm preselecting ring (16), the fixed ring with depth-of-field indication (17), and the distance setting ring (18). You will very easily become accustomed to using your left hand for quick and confident operation of lenses of all focal lengths.

Automatic spring-back diaphragm

All LEICA R lenses have spring-back diaphragms. This means that the viewfinder image is always — i. e. before and after the exposure — seen at full aperture and therefore maximum brightness. Immediately before the exposure or when the depth-of-field lever (14) is depressed the lens diaphragm closes to the preselected value. For the 35mm PA-CURTAGON®-R f/4, the 400mm TELYT®-R f/6.8, and the 560mm TELYT-R f/6.8 see "Measuring through the working aperture", p. 23.

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Lens hoods

A functionally designed lens hood is part of all LEICA R lenses. It should always be used, because it offers effective protection against stray light and flare as well as rain-drops and fingermarks. To some lenses, the lens hood is attached — white dot against white dot — and secured by a clockwise turn. To unlock it, first lift it slightly, and release it with an anticlockwise turn. The lens hood of these lenses also serves as an adapter for series filters.

The lens hoods of the 50mm SUMMICRON-R f/2, Code No. 11 215 and of long-focal-length lenses are permanently attached and can be extended like a telescope.

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Use of LEICAFLEX accessories

Existing LEICAFLEX lenses must be fitted with a control cam so that the possibilities of exposure available on the LEICA R 3 can be fully utilized. The focusing bellows-R, the ring combination for the close-up range, and all other adapters and intermediate rings also require this for measurement through working apertures.

In addition, the diaphragm setting ring of various LEICA R lenses can also be exchanged, so that it will be possible to read the aperture values in the viewfinder of the LEICA R 3:

35mm SUMMICRON®-R f/2
50mm SUMMILUX®-R f/1.4

60mm MACRO-ELMARIT-R f/2.8
1:1 adapter for the 60mm f/2.8
90mm ELMARIT-R f/2.8
90mm SUMMICRON-R f/2
135mm ELMARIT-R f/2.8
180mm ELMARIT®-R f/2.8
250mm TELYT-R f/4

After conversion, the components remain fully functional on all LEICAFLEX models.

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Tips for care of the LEICA R 3/R 3-MOT and its lenses

It is best to remove dust and fibres on the mirror carefully with a soft, dry sable brush, which must be degreased in ether before and repeatedly during the cleaning operation, but allowed to dry completely before it is used. Dust and fibres on the lower viewfinder plate should be removed only if they severely affect the quality of the viewfinder image.

Strictly avoid touching the viewfinder plate with the metal part of the brush. Important: Do not blow into the mirror chamber, because this may carry dust into the interior of the camera.

A lens acts like a burning glass if it is directed straight at the sun. Protect the interior of your camera with the lens cap, or by keeping the camera in your pocket or in the shade. Each lens has not only its type but also its "individual" serial number engraved on the front mount. Make a note of this number as well as of that of the camera, which you will find on the back of the base-plate of your LEICA R 3. This will be very important in case of loss.

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Dust on the front and rear elements of your lenses is removed with a soft sable brush or very gently with a clean, dry, soft piece of linen. Special cleaning cloths such as are used for the cleaning of spectacles are not recommended because they are chemically impregnated and may attack the glass of your lenses. (Their composition of glass used for spectacles differs from that of optical glass for high-quality camera lenses).

In unfavourable conditions, for instance at sea, in subtropical areas, etc., a colourless UVa filter protects the front element of the lens against external effects, caused, for instance, by splashes of sea water and by sand. An additional colourless and optically flat glass plate, i.e. a filter in the optical path can, however, cause undesirable reflections at certain incident angles of the light, especially in contre jour light and with strong contrast. The lens hood, too, protects the lens against accidental finger-marks and raindrops.

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Accessories

Interchangeable lenses

In addition to the standard lenses of 50mm focal length a large number of other interchangeable lenses form 16 to 800mm focal

length are available. The lenses from 16 to 250mm, except the 35mm PA-CURTAGON-R special lens, include an automatic spring-back diaphragm.

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22648-111 R



22856-111 R

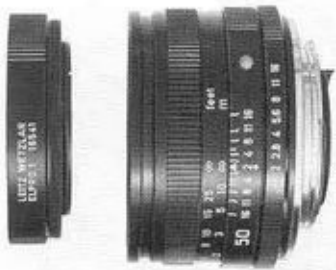
Follow-focus lenses

The 400mm and 560mm TELYT-R f/6.8 lenses of very long focal lengths have a precision parallel guide in which the front part of the lens mount is adjusted for quick and at the same time critical focusing. The focusing mechanism can be released for focusing with a push-button, and clamped at the required setting. In addition to simple operation, light weight is an outstanding feature of these lenses. They are supplied with an adjustable shoulder stock.

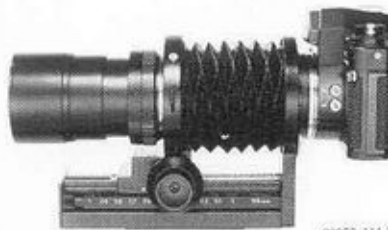
LEICA M lenses on the LEICA R 3

All lenses of the LEICA M range that fit the VISOFLEX® attachment can also be used on the LEICA R. A special adapter (Code No. 14 167) forms the bridge between the two LEITZ systems of 35mm photography. Any vignetting observed in the viewfinder has no effect on the exposures.

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33-106-111



22658-111 R

ELPRO close-up attachments

These attachments extend the focusing range, and as achromatic lens elements also increase the image quality in the close-up range. Even medium apertures produce excellent sharpness. Exposure technique including exposure measurement is the same as in the normal range. ELPRO close-up attachments are available for the 50mm SUMMICRON-R f/2, the 90mm lenses, the 135mm ELMARIT-R f/2.8, and the 180mm ELMAR®-R f/4.

Focusing Bellows-R

The Focusing Bellows-R (Code No. 16860) for the LEICA R in conjunction with the 100mm MACRO-ELMAR f/4 special lens (Code No. 11 230) permits work continuously within the range from ∞ to 1:1. The 50, 60, 90, 135, 180 and 250mm lenses, too, can be used on the Focusing Bellows-R in the near-focusing range.

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Ring combination for the close-up range

A 3-part ring combination (Code No. 14 159), which is used mainly in conjunction with the 50mm SUMMICRON-R f/2 standard lens, permits work within a range down to 1:1 reproduction scale. The combination can be extended at will by the insertion of several middle rings.

It can also be used in conjunction with the 90, 135, 180 and 250mm lenses.

The lens diaphragm can be semi-automatically closed with the twin cable release.



20777-111 R

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22966-111 R

Cases

Two ever-ready cases, one with a normal and another with a large front part are available for the LEICA R 3. The front part can be detached after the press stud on the back of the case has been pushed upwards to unlock it. The two versions of the ever-ready case can be used with the following lenses:

	Standard every-ready case Code No. 14 506	Case with large front part Code No. 14 507
16mm f/2.8	Yes	Yes
19mm f/2.8	—	—
21mm f/4	—	Without lens hood
24mm f/2.8	Without lens hood	Without lens hood
28mm f/2.8	Without lens hood	Yes
35mm f/2	Without lens hood	Without lens hood
35mm f/2.8	Without lens hood	Yes
35mm PA	Without lens hood	Without lens hood
50mm f/1.4	Yes	Yes
50mm f/2	Yes	Yes
60mm f/2.8	—	Yes (without 1:1 adapter)
90mm f/2	—	Yes
90mm f/2.8	—	Yes



22967-111 R

For extensive camera equipment comprising several lenses and various accessories combination cases are available. Further information: List No. 120-42.

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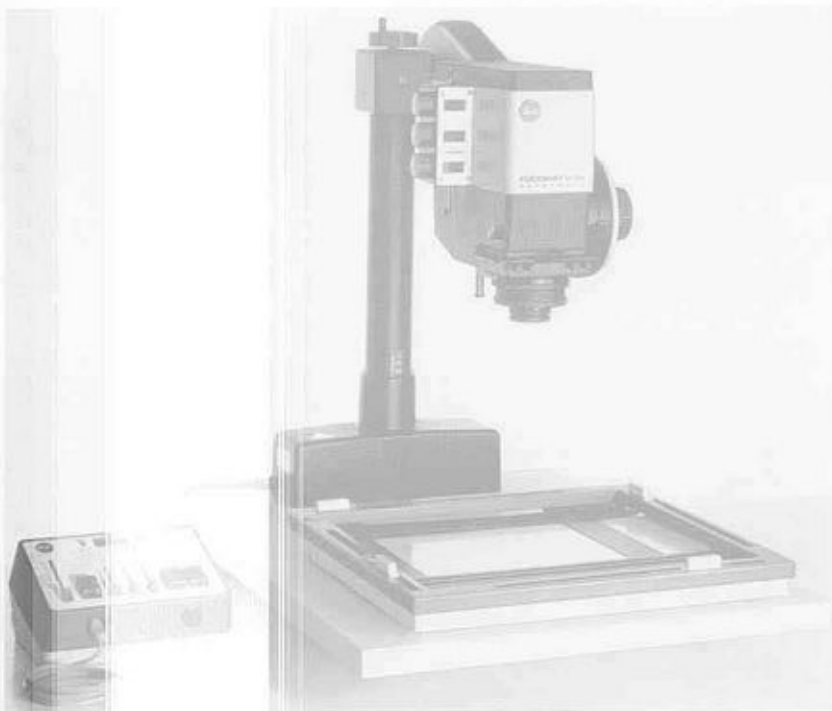
Motor Winder R 3

In combination with the LEICA R3-MOT the MOTOR WINDER transports the film and winds the shutter. Frequencies of up to 2 frames/sec are possible. All shutter speeds from 1 to $1/1000$ sec can be used. The motor winder is powered by six standard midget (we recommend alkali-manganese batteries) batteries or six rechargeable NC batteries of the same dimensions. One battery charge (or recharge) is sufficient for the exposure of about 70 films. Code No. 14 270 With the handgrip with adjustable leather loop the LEICA R3-MOT with MOTOR WINDER R3 can be held more securely and conveniently. Code No. 14 271



Remote-Control LEICA R electronic control unit

This handy control unit combines two functions: it is a remote release with luminous digital display of the completed exposure through feedback from the camera and also a timer for automatic single exposures at variable time intervals. The interval releases can be programmed from about two frames/sec to one frame about every ten minutes. The RC LEICA R has an appliance cable of 2.5 m length and is connected with a screw plug to the 5-pin socket of the motor winder housing. With extension cables the range of the control unit is at least 100 m. Code No. 14 277



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Enlargers

A high-quality camera such as the LEICA R3 demands an enlarger of equal quality. Well-tried top-quality enlargers with automatic focusing, the FOCOMAT® 1c exclusively for the 35mm format, and the FOCOMAT V35 Autofocus as a multi-purpose enlarger for all film formats up to 6x9cm have been part of our production range for many decades. You will find detailed information about them in our lists No. 170-2 and 170-15 respectively.

Projectors

A wide range of projectors is available for every purpose. They offer maximum convenience in operation and versatile extension facilities.

The most outstanding common feature of all LEITZ projectors is optimum optical performance combined with traditional LEITZ precision.

Descriptive literature on request.