LEICA R4-MOT

The camera that can simply do everything.



Leitz means precision.
World-wide

121.111-136 Engl.



LEICA®
always fascinating

During more than 50 years the LEICA camera has become a symbol for innumerable photo-enthusiasts worldwide. It has served as the pioneer and example to revolutionize and formulate the style of modern miniature photography. LEICA is the yardstick for precision and quality, for highest optical performance and long life, for easy handling and quick action.

Photo-journalists, who must record one time events from all over the world, photo hobbyists and advanced amateurs, who wish to take perfect photographs without technical difficulties – all have one thing in common as LEICA owners: Owing a camera which makes photography a fascinating event over and over again.

LEICA R4-MOT –
the easy master of every task.

The LEICA R4-MOT is the 4th generation reflex LEICA. It is both the most universal camera as well as the simplest to operate ever designed and built by Leitz. Its electronics serve primarily to simplify the operation and to increase photo-readiness.

For the photographer this means:

Perfect problem-free pictures. The time tested method of auto-exposure with integrated or selective spot-measurement plays an important role. The basis for optimal accommodation to prevailing tasks required in simple, practical photography is achieved by a **aperture-programmed- and flash-automatic exposure system.**

The LEICA R4-MOT is compact and functional and it fits your hand like a glove. Operating convenience, reliability, excellent optical quality and the worldwide service network make it equally desirable for the professional as well as the serious amateur.

The important camera features appreciated by LEICA-owners are not in the least the result of almost 150 years of experience by Leitz in the manufacture of precision instruments for quality control and microscopes for research.

Hardly anyone in the world can put more precision manufacturing experience, high-quality optical manufacture or technical perfection into a camera than Leitz can. Therefore, the LEICA R4-MOT will fulfil the very highest of expectations.

Manufacture follows the well established Leitz manufacturing tolerances at Leitz/Portugal, where the LEICA R3/R3-MOT were produced. There is no assembly-line operation and no compromises are made in the name of mass production. Assembly is accompanied through a multitude of intermediate test stations in order to assure the required high quality level.

The LEICA R4-MOT-system comprises lenses with focal lengths from 15 to 800mm. A number of the world-reckoned LEICA-lenses are manufactured in Leitz-Canada. Final quality control of all Leitz-products is carried out in accordance with the most stringent performance tests and legendary Leitz quality assurance.

The Leitz seal of quality assures optimal manufacturing technology, precision and longevity; it is insured by means of the well-known international Leitz-warranty.

LEITZ means precision.
World-wide.

The specific plus points of the LEICA R4-MOT

LEICA has decisively influenced photography right from its first production series. Its technology established the style of important photographers and provided a path for the amateur to picture-perfect photography.
The LEICA R4-MOT continues this tradition. It enables the photographer to picture each scene, every situation with optimal effectiveness under all light conditions. It adapts to the photographer's wishes and solves all requirements as needed in the varied photo tasks.
The photographer may concentrate his attention entirely upon the scene, without worrying about technique. The LEICA R4-MOT is prepared for all events.

The name LEICA stands for reliable functioning, steady performance even under extreme conditions.

The elegant design yet compact construction melt into the extraordinary appearance of the LEICA R4-MOT.

With the immaculate **LEITZ black chromium finish** the camera looks like new even after a long time of use.

Well-balanced proportions designed with an eye to easy operation make the LEICA R4-MOT a pleasure to handle. Thus the camera allows strain-free, quick and reliable photography in all situations.

The **alternative light metering modes** – integrating and spot reading – are combined with the autoprogrammes. Exposure times and f-stops can be automatically controlled selectively.

Its **multi-autosystem** adjusts the LEICA R4-MOT extremely well to all the varying photographic conditions.

With its **auto-programmes** the LEICA R4-MOT performs all functions simply. The electronics allow easy and care-free photography.

The **vertical-action metal blade focal plane shutter** gives the LEICA R4-MOT a uniquely easy shutter wind and with a silky soft release it produces optimum conditions for vibration-free exposuring.

Replaceable focusing screens allow best possible LEICA R4-MOT application to all fields of photography.

The **highest care of design** is extended down to minute details: For instance the special coating for the mirror resulting in brillant viewing images and highly accurate exposuring.

Motor-Winder and Motor-Drive extend the possibilities of dynamic photography.

The LEICA R4-MOT is the **platform for a universal system.** Lenses of focal lengths from 15 to 800mm most certainly cover the full range of photography. All LEICA R3/R3-MOT lenses fit the LEICA R4-MOT.

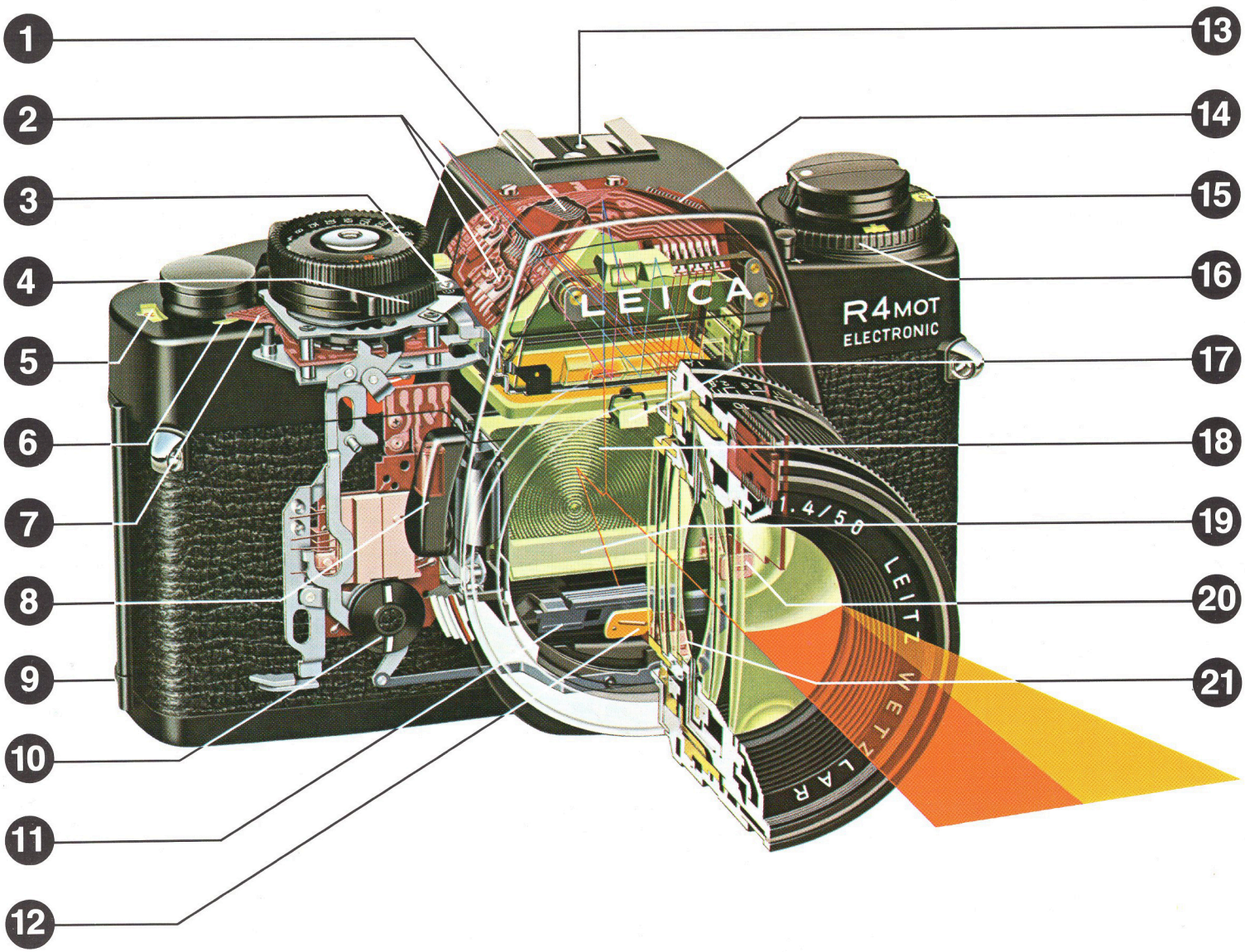
The large, reliable LEICA-R-bayonet ensures rapid lens changing. Precision seating dimensions are guaranteed even after prolonged and frequent use.

The world-wide warranty means quick and moderately priced inspection, maintenance and repair services offered by 120 LEITZ agencies and a dense franchized dealer network.



The picture shows the LEICA R4-MOT in its natural size.

The LEICA R4-MOT
Modern technology for successful photography



1 IC for exposure determination and shutter speed setting
This IC contains the entire control module for the electronically operated exposure times.

2 Exposure balancing potentiometer
The balancing potentiometer is responsible for achieving the correct exposures times for each program when lighting conditions are the same.

3 Program indication
The program can be seen on the outside of the camera without switching it on.

4 Program selection
The LEICA R4-MOT combines, together with both methods of exposure determination, namely, integral and selective, the different exposure determining modes – five different programs. These programs are set instantly by means of a program selector using the slight touch of one's finger.

5 Automatic frame counter
The frame counter counts forward and resets itself automatically to zero when the camera back is opened.

6 Film transport
The LEICA R4-MOT maintains perfect control with respect to film transport and rewind. The film is transported properly when the control window shows a bright field which, as shooting progresses, increases in size in the front of the camera.

7 Electronic switch plate for program selection
Depending on the program selected, the six switches of the switch plate convert the values measured by the exposure meter into appropriate signals for time, diaphragm opening and signal panel in the viewfinder.

8 Depth of field lever
Being able to set the depth of field by changing the diaphragm setting of the lens is an important aid to image composition. Depressing the lever will allow the user to check the depth of field within the viewfinder.

9 Interchangeable back
The camera back of the LEICA R4-MOT can be removed easily. It is replaceable by either a data back or a 250 exposure back.

10 Switch for electronic self-timer
The self-timer works at all exposure times. It takes about eight seconds.

11 Slider for integrating/selective-measurement
While selecting a program-mode, the method of exposure determination follows while a collecting lens slides into place.

12 Silicium-photocell
The silicium-photocell in the LEICA R4-MOT is sensitized to the average color sensitivity of color films. Thus the proper exposure time does not depend on the color of the scene. The measurement result is not incorrect when shooting single-color subjects.

13 Contact for automatic flash
Problem-free flash photography is achieved via a compatible combination of electronic flash units working harmoniously with the electronics of the LEICA R4-MOT.

14 IC to process measured values, diaphragm setting and caution-functions
The electronic component serves many, varied purposes. It controls the functional logic and uncouples the various caution-signals while processing the measured as well as pre-set values.

15 Overriding exposure corrections
When lighting conditions are extreme – for instance when taking snow scenes – it may be desireable to influence the automatic values in one way or another. The override-correction feature permits value-changes by + – two values.

16 Adjusting the film speed
ISO 12/12° to ISO 3200/36° (ASA 12/12 DIN to ASA 3200/36 DIN).

17 Interchangeable finder screens
The LEICA R4-MOT is supplied with the universal focusing screen. For different applications there are four additional interchangeable finder screens available.

18 Fresnel-mirror-reflector
A fresnel mirror composed of 1345 tiny concave spherical reflectors was specially developed by Leitz to enhance the exposure measuring systems, both integrating and selective, using but one silicium photo-cell.

19 Semi-transport main-mirror
Part of the light for the integrating or selective exposure measuring methods passes through the semi-transparent mirror onto the silicium photocell. Seventeen coatings guarantee a bright, contrasting and brilliant viewfinder image, even in poor light. Even for long focal lengths or extremely close-up the large mirror produces a clear viewfinder image without vignetting.

20 Magnet to stop diaphragm
Since the program modes require step-less settings of the lens diaphragm to guarantee exact exposure, this magnet serves to accomplish this function.

21 Release-magnet
The electronic release works softly and without jerking. Even long exposures are released free of vibration. The release-magnet functions without time delay and this increases camera readiness.

The dual exposure-measuring method for the LEICA R4-MOT

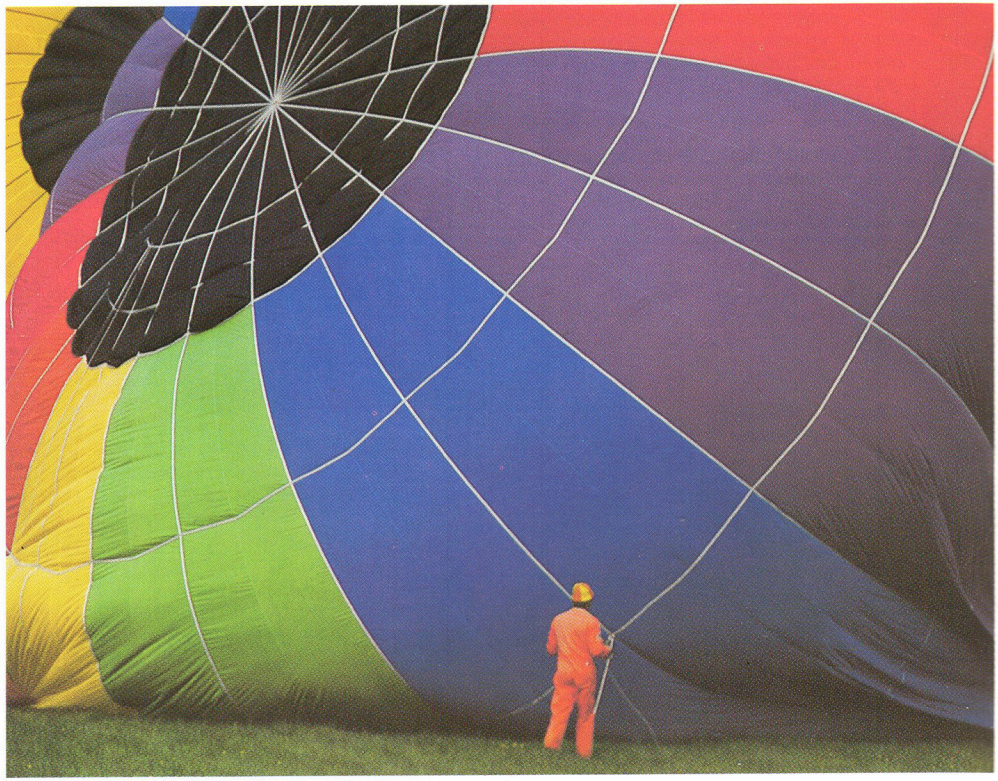
Automatic exposure determination is nothing new. That's as it should be. For the less the photographer needs to worry about detail, the more he can concentrate on the scene. However, standard automation can not handle all lighting conditions satisfactorily, because differing lighting conditions demand different methods of measurement. The LEICA R4-MOT measures light in an unusual manner: It contains two measurement modes and can, therefore, accommodate all lighting conditions.

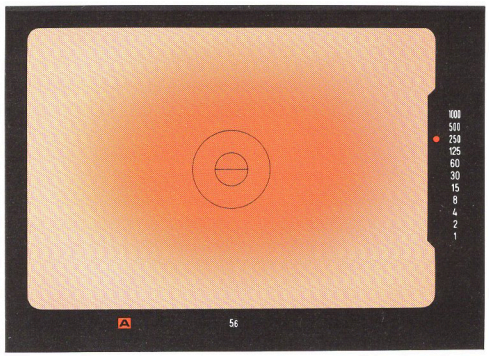
The Leitz-Largefield Integrating-Measurement

Photographing a normal scene, (landscape) without unusual contrast, or the quick action shot, requires integrating measurement. In other words, the exposure meter takes the entire viewfinder image into consideration. But since the important image content is usually located in the center, this central area is being given particular attention with the LEICA R4-MOT.

Measuring range

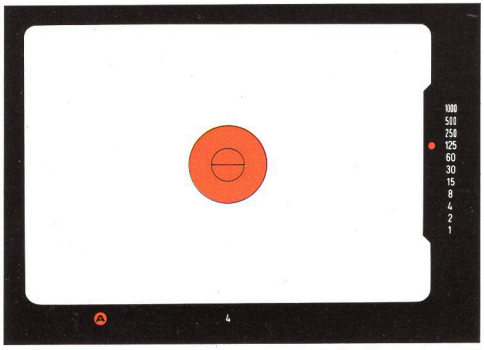
0,25 cd/m^2 to 32.000 cd/m^2 with f 1.4 at ISO 100/21° exposuring values of +1 EV to +19 EV, f 1.4/1 s to f 22/$^1/_{1000}$ s respectively.













Measuring selectively

Suppose one wants to take a very bright subject against a dark background (or the reverse) or a portrait against the light. That would be more than a standard measurement system could handle and would give the photographer no assurance that the exposure will be correct. The LEICA R4-MOT can selectively measure the important portion of the subject. The measurement area is exactly equal to the picture portion within the control viewfinder circle. Only the picture area within the circle is used for exposure measurement regardless of what takes place in the rest of the viewfinder image area.

Automatic storage

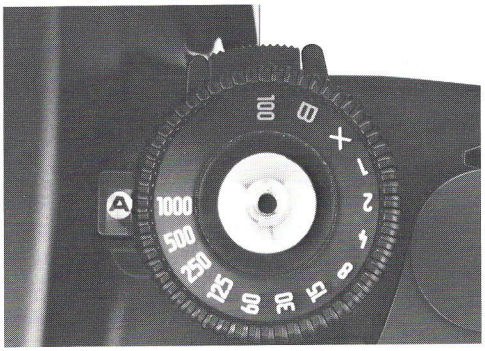
The LEICA R4-MOT allows you to store the selectively measured value until the desired picture area is located. The subject is measured and the value locked in merely by lightly depressing and holding the release button. One can now compose carefully the desired subject area and expose on the basis of the previously stored exposure value.

Measuring range

1 cd/m^2 to 32.000 cd/m^2 with f 1.4 at ISO 100/21° exposuring values of +3 EV to +19 EV, f 1.4/$\frac{1}{4}$ s to f 22/$\frac{1}{1000}$ s respectively.

Programming of the LEICA R4-MOT
The simplest way for perfect pictures

The programs of the LEICA R4-MOT are designed to master each photographic situation. This operates so simply and accurately that the photographer may concentrate entirely upon the subject matter. The technical requirements of the photograph are taken over by the camera. However, both time and diaphragm may be set manually, as for instance for photographs under unusual photo-



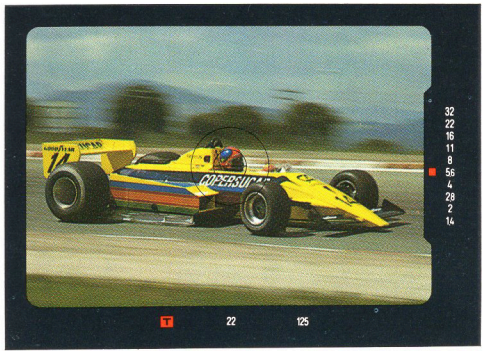
graphic circumstances. Setting the program is extremely simple. The program selector is changed with one finger without having to move the camera from the eye level position. The symbol of the program shows up within the viewfinder. All other data which are important also become visible in the viewfinder. The LEICA R4-MOT permits instant accommodation for every photographic situation.
The programs have been developed from years of photographic experience. The following samples show the applications for each program.



A Such a subject is usually photographed with depth of field. One selects program A as well as the desired lens opening. The camera will now establish the correct exposure time automatically and steplessly from 1 sec. to 1/1000 sec. The viewfinder frame shows the diaphragm setting as well as the time which the automatic system has chosen.
Since the details of the subject are of particular importance for this program, the automatic exposure system measures in accordance with the Leitz largefield integrating measurement method. This is the reason for the square. Program A means **time automatic,** (aperture preferred) using lens opening pre-selection together with Leitz largefield integrating measurement method.



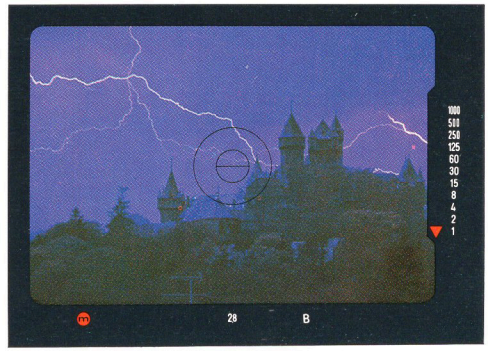
A In this case limited depth of field and back light are the elements of the composition. The program A masters this situation easily.
The lens is fully opened and the camera will select the appropriate exposure time in the range between 1 sec. and 1/1000 sec.
The extraordinary feature of this program is the fact that the area of primary importance within the subject can be measured specifically. The measuring circle in the viewfinder simply points towards that important subject portion and the release button is depressed slightly. The measured value is now stored, while the final image area can now be chosen without haste.
The measuring method for program A is symbolized by the circle. It is called **time automatic** (aperture preferred) with diaphragm pre-selection and Leitz selective measurement method.



T Fast reaction time is of importance! For such quick action subjects the exposure time is the element of importance.
Simply set the program to the letter **T** and pre-select the desired exposure time. For instance 1/1000 sec. to freeze action or a longer exposure time in case the camera is to be panned to yield a sharp image at the subject against a blurred background. Regardless of what time is chosen, the camera will then select the suitable diaphragm opening.
The T shows the exposure determination within the Leitz largefield integrating measuring method. In action photography there is usually no time to bother with selective measurement and time storage. Program **T** is called **diaphragm automatic** (shutter preferred) with time pre-selection and Leitz largefield integrating measurement method.



P There are of course situations, for instance action shots, where there is not even enough time to pre-set the diaphragm or the time of exposure and there are occasions when the photographer wishes to expose pictures without concern to technical requirements.
The LEICA R4-MOT offers the proper solution namely **P**. Whether fast action or a quiet landscape, sunshine or rain, brightness or overcast – the camera selects automatically the time of exposure and the time of the diaphragm opening in accordance with scene brightness. The camera is always ready to shoot, all one has to do is focus and release.
The square indicates that the integral measurement is being used.
This program is called: **Program Automatic** with Leitz largefield integrating measurement method.



m Professionals know that there are situations where both the time and the lens opening must be set by hand. For experimental purposes or when over- or under-exposures are desired, when photographing with trick attachments, pop-filters, infrared films, etc.
One then selects position **m** which shuts off the automatic system. Now one can either pre-select the exposure time and have the diaphragm follow or reverse.
Under **m** measurement is done selectively so that the photographer will be able to deal with even the most difficult lighting situations.
In order to make it simple there is also a **flash automatic.** The camera electronics are switched to X as soon as the flash is properly cycled. The readiness shows up in the viewfinder image. Flash automatic functions for every one of the previously mentioned programs.



1000
500
250
125
60
30
15
8
4
2
1

A

The Viewfinder – Your Control Center for Perfect Pictorial Composition

The viewfinder of the LEICA R4-MOT instantly shows all elements necessary for observation and focusing of the subject. The viewfinder image is clear and brilliant even under poor lighting conditions.
Interchangeable focusing screens permit rapid and exact focusing for various types of applications. This is the most important criterium for taking full advantage of the high-quality performance of the LEICA R-lenses.

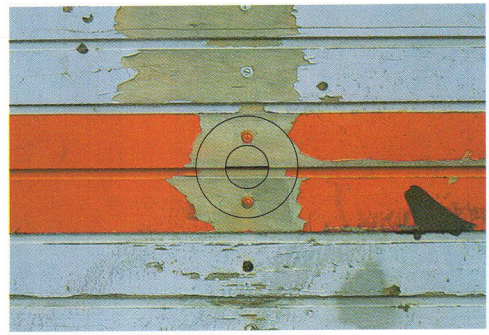
The outer area of the viewfinder shows the various camera functions. The closely held depth of field is the most important element in the position shown on the left-hand side. The lighting conditions are normal.
In this case program A (time automatic with diaphragm pre-selection and wide field integration element) provides optimal results. Below, left, the **A** is illuminated. The square frame around the A is an indication that the exposure determination follows the Leitz largefield integrating measuring method.
Below, in the middle of the viewfinder frame, the pre-set lens opening is indicated.

On the right-hand side of the viewfinder frame the illuminated diode shows the exposure time. It follows automatically based on pre-selected diaphragm. It follows continuously and exactly so that the exposure time might be for instance $^{1}/_{99}$ second. In that case two diodes will show up, one for the $^{1}/_{60}$ and one for the $^{1}/_{125}$ sec. and should it be too dark for the chosen diaphragm setting, then a triangular diode shows up either above or below the time scale, indicating either over or under exposure. Then the diaphragm opening is either closed further or opened.



Split Wedge

If focus is incorrect the horizontal edges and lines of the object are displaced.



Prism Screen Ring

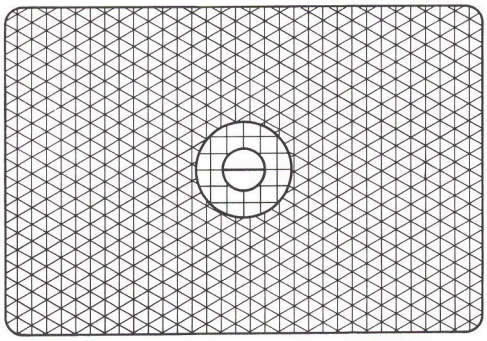
Around the split wedge is a micro prism ring. If it flickers the image is unsharp.



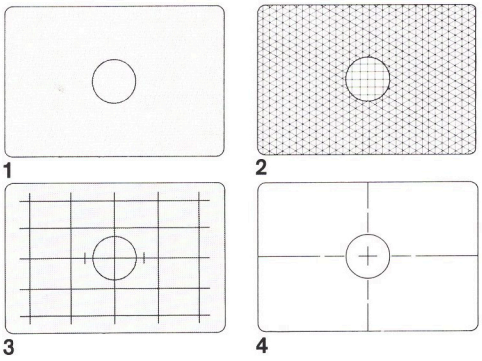
Micro prism focusing screen

The triangular micro prism screen is visible in the surrounding area. It simulates the effect of a ground glass. That screen is chosen when using longer focus lenses or for close up work.

Interchangeable Focusing Screens for Every Type of Application



The LEICA R4-MOT is supplied with a **universal focusing screen.** This offers three focusing modes: Triangular micro prism screen covering the entire field of view, a ring of 7mm diameter with square micro prisms and a centrally located split wedge range finder of 3mm diameter. The 7mm ring also limits the measuring area for the selective measuring method. This universal focusing screen is most practical for the majority of photographic applications. Special applications, however, require a suitable special screen for fast and exact work. Therefore, the LEICA R4-MOT offers four additional screens as accessories. They can be interchanged quickly and easily.



1.
For close-up photography or with long focus lenses, a **ground glass screen** is ideal. The sharpness can be carefully checked over the entire viewfinder screen. The circular area in the middle defines the measuring field for the selective measuring method.

2.
Without the split image and rangefinder of the **universal focusing screen**, the micro prism screen permits unrestricted interpretation of the image composition. The micro prism shows sharpness or unsharpness even under poor lighting conditions and provides a brilliant and contrasty viewfinder image.

3.
For panorama photography, architectural photography and copying work, the camera must be levelled exactly. The **ground glass with cross lines** is particularly suitable for this purpose. Using two reticle divisions 10mm apart, the ratio of reproduction for close-up photography is easily determined.

4.
For photo micrography or for cosmic photos, a **clear glass screen** is desirable. When the LEICA R4-MOT is used with optical instruments which magnify, such as microscopes or astronomical telescopes, this focusing screen is ideal.

Technical specifications

35mm single-lens reflex camera offering two light metering modes (spot and integrating centre weighted measurement).

Electronically controlled shutter speeds

Automatic operation: continuously variable from 1/1000 to 1 s.
Manual operation: 1/1000, 1/500, 1/250, 1/125, 1/60, 1/30, 1/15, 1/8, 1/4, 1/2 and 1 s.

Mechanically controlled shutter speeds

X (1/100 s), 100 (1/100 s) and B.
100 and B work also without batteries.

Power supply

Two silver oxide button cells of 1,55 V each for exposure meter and shutter. Midget batteries (preferably Alkali-Manganese batteries) or NC rechargeable batteries for winder and motor.

Focusing screen area

corresponds to 92% of the negative area (= image area of a mounted slide).

Viewfinder magnification

Appr. 0.85x with standard 50mm lens.

Metering circle

For the light metering 7mm diameter – 1/6 of the angle of view of the lens attached – 4.5% of the viewfinder area.

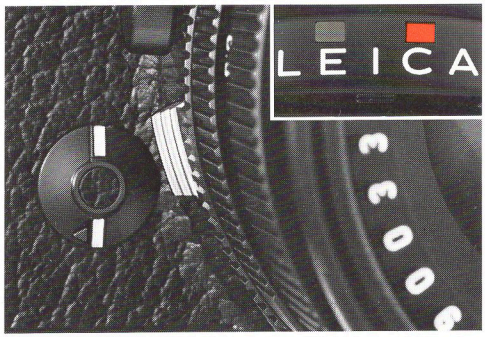
Motor-Winder R4

For motorized film transport and shutter wind. Single frame and series up to 2 frames per second.
140mm long, 40mm high, 50mm thick, 225g weight without batteries.

Motor-Drive R4

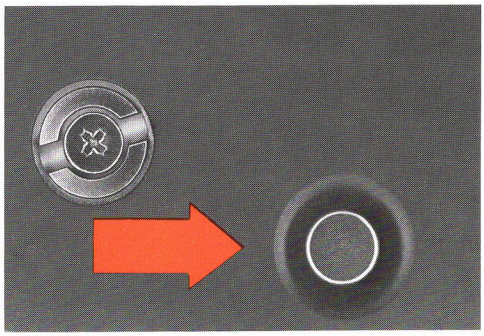
For motorized film transport and shutter wind. Single frame and series up to 4 frames per second adjustable down to 2 frames per second.
140mm long, 45mm high, 61mm thick, 320g weight without batteries.

Special Technical Details of the LEICA R4-MOT



Electronic Self Timer

The running time of the self timer is 8 seconds. There is an on-and-off indicator which signals the exposure release approximately 2 seconds before changing into a continuous light signal.



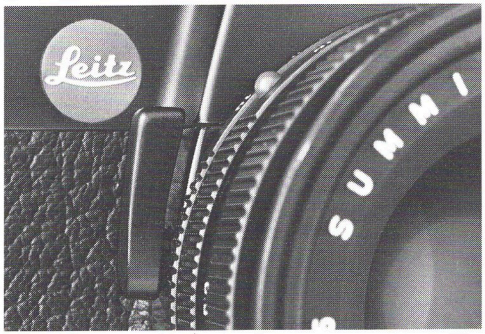
Multiple Exposure and Double Exposure

Depressing the rewind button disengages the film transport. The shutter may now be cocked by means of the quick cocking lever without moving the film lever. At the end of the transport position the rewind button is automatically replaced into its starting position. If more than 2 exposures are to be taken on one frame, the rewind button has to be pushed down again each time.



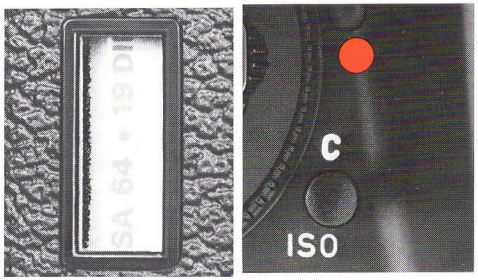
Databack DB LEICA R4

The databack enables the user to insert picture data while exposing the film. Negatives or transparencies may be given letter- or numerical codes. For instance, when one wishes to serialize a group of photographs. The date may also be an important factor to re-construct – after years – the specific phases or events that were in effect at the time the pictures were taken. The opportunities are manifold. Whether one takes family photos or one wishes to photograph various stages during building of a home, whether for experimental photography in the laboratory, the databack allows the identification of the photograph with security and convenience. Databack DB R4 can be inserted in place of the back of the LEICA R4-MOT and connected by means of a cable to the flash contact of the camera.



Depth of Field Lever

To determine the depth of field for a given diaphragm opening, a depth of field lever, conveniently located, may be actuated. This – at the same time – locks the lens diaphragm into a pre-chosen setting.



Film and Battery Test

A window in the camera back shows clearly whether and what kind of film is in the camera. Battery test requires a simple pressure on the test knob. If a red control lamp lights up, the batteries are ok.

Plano position of the film

We have to mention the excellent plano positioning of the film inside the LEICA R4-MOT, the prerequisite for an optimum in utilization of lens performance and for corner to corner sharpness.


32






océ

The Motorized LEICA R4-MOT for Instant Action and Sequence Photos

Instant readiness and the quick follow-up start are often essential for the successful, dynamic photograph. The MOTOR-WINDER and MOTOR-DRIVE enhance the possibilities of the LEICA R4-MOT for fully automatic image documentation in many ways. The motorized shutter- and film-transport mechanism simplifies single or series shots, exposures using electronic control, remote-control, singly or in series via electric cable or radio.

The MOTOR-WINDER R4 allows exposure sequences up to two exposures per second; MOTOR-DRIVE R4 exposures up to four per second and switch-over to two pictures per second as well as to single shots. The change-over takes place during exposure via a conveniently located switch. All exposure times are possible. The MOTOR-WINDER uses six, the MOTOR-DRIVE ten commercial alkaline batteries or re-chargeable NiCd batteries. The battery housing is interchangeable in seconds. When it is cold outside it may be kept body-warm and connected to the MOTOR-WINDER or MOTOR-DRIVE via remote release. It is of special advantage, in cold weather, that the camera battery becomes automatically disconnected, then the current supply for the R4-MOT is taken over by the attached winder or the MOTOR-DRIVE.

And yet another point; the camera release is typically hardly audible even when the MOTOR-WINDER R4 or the MOTOR-DRIVE R4 are in use. MOTOR-WINDER and MOTOR-DRIVE are extremely quiet. Experienced photographers find this feature especially valuable.



MOTOR-WINDER and MOTOR-DRIVE
Robust Mechanism, Easy Handling



MOTOR-WINDER and MOTOR-DRIVE are coupled to the LEICA R4-MOT housing and merge into an integrated unit. Single exposures are released via the shutter release. Photos in series are released via the release button on the MOTOR-WINDER or MOTOR-DRIVE, alternatively via electrical cable release or remote control. The system shuts off automatically after 36 exposures via MOTOR-WINDER.

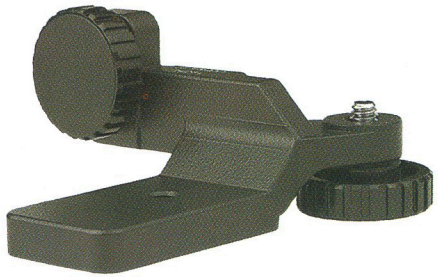
Handgrip for Hand-held Photos

The handgrip adapts to the LEICA R4-MOT with the MOTOR-DRIVE R4 or the MOTOR-WINDER attached. The release button is conveniently located for series-shots with the MOTOR-WINDER and for series and single shots with MOTOR-DRIVE. The leather strap is individually adjustable. Accidental tripping of the shutter is eliminated by means of a release switch.



Tripod Holder

Used for holding the LEICA R4-MOT with long lenses and MOTOR-WINDER steady on a tripod. Rigid design with two convenient connecting screws.



The battery/rechargeable battery-housing of the MOTOR-WINDER and the MOTOR-DRIVE are instantly interchangeable. A replacement housing provides additional security when used frequently. (Continuous use, cold, expeditions)



When it is very cold, the current supply for the winder, the drive and the camera may take place via an adapter ("out of pocket"), while the batteries/NC are kept warm via body temperature.

MOTOR-WINDER and MOTOR-DRIVE in Conjunction with the Remote Control Unit

The electronic control unit RC for the LEICA R provides very intriguing features.
It serves to remote release the MOTOR-WINDER and the MOTOR-DRIVE and thereby opens new dimensions in photography when used in conjunction with the LEICA R4-MOT. Details of the many possibilities are contained in the following two pages.
The control unit is built to fit conveniently into ones hands. It can be operated in the left equally as well as in the right hand. All functioning elements are visible topside.
The camera can be released manually or fully automatically and the camera "reports" the result via digital LID diodes. The 9mm digital indicator shows clearly when the exposure is complete. One can also check the number of exposures that have already been made. Even photos that were made without the control unit can be numbered and taken into consideration. Supposing 12 exposures have already been made, the control unit begins to count starting with number 13 after the previous numbers have been pre-entered. In automatic mode, the exposure intervalls between one and the next frame are 0.5 seconds and 10 minutes. The intervals are continuously adjustable.

The test mode indicates exactly the chosen time intervals without releasing the camera. The release impulse becomes visible on the right-hand decimal point of the digital display.



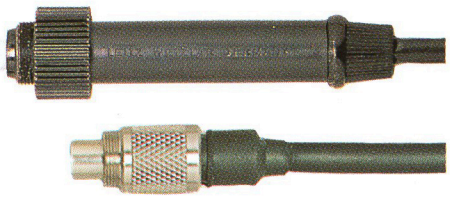
The Versatile Possibilities of Using the LEICA R4-MOT System



Remote Release

by Means of Electronic Cable Release

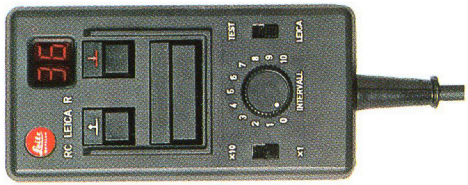
The most simple remote release is a 5m long cable which is connected to the camera by means of an extension cable. It is useful and recommended when control over the camera function is not required. It has a screw and connection plug and can be extended up to 100m. The various accessories for remote release of MOTOR-WINDER and MOTOR-DRIVE are also useable.



Remote Release

via Remote Control LEICA R

The electric remote release with simultaneous function control of the camera meets the RC LEICA R with its digital indicator, the best prospect for reporting the completed exposure via return indication of the camera setting.



Radio Remote Release

A radio remote release up to 2000m (visible distance) can be connected between two LEICA R4-MOT motor cameras and the FK2 release transmitter and receiver. The receiver may be located 100m distant from the camera and is connected to it by means of an extension cable.

Wireless Remote Release via Electric Eye

Even automatic release by means of an infrared electric eye is accomplished easily with the LEICA R4-MOT. The electric eye – it can be up to 3m away – is supplied either from the house supply or a special battery. The camera is re-leased every time the moment that the infrared beam is interrupted.

Remote Supply

Instead of a battery or a chargeable battery housing, the MOTOR-WINDER and the MOTOR-DRIVE can be electrically supplied by external means. A 1m cable with adaptor is provided, permitting adaptation to external source of current.

For stationary operations connection to house current is recommended or one may use an external system ST 16 M. This may be used for monitoring, for copying, in other words for all occasions when the equipment runs continuously for a long period of time.

Remote supply is also possible via a 12 Volt automobile battery. It can be re-charged via an adapter which may be connected to the standard cigarette lighter plug of cars with 12 Volt batteries.



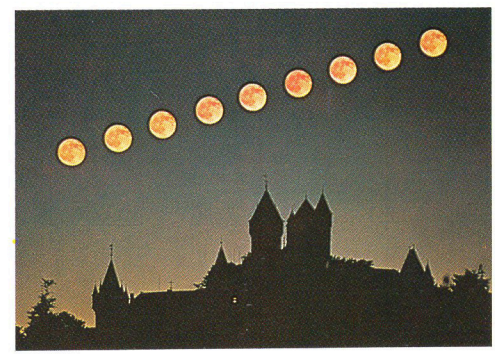
Automatic Interval Timing

For pre-programmed release of the camera, the RC LEICA R control unit offers various variations approximately between 0.5 to approximately 600 seconds. This is a practical range, offering 1/2 second and 10 minutes as the longest interval between automatic releases. Current is supplied by batteries or rechargeable batteries of the MOTOR-WINDER and MOTOR-DRIVE but it can also be connected to external supply units.

For special effects and to achieve even larger intervals, the large control unit ST 16 M is recommended. It permits up to 45 hours during which time either one or two exposures may be released.

This even permits the use of a photo lamp to illuminate the subject just before the exposure takes place and to shut it off again as soon as the shutter has come to rest.

Applications: Growth studies as for instance the blossoming of flowers, the germination of seeds, root development, documentation, establishing traffic densities at different times, capacity of escalators for instance in warehouses, railroad terminals, etc., in department stores to supervise machines and periodically check their instruments.



Multiple Exposures

Multiple exposures present no difficulty with the LEICA R4-MOT and the control unit. It is easy to record various stages of the moon and all movement sequences, which appear against the dark background, offer excellent opportunities; not to mention the unusual effect of double exposure or multiple exposure of persons; such opportunities are enjoyed by the creative LEICA photographer.




LEICA
R4 MOT
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The LEICA R-System: The Basic for the Optimal Accommodation of a Camera System to a Task and a Situation

The LEICA R4-MOT forms the basis for the universal LEICA R-system. Equally important are the high-quality interchangeable lenses which themselves are finely tuned with respect to focal length and aperture. These are the result of years of experience in the Leitz glass laboratory and in a manufacturing tradition of over 140 years, encompassing the production of high-quality optical/mechanical instruments. Accessories in the micro and macro- as well as repro-areas are also coordinated, as the situation demands. The wide range of lenses begins with the Fisheye to the Vario, from a 15mm wide angle to a 800mm tele photo lens. In science and industry, when used in infrared light with the bellows focusing device – the LEICA R4-MOT is capable of being universally used while operating quickly and simply.

All lenses of the LEICA R3/R3-MOT may be used with the LEICA R4-MOT without convertion. All owners of these lenses have lenses for the most modern camera techniques, namely the open diaphragm measuring method as well as time, diaphragm or programmed automatic selection.

Image Composition made easy with the LEICA R Lens System

The lens program of the LEICA R begins with the super-wide angle 15mm and reaches to the tele 800mm lens. By the use of these lenses the photographer may either select different segments of the subject, while remaining stationary, or he can choose to obtain varying effects of perspective by moving from one position to another. These are two important conditions for the creative image process.

Comparison of Focal Length

While at a given position, the picture area and not the perspective will be changed when different lenses are used. Theoretically, one could subsequently enlarge out of a superwide angle shot every desired image segment, as long as that was not followed by a loss of image quality.
For slides, it is almost always imperative to have the subject fill the entire format, because enlargements of segments will not be possible subsequently.













Comparison of Perspective

The 15mm lens places the pictorial background into the distance; the 400mm lens permits it to be moved posterlike forward in line with the subject. Changes in perspective are particularly pronounced when extremely short or extremely long focal length lenses are used.

The upper picture sequence shows a focal length comparison. The shooting position remains the same, however, the subject to be photographed appears closer or farther away.

The lower picture sequence shows the composition of perspective. The persons are equal in size, the background, however, is rendered differently depending on the focal length of the lens used.

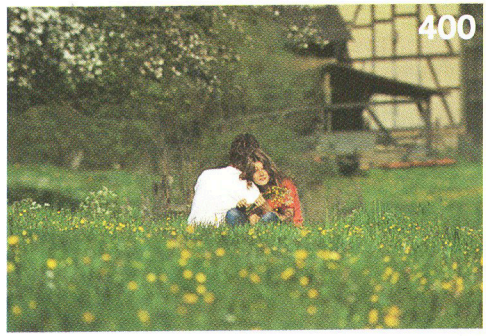




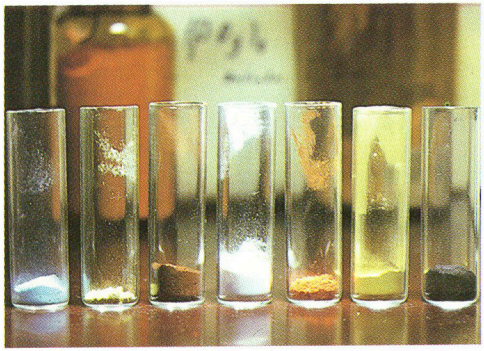


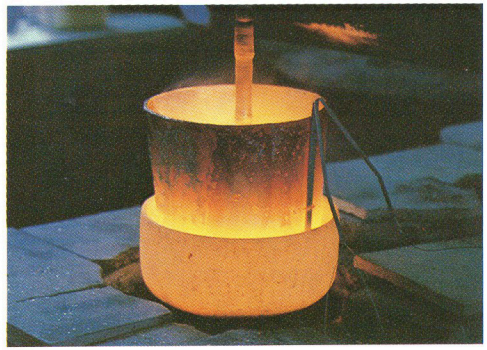




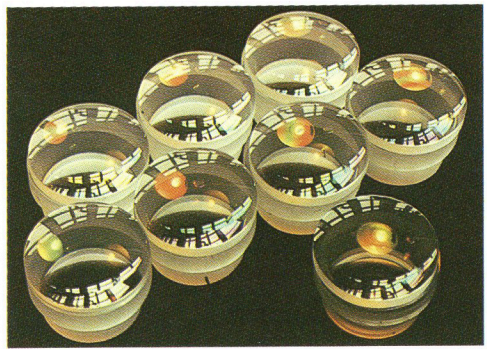


LEICA-R Lenses









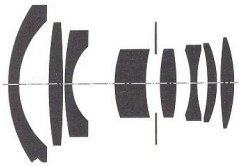
Common features for all LEICA R lenses with automatic pre-set diaphragm:

1. The rotation direction of the helical focusing mount of the lens and diaphragm click stops are matched and adjusted for optimum control at extremely high or low temperatures.
2. Positioning is the same for all lenses.
3. All lens parts are protected against corrosion for perfect function in all climatic conditions.
4. LEICA R-lenses can be used at temperatures between −25 to 60 degrees C.
5. The auto-diaphragm runs on ball bearings.
6. To resist blows or impact the lenses are designed to withstand up to 100x their gravitional force.
7. The maximum closing time to the lens diaphragm from full to smallest aperture is 40 milliseconds; therefore, the time parallax between the release of the camera shutter and the exposure on the film is no longer than 45 milliseconds.
8. The pre-set auto diaphragm will show no noticeable wear even after 50000 releases.
9. The large LEICA bayonet is robust and precise to guarantee instant and reliable seating of the lens.
10. The lenses may be placed upright without lens cover. There are no protruding control levers that may be bent. Ask a professional what that means when in a hurry.

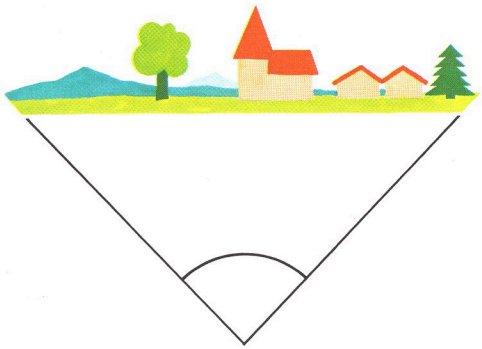
The user of precision optical instruments in science and technology is uniquely aware of the achievements, through modern glass technology, in lens composition. The creative lens designer takes advantage of modern design techniques together with computer technology to gain new insights and to optimize the properties of glass in the creation of optical systems, whose performance characteristics are at the limits of physical possibilities. All LEICA R lenses have been computed with most modern technology. Carefully matched anti-reflection coatings on highly refractive glasses – glasses which were partically developed in the factory's own glass research laboratory – assures almost 100% light transmission within the entire visible spectrum. The additional ultraviolet light is further absorbed by means of UV absorbing "Absorban" cement layers. This also ensures that all lenses maintain the same color – transmission, regardless of focal length. The optical systems have been matched so as to render colors true to the original. Even at full aperture, the residual aberrations of the LEICA R lenses have been corrected so well that in practice they do not affect the performance. The lenses may be used at full aperture – for all LEICA R lenses – it constitutes a fully effective working aperture.

Wide Angle – Magic Angle

Mirror reflex systems use wide angle lenses which require large spaces between the rear element and the film as compared to the focal length itself. A typical characteristic of such lenses are the design of a multi-element dispersing front component and a collecting rear component. To insure corner to corner evenness of illumination, the stronger curved front elements have large diameters.



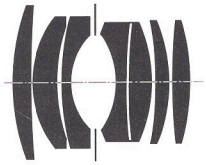
Wide angle lenses represent ordinary objectives in a different perspective. While the standard focal length lens covers only part of the object, a wide angle reaches the entire field of view. When stopped down only slightly, the



depth of field extends from the foreground to infinity. When focusing close up, the lens produces dramatic effects as a result of the receding background together with a change in the perspective.

Standard Focal Length 50/60mm

The 50mm standard lenses are modified Gauss types, they are of symmetrical design with either 6 or 7 elements. The outer or collecting elements are uncemented, while the inner, disbursing elements are cemented together. In the faster 50mm SUMMILUX 1:1,4/50 lens a cemented component and the rear element have been split up. The nearly symmetrical design of these lens types makes them eminently suitable for close-up work.



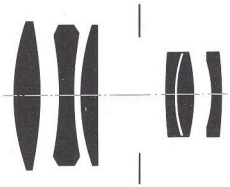
The reason for favoring the standard focal length is the fact that the picture angle of approximately 45 degrees correspondents with



the field of view by the eye. The depth of field too is considerable even at medium f stops. The 60mm MACRO-ELMARIT is a universal lens with a focusing range from infinity to 27cm.

Bridging the Distance

The physical length of tele-lenses is short as compared to the focal length of the lens. This is achieved by means of an unsymmetrical design, a collecting component in front of the diaphragm and a disbursing rear component. As a result of the small angle of view, such lenses may be composed of very few elements. Tele-lenses with long focal length bridge long distances. Sporting events can be captured from the position of the spectator



and this fills the image format. Similarly, unaccessible ornamentation on old buildings may be recorded in full detail.

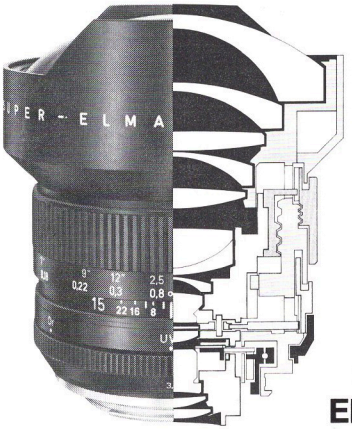


The long focal length does not only bridge distances, it provides more detail and often more favorable perspectives.



The extreme wide-angle range

15mm

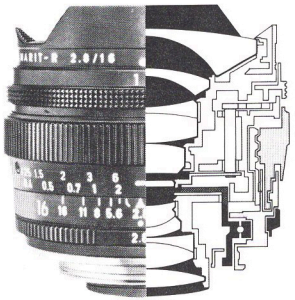


SUPER-ELMAR-R 1:3.5/15mm

The diagonal angle of view is 110 degrees, the image area appears unlimited when looking through the viewfinder. The SUPER-ELMAR-R is ideal for landscapes, architectural work, advertising photos; it provides **unusual effects.** A puddle, close-up, becomes a lake; skyscrapers photographed from a low angle, show unbelievable perspective.
Its short focusing distance of 16mm is ideal for advertising photos. Its quality performance, even at close range, is achieved by "floating element" design.
A filter disc is provided, containing 4 filters: UVA, yellow, orange and blue (conversion filter for artificial light photos on daylight film).

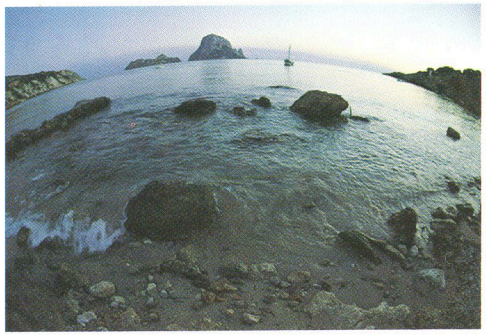


16mm

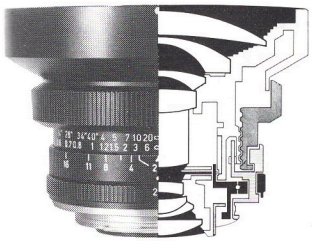


Fisheye-ELMARIT-R 1:2,8/16mm

Fisheye lenses are ultra-wide angle lenses of unusual image formation: the object area they cover is not oblong, but barrel-shaped. All straight lines in the picture which do not pass through the center suffer barrel distortion. It is of special advantage that the Fisheye ELMARIT-R does not produce a circular image within the oblong camera format, but fills **the entire picture format.**

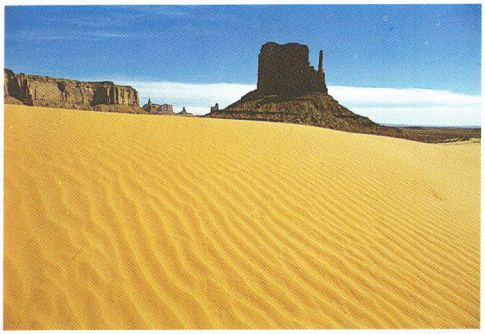


19mm

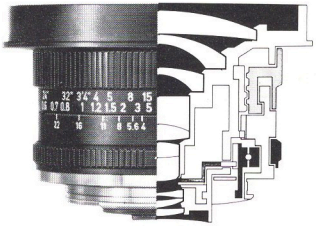


ELMARIT®-R 1:2.8/19mm

A high-speed superwide-angle lens for the LEICA R with wide viewing angle. The useful range of this extreme wide angle lens is considerably improved as a result of its high aperture of 1:2,8. The lens is used for snapshots and photo journalism, while fully open. Similarly, interior and exterior architecture, advertising, industrial- and landscape-photography profit from the wideangle of 95.7 degrees. This angle also favors the perspective composition.



21mm

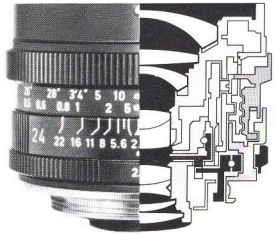


SUPER-ANGULON®-R 1:4/21mm

This extreme wide-angle lens exhibits excellent definition and even illumination over the entire picture area.
Primary uses: Interior and exterior design, photography of architectural models (focusing detail as close as 20cm), industry, advertising, reportage and landscape photography. The wide angle of view offers dramatic effects of composition; prominent foreground with receding background and broad horizon.

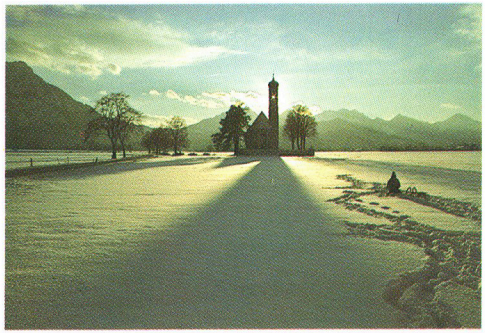


24mm



ELMARIT-R 1:2.8/24mm

A combination of wide angle with high aperture, freedom from vignetting and excellent optical performance fully open. These characteristics place the 24mm ELMARIT-R 1:2,8/24mm into a special role for photo journalism purposes within confined space in architectural photography and last but not least for the dynamic photographer seeking unusual perspective.
The ELMARIT-R 1:2,8/24mm has "floating elements" which insure excellent image quality over the entire focusing range. The focal length of 24mm has a viewing angle of 84 degrees and, therefore, ranges between the focal length of 21 and 28mm.

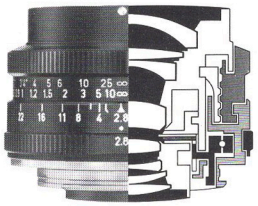




The Conventional Wide-angle range

28mm

Many photographers use the 35mm focal length as a standard lens. The angle of view is already so much larger that more picture elements are recorded in comparison with a 50mm lens. The depth of field is remarkable, already at medium diaphragm settings.
It is easy to avoid falling lines, by holding the camera and lens properly.
The wide-angle of the 28mm lens is 20% greater, namely 76 degrees instead of 64 degrees and serves as a close relative to the 35mm lenses. It is light and convenient. From a pictorial point of view it brings a larger viewing angle and a stronger wide-angle perspective.



ELMARIT-R
1:2.8/28mm

It is the lightest wide-angle lens of all.
It should properly be chosen in all cases where the ultra-wide angle is not required but the 35mm lenses do not offer sufficient wide angle lens characteristics or when weight and volume are of prime consideration.





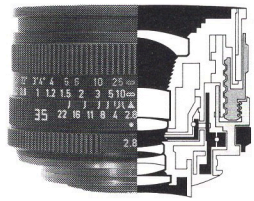
35mm



SUMMICRON®-R 1:2/35mm

This is the top of the line, fast wide-angle lens. It is recommended for the living color shot, even in bad weather. There are no distortions even when strong light sources are in the field of view, and the lens shows excellent definition and freedom from reflections.
The extensible lens hood is primarily built-in, increasing the photo-readiness.

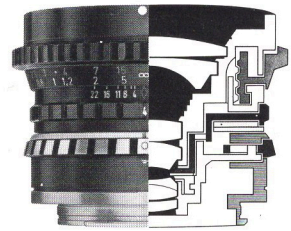
35mm



ELMARIT-R 1:2.8/35mm

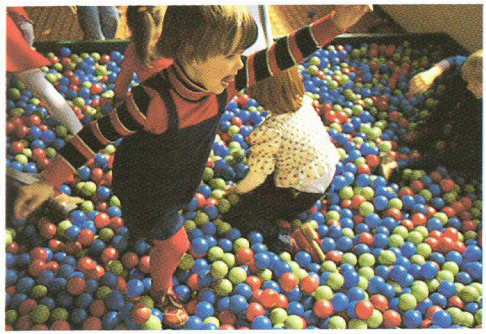
This wide-angle lens of standard speed 1:2,8 is the right lens for outdoor photographs as well as indoor shots, which require stopping down in order to achieve the required depth of field. High contrast and excellent resolution are the trademarks of the ELMARIT-R 1:2,8/35mm even when fully open. When the lens is stopped down to 5.6 its performance can be further improved. This lens also is supplied with a built-in extensible lens hood.

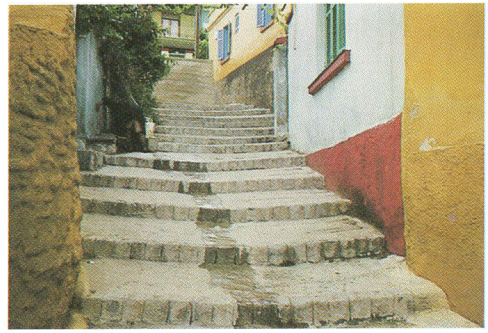
35mm

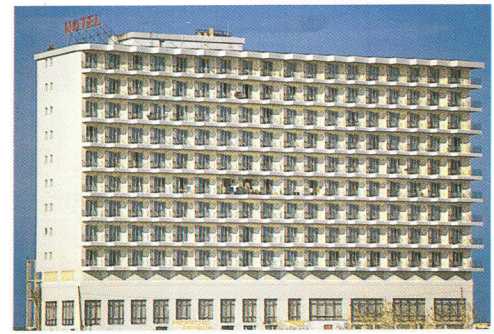


PA-CURTAGON®-R 1:4/35mm

This wide-angle lens PA-CURTAGON-R is of special design to compensate for the converging of vertical lines. This is useful primarily in architectural and landscape photography.
With an image circle of 35mm, it covers a larger format than 24 x 36mm. This reserve coverage permits displacement of the system by 7mm to either side, so as to include picture portions which would otherwise be outside of the symmetry position of the lens as well as the camera format.

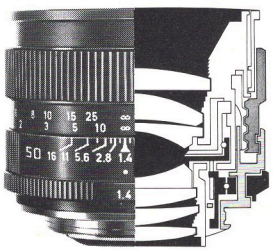






Standard Focal Length

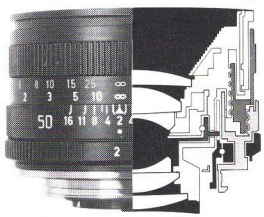
50mm



SUMMILUX®-R 1:1.4/50mm

The SUMMILUX-R 1:1,4/50mm is a very convenient, fast reportage lens. With respect to optical performance over the entire range beginning at 1m, it corresponds to that of the SUMMICRON-R 1:2/50mm, yet it offers an opening which is a full f stop larger.
The working aperture of 1.4 provides for creative image possibilities by consciously limiting the depth of field. The pull-out lens hood is built-in.

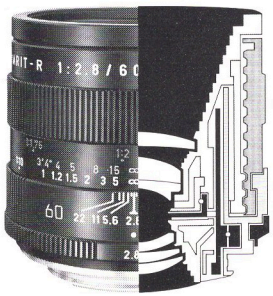
50mm



SUMMICRON-R 1:2/50mm

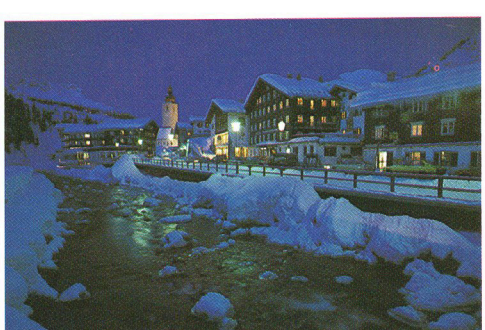
Critical LEICA photographers looking for a universal lens with superb image quality, also in the close up range, choose the SUMMICRON-R 1:2/50mm. The shortest focal distance is 50cm and the smallest object area 180 x 270mm. Fully opened, and in spite of its fast speed, the lens provides excellent sharpness, contrast and resolution of detail.
Significant is the compact design, 41mm length and the low weight of 250 grams. The LEICA R user has a compact unit, consisting of camera and lens. The extensible lens hood is built-in.

60mm

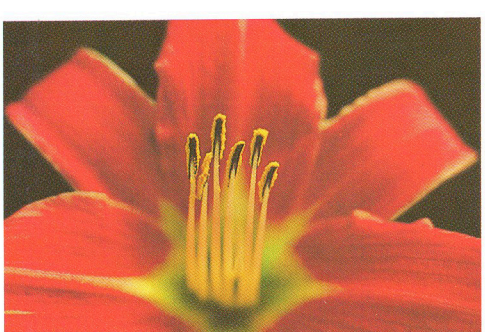


MACRO-ELMARIT-R 1:2,8/60mm

The MACRO-ELMARIT-R deserves a position of exclusivity in the LEICA system because it offers a wide application range. The 60mm focal length has an angle of view of 39 degrees which is only 6 degrees smaller than that of the standard 50mm lenses. It is a universal lens for everyone who does not require ultra speed but needs within this focal length a continuous focusing range from infinity to 27cm. (Ratio of reproduction 1:2).
The Macro-adapter is as easily interchangeable as the lens itself, permits ratio of reproduction between 1:2 and 1:1, while the auto diaphragm remains fully operational.





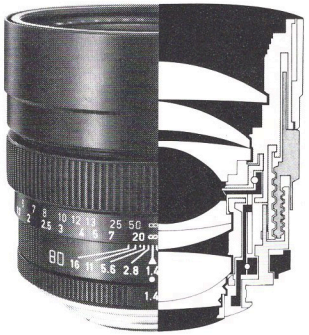




The Short-range High-speed Telephoto Range

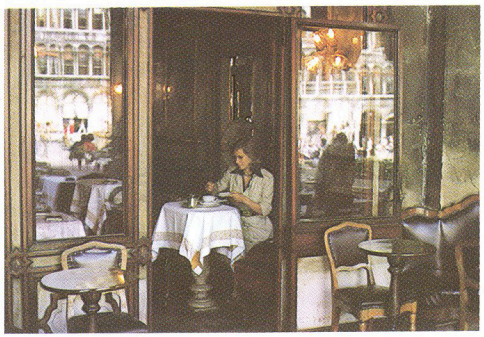
The small telephoto lenses are ideal for portraiture. When used fully open, they will separate undesirable form and color from the background. The principal subject is clearly in focus. Unessentials are left out, the important elements are seen in concentrated form.
One can use these lenses hand held; their weight and volume are relatively small. When combined with wide angle lenses of 35 or 28mm focal length, they offer combinations sufficient for many photographic tasks. The photo-journalist finds the high-speed 80mm lens ideal for available light photos. The 90mm is the ideal snap-shot lens when pictures are to be taken discreetly from a distance. Using ELPRO-Lenses opens up the close-up range for the 90mm.
When lighting conditions are poor Leitz lenses show their hidden qualities. Even wide open, they will show excellent correction that means high contrast, perfect sharpness and neutral color rendition.

80mm

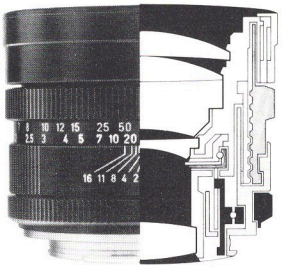


SUMMILUX-R 1:1.4/80mm

The use of new highly refractive glass types permitted reduction of weight and volume of this fast speed lens, without sacrifices with respect to image quality. The SUMMILUX-R 1:1.4/80mm therefore is the ideal lens for the photo-journalist.
Special lighting conditions have a high degree of contrast whether in the theater or at the circus, at a stage review or at an indoor sports arena. Freedom from reflections, graduated tonal values within highlights and shadows are the particular quality characteristics of this lens.

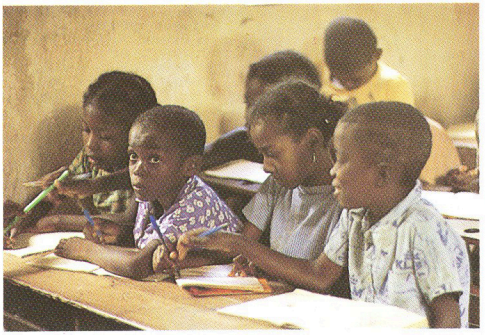


90mm



SUMMICRON-R 1:2/90mm

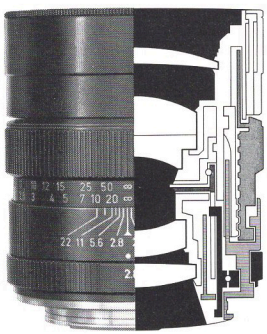
This is a very convenient high quality lens of medium focal length. It is only 62.5mm long. Image contrast and resolution are remarkably good even under poor lighting conditions. Ideal for the reporter – and also favorite with portrait photographers. The high speed of the lens offers two advantages, first it enables one to use short exposure times and second its limited depth of field renders the subject three-dimensionally against the background.





The Multi-Purpose Small and Medium Telephoto Range

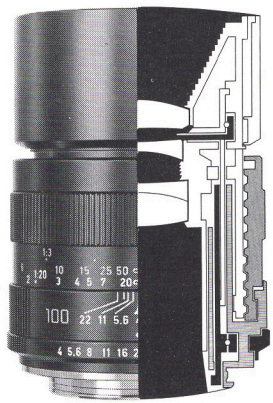
90mm



ELMARIT-R 1:2.8/90mm

Highest correction and even sharpness across the entire image area, when fully open, are remarkable characteristics of this lens. The large aperture of 2.8 can be utilized fully in color-photography. Even in the close-focusing range, this convenient telephoto lens shows remarkable definition.
When combined with the achromatic near-focusing "ELPRO" lens, superior sharpness is achieved also in the close-up range with a ratio of reproduction of 1:3.

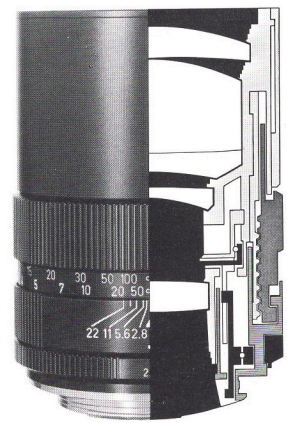
100mm



MACRO-ELMAR-R 1:4/100mm

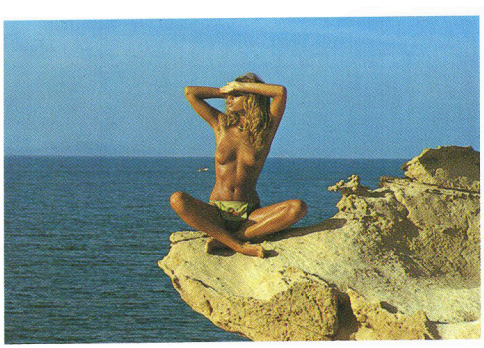
Universal lens from infinity to close-up. This median focal length MACRO-ELMAR-R 1:4/100mm is a multi-purpose lens for landscapes, portraiture, and close-up work. The special strength of this lens is shown in a range from 1:5 to 1:10. Highest contrast and definition are achieved when closing the diaphragm by 1/2 stop. Because of its ease of operation and high performance it represents the ideal choice for recording prominent detail.

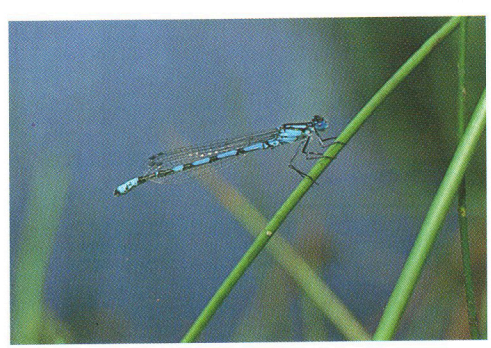
135mm

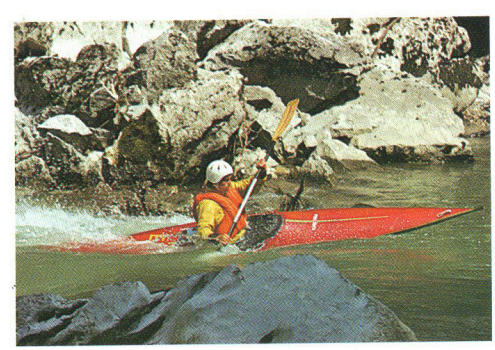


ELMARIT-R 1:2.8/135mm

The mechanical length of this lens in relation to its focal length is strikingly short which makes for easy handling. Resolution at full aperture is excellent. At f/4 optimum image quality is achieved. Ideal for portraiture. It becomes an alternative choice with the ELMARIT-R 1:2.8/90mm, especially if the owner has selected the MACRO-ELMARIT-R 1:2.8/60mm as basic equipment.



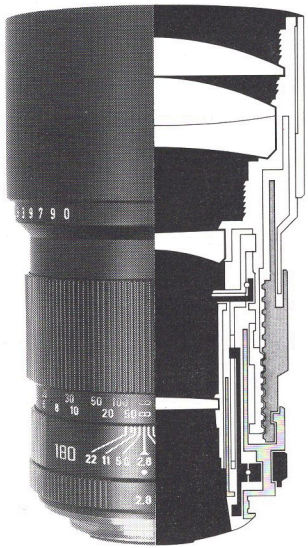






Expanded Telephoto Range

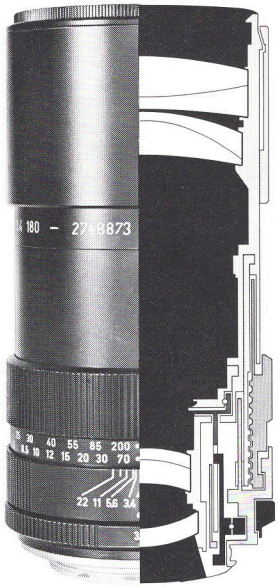
180mm



ELMARIT-R 1:2,8/180mm

A fast telephoto lens for the professional and exacting amateur. Combining fast speed with long focal length, it offers in many cases the only possibility to take color photos by hand under poor lighting conditions. In relation to its focal length this fast telephoto lens is light and compact. Its optical quality is superior as a result of using newly developed types of glass. Even when fully opened the image quality is extraordinary.
The shortest focusing range of this lens is 1.80m. It is particularly valuable for unnoticed shots and for portraits at larger distances.

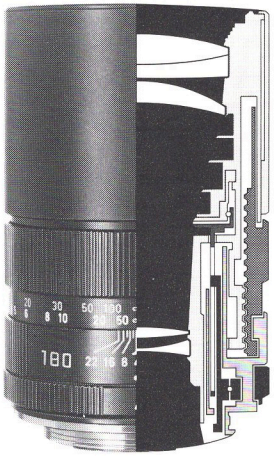
180mm



APO-TELYT-R 1:3.4/180mm

This special lens was developed to reach the limits of the frontier of photography. Its optimum performance in rendering detail and brilliance was achieved by using highly refractive glasses which in optical effect are comparable to precious stones. Aberrations have been corrected to a level that has so far not been achievable.
The high information content of the pictures taken with this lens suggest its use particularly for surveillance and monitoring tasks of all types. Its apochromatic correction makes focus change for infra-red photography superfluous.

180mm



ELMAR®-R 1:4/180mm

Photographers who favor light weight and do not require high speed chose the ELMAR-R 1:4/180mm. It is comparable in its performance to the ELMARIT-R 1:2.8/180mm. As would be expected of all Leitz telephoto lenses, the ELMAR-R 1:4/180mm shows optimum performance at all distances. The close focusing range is relatively wide. The ratio of reproduction at the closest focusing distance of 1.8m even surpasses the standard 50mm lens at its closest focusing range. The focusing range may be extended with the near focusing lenses ELPRO 3 and 4 up to a ratio of 1:2 (lens to subject distances 63cm) with high resolution.
Color rendition is superior within the entire spectral range.
Only 100mm long, this lens may be carried in every camera bag and weighs only 540 grams.


4
VENEMOTOS
MICHELIN
CHAMPION
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JEB'S
Campagnolo
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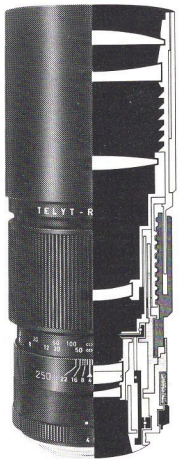
The Classical Telephoto Range

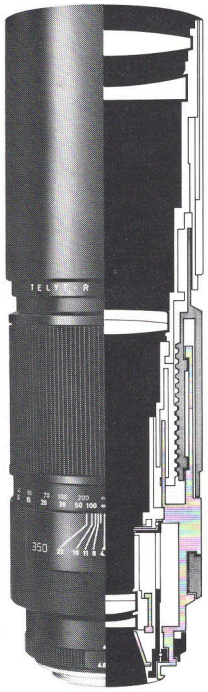
250mm



TELYT®-R 1:4/250mm

Only long focal length lenses permit photographs at guarded distances and yet make the cameraman feel as if he were in the middle of the action.
The TELYT-R 1:4/250mm is suited particularly for photojournalism, for scenic views, wildlife and sports photography. The fast action focusing mount is of particular advantage because it increases the focusing speed.
An elaborate optical computation and special design characteristics of the focusing mount have achieved a focusing range of from infinity to 1.70m. Rendition of detail and contrast are extraordinarily good.
The TELYT-R 1.4/250mm contains a support for tripod mounting; this is rotatable for horizontal or vertical photos.

350mm



TELYT-R 1:4.8/350mm

The 350mm lens has a very small focusing stroke designed to improve the speed of action photography. Quick focusing and excellent definition of detail, as well as the high contrast, recommend this lens under poor lighting conditions and fast action as, for instance, in sports photography. Together with the universal hand grip, the TELYT-R 1:4.8/350mm lens and the LEICA R, a camera unit is formed which permits vibration-free exposures at relatively long exposure times.
The TELYT-R 1:4.8/350mm contains a support for tripod mounting; this is rotatable for horizontal or vertical photos.

400mm



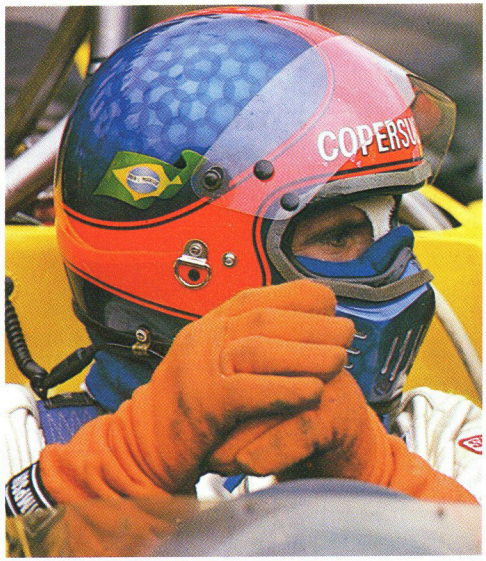
TELYT-R 1:6.8/400 mm

Light weight and simple handling are the features of this lens, a favorite for photo reporters, sports and wildlife photographers.
A precise parallel guide focusing mount is used to obtain rapid and exact focus. The focusing range is particularly advantageous since its smallest image area is only 16 x 24cm. On the one hand the lens permits photographing insects at respectable distances and on the other, portraits at a distance of 5m while filling the LEICA format completely. An intermediate adapter 6cm long extends the focusing range to an image area of 8 x 12cm.



Ultra-Telephoto Lenses





500mm



MR-TELYT-R 1:8/500mm

This mirror lens is small and light. The focusing tube of the focusing mount of this lens is designed to cradle supportive in the hand of the user so that in spite of its long focal length vibration-free photos are possible out of hand. As a result of its design, the MR-TELYT-R is highly corrected for chromatic aberrations and contrast as well as definition are superior.

560mm



TELYT-R 1:6.8/560mm

Except for its longer focal length, this lens is identical to the 400mm. The optical element is a highly corrected achromat. Using special glasses developed at the Leitz laboratory its resolution and color rendition are extraordinary.
The smallest object area is 22 x 33cm, and 11 x 16cm using a 6cm intermediate adapter.

Both rapid focus objectives, 400 and 500mm, are supplied with a Universal-handgrip and shoulder support. This permits vibration-free photos out of hand.

800 mm



TELYT-S
1:6.3/800mm

The use of Leitz' own optical glass has achieved an image quality which hitherto was not possible in this focal length lens. Long, scientific experimentation produced special glasses, with properties similar to certain crystals, without showing their usual undesirable properties in relation to temperature changes. The TELYT-S consists of three cemented elements, which in optical performance are superior to conventional apochromats. Contrast, rendition of detail and color differentation are excellent.

With a magnifying factor of 16x compared to the standard 50mm lens, the TELYT-S bridges unusually large distances and brings the subject up close. Unusual effects of composition are easily achieved by the experienced photographer utilizing fully the perspective possibilities of this lens.



Zoom Lenses





45–90mm



75–200mm



ANGENIEUX-Zoom 1:2.8/45–90mm

The Vario-ANGENIEUX-Zoom for the LEICA R offers a continuous focal length range from 45 to 90mm. Picture composition can then be determined without change of position. The plane of focus remains intact even though the focal length is changed.
Because it has been shown that most pictures are taken within the 35–90mm focal length range, the range of 45–90mm is highly practical.

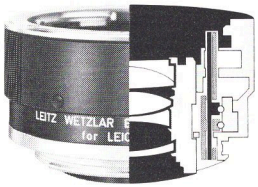
VARIO-ELMAR 1:4.5/75–200mm

This vario-lens has a zooming ratio of 2.6x and supplements the tele-range. It is relatively small and handy. Single ring for zooming and focusing. Moving the handy ring forwards or backwards changes the focal length; rotating the ring will focus it as usual. Close focus distance to 1.20m. The high performance quality and the fact that the lens can be used with "ELPRO" auxiliary lenses for close-up work, makes this lens desirable for scientific and technical photography. The smallest object area is 4 x 6cm.

Lens Extender-R 2x



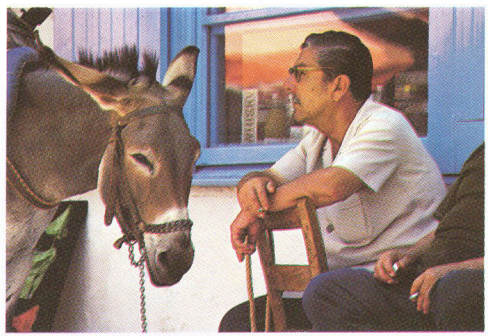




Extender-R 2x

The Extender-R is designed for all LEICA-R lenses, from 50mm to 800mm focal length, and an aperture ratio of 1:2.
It is a carefully designed optical system based on the use of special, highly refractive Leitz' own glasses. By expending a high degree of optical material and design, maximum coordination was achieved between the extender and the LEICA-R lenses. Even fully open the image quality achieved via the extender is remarkable. It may be improved when the lens is stopped down by two "f" stops.
The extender doubles the focal length of the lens used. The diaphragm opening of the lens is reduced by two steps. For instance, a 60mm f/2.8 lens becomes a 120mm f/5.6 lens with the extender. Exposure determination of the LEICA R4-MOT considers these changed values automatically. The extender contains an automatic-diaphragm transfer mechanism. The time automatic (shutter preferred) or manual modes of exposure determination are feasible without restriction.

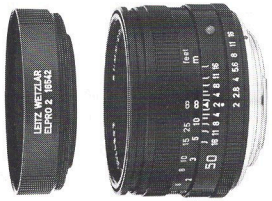




Special Outfits for the Near Focusing Range

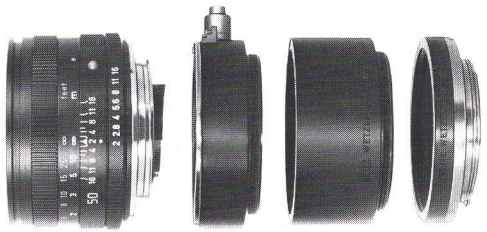
ELPRO Auxiliary, Near Focusing Lenses

The ELPRO auxiliary near focusing lenses are achromats and, as such, increase the optical image quality in the near focusing range. Medium lens openings provide for excellent sharpness. Camera-technique including exposure determination are the same as in the normal range. ELPRO auxiliary, near focusing, lenses are supplied for SUMMICRON-R 1:2/50mm, all 90mm lenses, the MACRO-ELMAR-R 1:4/100mm, the ELMARIT-R 1:2.8/135mm, the ELMAR-R 1:4/180mm and the VARIO-ELMAR-R 1:4.5/75–200mm.



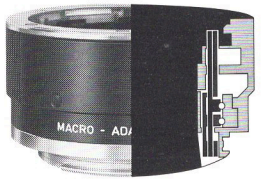
Ring Combinations for the Near Focusing Range

A three-part ring combination (Code No. 14 159) is used mainly in conjunction with the 50mm SUMMICRON-R f/2 standard lens and permits photographs within the ratio of reproduction of 1:2 to 1:1. Its range can be extended at will by means of inserting additional rings. Also applicable in connection with focal lengths 90/135/180/250mm.
A twin cable release serves to semi-automatically close the lens diaphragm.

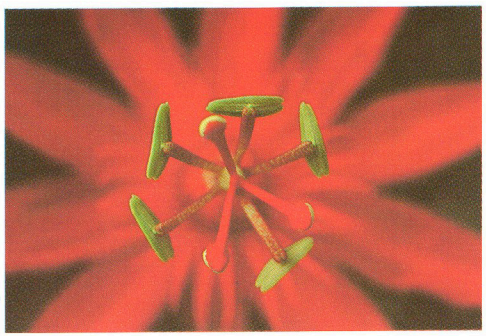


Macro-Adapter-R

An intermediate ring with auto-diaphragm extends the lens extension by 30mm. The "open-diaphragm" exposure determination and the auto-diaphragm feature of all R-lenses are retained. Time-automatic (shutter priority) or manual exposure modes are possible. Close-up photography with the Macro-Adapter-R is as easy as photography within the normal range.
Detailed information is contained in Cat. No. 160–023: The LEICA-R in the near focusing range.









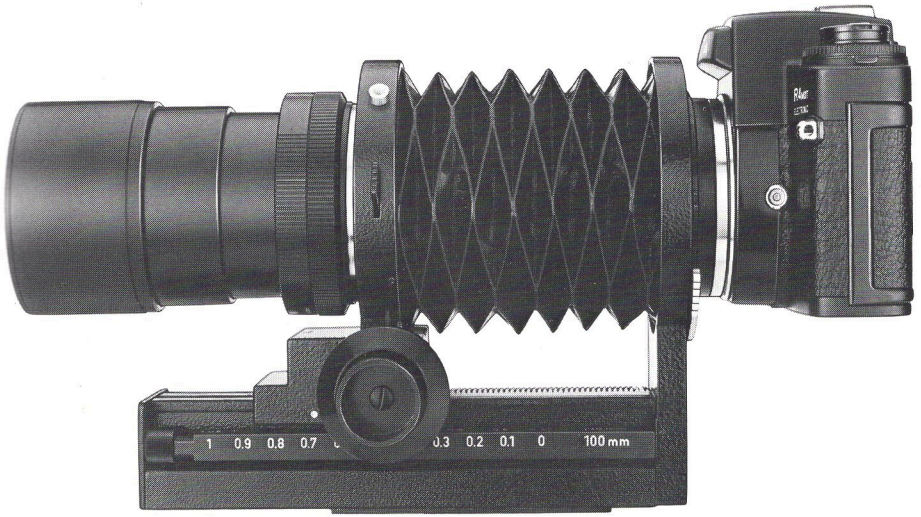
Bellows Focusing Device-R

The bellows focusing device-R is highly popular for the photo-range from infinity to macro. Rigid, vibration-free design are its structural feature. For fast work the pre-set diaphragm of the LEICA-R lenses is closed to the desired value by means of a twin cable release. Exposure is determined through the working aperture. A rotating scale on the side of the bellows focusing device shows the reproduction ratios for lenses of 90/100 and 135mm focal length and it contains a scale in millimeter graduations. All LEICA-R-lenses from 50mm to 250mm may be used without intermediate rings. The MACRO-ELMAR 1:4/100mm for the bellows focusing device deserves special mention.

Special "Macro" Lenses

Contrary to the design of "standard-lenses" the Macro "PHOTAR" lenses are computed to magnify images. Macro photography, using these lenses, can achieve a magnification ratio of 16x on the film. This represents an object area of only 1.5 x 2.3mm. PHOTAR lenses, when used on the bellows device R, open an interesting field of stepless close-up photography in the extreme.



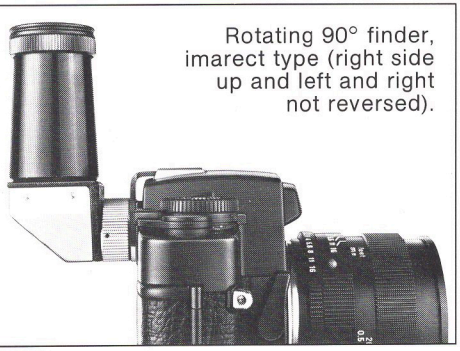


Copying Stand

The copying stand provides accurate right-angle positioning of camera film plane in relation to the subject to be photographed, such as documents, drawings, etc. The vertical height adjustment offers quick and precise focus of the camera for different object sizes.



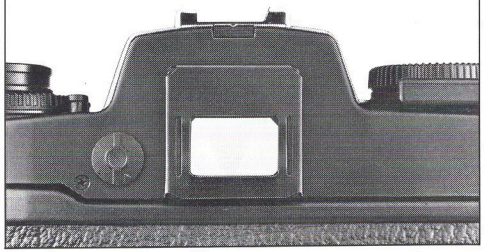
Useful Accessories for the LEICA R4-MOT



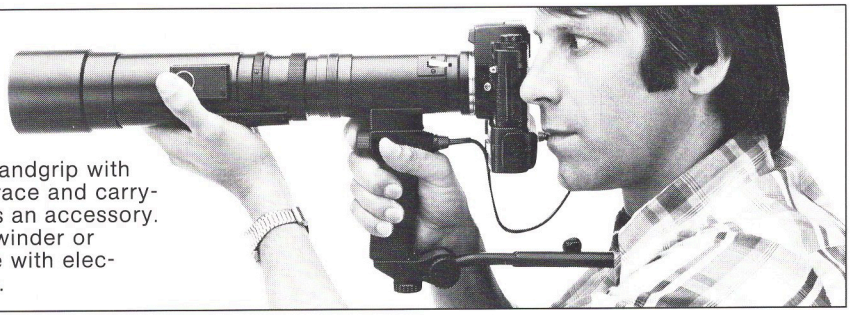
Rotating 90° finder, imarect type (right side up and left and right not reversed).



Flexible eyecup shades the eye from stray-light. The viewfinder image is more brilliant and can be seen more clearly.



Eyesight correction lenses in steps from +3 to −3 diopters.



Universal handgrip with shoulder brace and carrying strap as an accessory. For motor-winder or motor-drive with electric release.



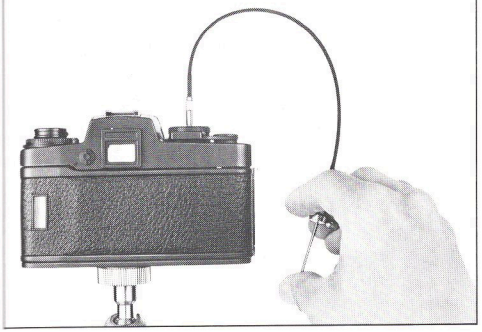
Leitz special filters, plano-parallel, ground and surface polished.

Carrying cases for the LEICA R4-MOT: Two eveready cases, with different front flaps, two combination cases made of solid calfskin leather, as well as a collapsible sailcloth bag.
Furthermore, we offer a universal carrying case for a full range of accessories and the well-known carry-all for reporters, both made of prime calfskin leather.

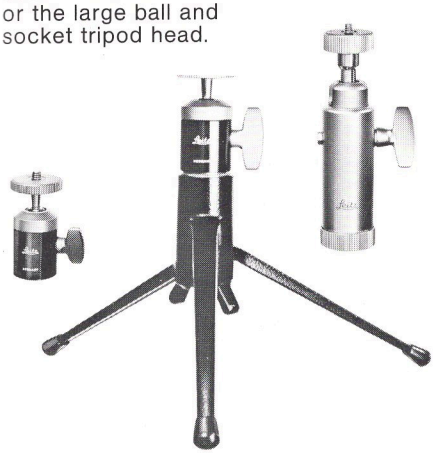


Photo Technical Service

A cable release is a practical aid in the prevention of camera-shake when exposing from a tripod.



The Leitz table tripod is always a welcome accessory. Collapsible and used with either the small or the large ball and socket tripod head.



Leitz Technical Information Service

is available for all questions related to miniature photography, projection, enlarging or binoculars:
Mon. – Friday 8 am. to 12 noon – 13 pm. to 16 pm. (06441) 292436
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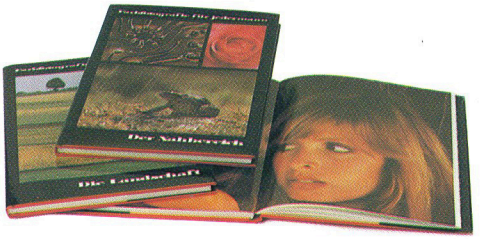
LEICA-FOTOGRAFIE

This magazine is a must for everyone who wants to remain up-to-date with regard to miniature photography and wishes to complete his own equipment. It appears in English, German and French (eight issues per year) and is published by Umschau-Verlag, Stuttgarter Strasse 18–24, D-6000 Frankfurt am Main.



Photo-Books

The book-series "Color photography for Everybody" addresses itself to beginners and advanced amateurs. All problems relative to picture taking and photo-reproduction, composition in form and color, are described. Four volumes are so far available: "The Landscape", "The Portrait", "Wildlife" and "Close-up Photography". Published by Umschau-Verlag, Stuttgarter Strasse 18–24, D-6000 Frankfurt am Main.



LEICA School

The LEICA School is a service of the house of Leitz. It was founded to continue the education in photography, projection and enlarging of the advancing photographer.
The courses present a well-rounded program for all participants as well as many suggestions, informations and practical recommendations.
Details and registration forms are available from
ERNST LEITZ WETZLAR GMBH
LEICA-School
Postfach 2020
D-6330 Wetzlar

Recommended outfits

The large number and variety of interchangeable lenses for the LEICA-R system permit hundreds of viable combinations. Hereunder we are listing several outfits with proven practical value.

Standard outfit:

Either the SUMMICRON-R f/2/50mm or the fast SUMMILUX f/1.4/50mm or the Universal lens from infinity to closeup, namely, the MACRO-ELMARIT-R f/2.8/60mm.

Minimum Cost and Maximum Usefulness:

The all-round ELMARIT-R f/2.8/35 mm and the light Tele lens, ELMARIT-R f/2.8/90mm. The same focal length combination, however, faster: SUMMICRON-R f/2/35mm and SUMMICRON-R f/2/90mm.

Versatile Outfit for Travel:

The ELMARIT-R f/2.8/28mm is a broadly useful wide angle lens together with the Universal lens for closeup and distance shots, the MACRO-ELMARIT-R f/2.8/60mm, and as a practical addition for landscape and portraiture the medium range Tele lens ELMARIT-R f:2.8/135mm.
The outfit becomes even more universal if one chooses to add to the 28mm and 60mm lenses, a 180mm Tele as well as the Extender-R 2x. The extender doubles the focal length of the Macro lens from 60mm to 120mm, and, when combined with the fast ELMARIT-R f/2.8/180mm, it provides a focal length of 360mm at an initial aperture of f/5.6 which is photographically more interesting.

The Compact Travel Outfit:

As a light-weight package we recommend choosing the VARIO-ELMAR-R f/4.5/75–200mm. To which is added the other fast SUMMILUX-R f/1.4/50mm, the ideal wide angle lens for this combination would be the ELMARIT-R f/2.8/24mm.

Outfit for the Nature Photographer:

In order to catch the full width of the landscape we seldom have an angle wide enough. The SUPER-ELMAR-R f/3.5/15mm or the ELMARIT-R f/2.8/19mm are ideal. The MACRO-ELMAR f/4/100mm for the bellows device has a very broad field of application. Its focusing range is stepless from infinity to Macro photography. It can be used as a small tele lens and catches natures small world up to a reproduction ratio of 1:1. (Using PHOTAR supplementary lenses on the bellows device permits Macro photographs up to a reproduction ratio of 16:1.)
The TELYT-R f/4.8/350mm and TELYT-R f/6.8/560mm bridge large distances. The Extender-R 2x, to double the focal length, may in many cases be the ideal addition.

For the Safari:

As a fast Universal lens the SUMMICRON-R f/2/35mm is correct. In addition, as a small Tele lens and for the fast snapshot we recommend either the fast SUMMILUX-R f/1.4/80mm or the SUMMICRON-R f/2/90mm. For portraits and to fill the 35mm frame, or for wildlife photography, we recommend the TELYT-R f/4/250mm. As the longest focal length lens, while very compact and light, the mirror lens MR-TELYT-R f/8/500mm, is recommended to round out the outfit. The Fisheye-ELMARIT-R f/2.8/16mm permits photographing of foreign landscapes with unusual effects.

Super Aperture Lenses for Available Light:

Whether SUMMILUX-R f:1.4/50mm, SUMMILUX-R f/1.4/80mm, or ELMARIT-R f/2.8/180mm – these lenses offer unusual solutions of specific photographic tasks. As a combination these lenses are the Non-Plus-Ultra for all those who must photograph under poor lighting conditions or who wish to use available light for creative design.

The Large Bridge Across the Focal Lengths

The professional and advanced amateur desire to be prepared for all situations. Creativity and photo-design must be developed to the fullest extent.
Impressive creative possibilities are offered by the SUPER-ELMAR-R f/3.5/15mm. As a universal wide angle lens the ELMARIT-R f/2.8/24mm is

Lenses for the LEICA-R-System

recommended. Closeup photography as well as survey photos are rendered possible with the MACRO-ELMARIT-R f/2.8/60mm. The SUMMILUX-R f/1.4/80mm fits this combination and the ELMARIT-R f/2.8/180mm provides a compact but very fast lens for snapshots and portraits from a distance. The TELYT-R f/4.8/350mm bridges large distances and is ideal for sports photography. Bird and wildlife photography and reaching into the distance is a part of the many possibilities offered by the TELYT-R f/6.8/560mm.
The Extender-R 2x offers even further possibilities for bridging distance.

Lens	Focal length in mm maximum aperture	Angle of view	Number of elements	Number of components
SUPER-ELMAR-R	f/3.5/15	110°	13	12
Fisheye-ELMARIT-R	f/2.8/16	180°	11	8
ELMARIT-R	f/2.8/19	95.7°	9	7
SUPER-ANGULON-R	f/4/21	92°	10	8
ELMARIT-R	f/2.8/24	84°	9	7
ELMARIT-R	f/2.8/28	76°	8	8
PA-CURTAGON-R	f/4/35	64/78°	7	6
ELMARIT-R	f/2.8/35	64°	7	6
SUMMICRON-R	f/2/35	64°	6	6
SUMMICRON-R	f/2/50	45°	6	4
SUMMILUX-R	f/1.4/50	45°	7	6
MACRO-ELMARIT-R	f/2.8/60	39°	6	5
ANGENIEUX-ZOOM	f/2.8/45–90	54–27°	15	12
VARIO-ELMAR-R	f/4.5/75–200	32–12.5°	15	11
SUMMILUX-R	f/1.4/80	30°	7	5
ELMARIT-R	f/2.8/90	27°	5	4
SUMMICRON-R	f/2/90	27°	5	4
MACRO-ELMAR-R	f/4/100	25°	4	3
MACRO-ELMAR	f/4/100	25°	4	3
ELMARIT-R	f/2.8/135	18°	5	4
ELMAR-R	f/4/180	14°	5	4
APO-TELYT-R	f/3.4/180	14°	7	4
ELMARIT-R	f/2.8/180	14°	5	4
TELYT-R	f/4/250	10°	7	6
TELYT-R	f/4.8/350	7°	7	5
TELYT-R	f/6.8/400	6°	2	1
MR-TELYT-R	f/8/500	5°	6	5
TELYT-R	f/6.8/560	4.3°	2	1
TELYT-S	f/6.3/800	3°	3	1

Smallest aperture	Focusing range in m	Smallest object area in mm	Viewfinder magnification	Filter size series	Length in mm	Diameter in mm	Weight in g	Cat. No.	Price
22	∞–0.16	70 x 106	0.24	Built-in	92.5	83.5	815	11 213	
16	∞–0.30	401 x 601	0.26	Built-in	60	71	470	11 222	
16	∞–0.30	261 x 392	0.32	–	60	88	500	11 225	
22	∞–0.20	148 x 221	0.35	8.5	43.5	78	410	11 813	
22	∞–0.30	250 x 374	0.39	8	46	67	420	11 221	
22	∞–0.30	188 x 282	0.45	7	40	63	275	11 204	
22	∞–0.30	140 x 210	0.57	8	51	70	290	11 202	
22	∞–0.30	140 x 210	0.57	E 55	41.5	66	340	11 231	
16	∞–0.30	140 x 210	0.57	E 55	54	66	422	11 115	
16	∞–0.50	180 x 270	0.85	E 55	41	66	250	11 215	
16	∞–0.50	180 x 270	0.85	E 55	50.6	66.5	395	11 776	
22	∞–0.27 (with adapter to 1:1)	48 x 72 (24 x 36)	1.00	E 55	62.3 (92.3)	70	390 (555)	11 212	
22	∞–1.00	485 x 727 216 x 324	0.73–1.46	E 67	122	69	774	Upon inquiry	
22	∞–1.20	270 x 405 107 x 160	1.26–3.17	E 55	157	70	725	11 226	
16	∞–0.80	192 x 288	1.30	E 67	69	75	625	11 880	
22	∞–0.70	140 x 210	1.46	E 55	72	65	515	11 239	
16	∞–0.70	140 x 210	1.46	E 55	62.5	70	560	11 219	
22	∞–0.60 (with adapter to 1:1.6)	72 x 108 (38 x 57)	1.62	E 55	90 (120)	67.5	540 (705)	11 232	
22	in the focusing bellows-R only ∞–1:1	24 x 36	1.62	E 55	62.5	68	365	11 230	
22	∞–1.50	220 x 330	2.19	E 55	93	65	730	11 211	
22	∞–1.80	175 x 262	2.92	E 55	100	65.5	540	11 922	
22	∞–2.50	276 x 414	2.92	E 60	135	68	750	11 242	
22	∞–1.80	193 x 290	2.92	E 67	121	75	755	11 923	
22	∞–1.70	124 x 186	4.06	E 67	195	75	1230	11 925	
22	∞–3.00	171 x 257	5.68	E 77	286	83.5	1820	11 915	
32	∞–3.60	158 x 236	6.50	7	384	78	1830	11 960	
8	∞–4.00	180 x 270	8.05	(E 77) 5 filters available	121	87	750	11 243	
32	∞–6.40	224 x 336	9.10	7	530	98	2330	11 865	
32	∞–12.50	320 x 480	13.07	7	790	152	6860	11 921	

The Complete LEICA R4-MOT-System

Camera:

	Cat. No.	Price
LEICA R4-MOT electronic, silver chrome	10 041	
LEICA R4-MOT electronic, black chrome	10 043	
Accessories for the camera:		
Eyesight correction lenses:		
Spherical + or − 0.5, 1, 1.5, 2, 3	14 240 to 14 249	
Interchangeable focusing screens:		
in container, with brush and tweezers		
Universal focusing screen (replacement)	14 303	
Groundglass screen	14 304	
Micro prism screen	14 305	
Groundglass screen with reticle lines	14 306	
Clearglass screen with cross line	14 307	
Eyecup	14 257	
Data-back DB LEICA R	14 297	
Large capacity film chamber R4 (in preparation)	14 324	

Motorized winders:

MOTOR-WINDER R4	14 282	
Adapter for external power source MW-R	14 278	
Holder for battery/rechargeable battery housing MW-R	14 279	
Replacement housing for above	14 280	
MOTOR-DRIVE R4	14 292	
Adapter for external power source MD-R	14 323	
Replacement housing for battery/rechargeable battery MD-R	14 322	
Accessories for MOTOR-WINDER/ MOTOR-DRIVE:		
Electronic remote control unit RC LEICA R	14 277	
Hand grip R4	14 283	
Tripod holder R4	14 284	
Electronic cable release 0.30m	14 237	
Electronic cable release 5m	14 272	
Cable release extension 25m for remote release	14 274	
Cable release extension 5m for remote release	14 293	

Lens Accessories:

Lens extender R2x for LEICA R	11 236	

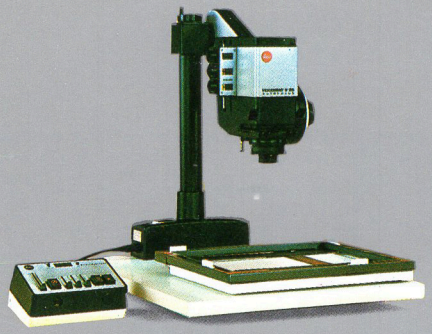
Filters:	E 55	E 60	E 67	Series/7	Series/8	Series/8.5
UVA	13 373	13 381	13 386	13 009	13 018	13 024
Yellow						
Green	13 391	13 392	13 393	13 007	13 021	
Orange	13 312	13 383	13 388	13 008	13 017	13 023
Circular pol.	13 357	13 376	13 377	13 370	13 372	

Accessories for the near focusing range:

	Cat. No.	Price
ELPRO, auxiliary lenses:		
1 for R 1:2/50	16 541	
2 for 1:2/50	16 542	
3 for R 90, 1.4/100, 1:2.8/135, 1:4/180 and 1:4.5/75–200	16 543	
4 for R 1:4/100, 1:2.8/135, 1:4/180 and 1:4.5/75–200.	16 544	
Leather case for "ELPRO" lens	14 553	
Macro-adapter-R	14 256	
Combination ring for the close focusing range	14 159	
Bellows focusing device R	16 860	
Double cable release	16 494	
Copying Stand	16 707	
90° angle viewfinder	14 286	
Leitz "PHOTAR" lenses:		
used with bellows device R via Intermediate rings	14 259	
PHOTAR 1:2.4/12.5mm	549 025	
PHOTAR 1:2/25mm	549 026	
PHOTAR 1:4/50mm	549 027	

Carrying Cases:

Eveready case, calfskin-nappa-leather, for LEICA R4-MOT, without winder/drive:		
with standard flap (for 50mm lenses)	14 569	
with large flap (For R 1:2.8/60, R 1:1.4/80 and 90mm lenses.	14 568	
Combination case, calfskin-nappa-leather for LEICA R4-MOT without winder/drive		
for use with up to four lenses.	14 832	
for LEICA R4-MOT with winder or drive for use with up to four lenses.	14 833	
Universal carry-all case, calfskin-nappa-leather, for LEICA R4-MOT with or without winder/drive, for up to two cameras and up to six lenses	14 834	
Reporter case	14 830	



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Subsidiary: Ernst Leitz (Canada) Ltd., Midland, Ontario
Leitz Portugal S.A.R.L., Vila Nova de Famalicão

List 121.**111-136** **Engl.**

Printed in W-Germany VIII/80/CY/w.

Leitz means precision.
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