

## HANDBOOK OF THE LEICA SYSTEM

PHOTOGRAPHY PROJECTION ENLARGING REPRODUCTION OBSERVATION



### 1. LEICA R models



## General Catalogue for Photographic Dealers

(Edition December 1989)

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- 2. LEICA R lenses
- 3. LEICA R near-focusing and copying equipment
- 4. LEICA M models
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- 7. LEICA V 35
- 8. LEICA P 2000 Fade-control units DU 24
- 9. LEICA P 253 models LEICA P 153 models Fade-control units DU 24
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ANGULON APO-TELYT COLORPLAN CURTAGON ELMAR ELMARIT ELMARON FOCOMAT FOCOTAR HEKTOR LEITZ LEICA LEICAFLEX LEICAMETER NOCTILUX PHOTAR PRADO PRADOLUX PRADOVIT REPROVIT SUMMICRON SUMMILUX TRINOVID und VISOFLEX

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## LEICA R 5



#### **Multi-automation**

Compact, electronically-controlled 35 mm SLR camera.

Alternative dual exposure measurement through the lens:

- O selective measurement
- largefield averaging

Multi-mode automation

- aperture priority
- O shutter priotity
- O automatic program mode

Manual setting of shutter speed and aperture.

TTL flash exposure measurement with system-compatible flash unit (SCA 351/551), automatic switchover to "X" with system-compatible flash units (SCA 350/550).

Available as accessories: interchangeable focusing screens, databack, rapid motor wind.

Detailed description on page 1 - 20.

LEICA R 5. black chromium finish	Code No.
complete with camera cover, baseplate cover and carrying strap	10 061
LEICA R 5, silver chromium finish	
complete with camera cover, baseplate cover and carrying strap	10 060

#### Use of earlier LEICA R lenses

All lenses of the LEICA R 3 / R 4 range can be used on the LEICA R 5 without modification, but earlier 180 mm ELMARIT-R f/2.8 (Code No. 11919) to Serial No. 2939 700 and 250 mm TELYT-R f/4 (Code No. 11920) to Serial No. 3 050 600 can only be used for aperture priority with selective measurement, aperture priority with largefield averaging and manual mode.

Lenses of the LEICAFLEX models must not be inserted in the LEICA R 5 as this may lead to damage. For use in the LEICA R cameras they must be fitted with a control cam, when they will be suitable for use in both the LEICAFLEX and the LEICA R models (restrictions as above).

## LEICA R 6



Compact, single-lens reflex camera with mechanically controlled shutter for the format 24 x 36 mm.

Alternative duel exposure measurement through the lens:

O selective measurement

○ largefield averaging

Manual setting of shutter speed and aperture

TTL flash exposure measurement with system-compatible flash units and the SCA 351/551 adapters.

Available as accessories:

interchangeable focusing screens, Data-Back, rapid motor wind.

Detailed description on page 1-24.

			Code No.
LEICA R 6, black chromiu complete with camera compl	1 carrying str	ap	10 070
<b>LEICA R 6, silver chromiu</b> complete with camera co	1 carrying str	ap	10 071

#### Use of earlier LEICA R lenses

All lenses of the LEICA R models range can be used on the LEICA R6 without modification.

Lenses of the LEICAFLEX models must not be inserted in the LEICA R 6 as this may lead to damage. For use in the LEICA R cameras they must be fitted with a control cam, when they will be suitable for use in both the LEICAFLEX and the LEICA R models.

## Accessories for LEICA R models

## Interchangeable focusing screens



## Eyecup R



Eyecup, can be locked in place *)	
can also be used with correction lenses	 14215

### Angle viewfinder R

with single and double magnification for viewing from above, also for candid photography "round the corner" or over the heads of a crowd.



Angle viewfinder 90°, can be locked in place, vertically and laterally correct image, adjustable eyepiece, switch for single/double magnification.....

<sup>\*)</sup> The Leica Service Centre can fit a locking catch on the eyepiece mount of any LEICA R 4 with a serial number below 1 662 952 and of LEICA R 4 s. R correction lenses and eyecups may be used without modification of the eyepiece mount.

## **Correction lenses**

with adapter (spherical), can be locked in place \*)

	Code No.
+ 0.5	14 330
+ 1.0	14331
+ 1.5	14 332
+ 2.0	14 333
+ 3.0	14 334
- 0.5	14335
- 1.0	14336
- 1.5	14337
- 2.0	14 338
- 3.0	14 339
Attachment possible with eyecup 14215.	
with antislip pad (replacement)	14 253
Camera body cover	
R bayonet for all R cameras (replacement)	14 103

### Flash socket cover

for LEICA R 5 models (replacement) 14315	for LEICA R 5 models (replacement)	14 315
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## **DB2** LEICA R databack



The DB 2 LEICA R is a camera back for printing data onto the film. It can be used without a cable on LEICA R 5 / R 6 models (with cable connection for use on LEICA R 4 models, see page 11-3). Replaces the back of the camera.

Detailed description page 1 - 28.

<sup>\*)</sup> The Leica Service Centre can fit a locking catch on the eyepiece mount of any LEICA R 4 with a serial number below 1662 952 and of LEICA R 4 s. R correction lenses and eyecups may be used without modification of the eyepiece mount.

## **Ever Ready Cases**

für LEICA R4/R5/R6 models (without Motor-Winder or Motor-Drive)

#### **Ever Ready Case**



black leather with standard front part for the following lenses: 21 mm-f/4<sup>1</sup>), 24 mm-f/2.8<sup>1</sup>), 28 mm-f/2.8<sup>1</sup>) 35 mm-f/2.8, 35 mm-f/4<sup>1</sup>), 50 mm-f/1.4, 50 mm-f/2

	Code No.
Ever Ready Case with standard front part for LEICA R4/R5 models	14 569
Ever Ready Case with standard front part for LEICA R6	14 510

#### **Ever Ready Case**



black leather with large front part for the following lenses: 16 mm-f/2.8, 19 mm-f/2,8<sup>1</sup>), 21 mm-f/4<sup>1</sup>), 24 mm-f/2.8<sup>1</sup>), 28 mm-f/2.8, 35 mm-f/1.4, 35 mm-f/2, 35 mm-f/2.8, 35 mm/4, 50 mm-f/1.4, 50 mm-f/2, 60 mm-f/2.8, 80 mm-f/1.4, 90 mm-f/2, 90 mm-f/2.8 and 35-70 mm-f/3.5

Ever Ready Case with large front part for LEICA R4/R5/R6 models.

<sup>1)</sup> without lens hood/without screw-in filter

## Small combination bag R (compact version) 1)

for LEICA R<sup>2</sup>) models (without Motor-Winder / Motor-Drive) holding: 1 LEICA R camera with lens inserted and up to 3 other lenses.



**Bag** (about  $25 \times 14 \times 19$  cm) with

coupling ring to fasten 2 lenses together
 adjustable carrying strap with anti-slip pad
 front pocket for accessories

black leather	Code No. 14 805
safari version made of green, hard-wearing canvas	14 841
Coupling ring (replacement)	14 836

## Large combination bag R (standard version) 1)

for LEICA R<sup>2</sup>) models with Motor-Winder / Motor-Drive, holding:

1 LEICA R model with Motor-Winder / Motor-Drive, handgrip and lens attached as well as up to 3 other lenses



**Bag** (about 31 x 18 x 23 cm) with O coupling ring to fasten 2 lenses together O adjustable carrying strap with anti-slip pad O front pocket for accessories

black leather	14 833
safari version made of green, hard-wearing canvas	14 837
Coupling ring (replacement)	14 836

<sup>1)</sup> See pages 11-12 to 11-17 for suggestions of accommodating equipment in camera bags.

<sup>2)</sup> Not for LEICA R 3.

## Hold-all R<sup>1)</sup>

für LEICA R<sup>2</sup>) models with or without Motor-Winder / Motor-Drive holding: 2 cameras and up to 6 lenses



Hold-all R (external dimensions about  $36 \times 21 \times 24$  cm) with

Hold all R (chlothal dimension	
<ul> <li>coupling ring to fasten 2 lenses together</li> <li>adjustable carrying strap with anti-slip pad</li> </ul>	
O front pocket for accessories	Code No.
Hold-all R (black leather)	14 834 _
Coupling ring (replacement)	14836_

## **Reporter's bag**

without compartments



External measurements: about 38 x 21 x 30 cm black leather with two additional outer pockets

14830 Reporter's bag .....

See pages 11-12 to 11-17 for suggestions of accommodating equipment in camera bags.
 Not for LEICA R 3.

## **Tabletop** tripod



### **Ball-and-socket Head**



Large ball-and-socket head with tripod thread A 1/4, DIN 4503 (1/4 in) ... 14110

## **Cable releases**

for all camera models with conical thread

Cable release, length 25 cm, with clamping screw	14 067
Cable release, length 50 cm, with clamping screw	14 076

## Camera back with thumbhold

for LEICA R cameras (not for LEICA R 3)



## Universal handgrip



and therefore individually adaptable by the user. Can also be used as a small tripod. Thread A 1/4, DIN 4503 (1/4 in), for attaching the carrying strap 14 130..... Detailed description page 1-29

14 239

## Carrying strap for heavy equipment



Carrying strap with antislip pad for heavy equipment, with two tripod screws for attachment to the universal handgrip, thread A 1/4 (1/4 in) ....

14130

### Adapter



Adapter for the use of VISOFLEX 2/3 lenses from the LEICA M range	
on the LEICA R (at working aperture)	14 167

## LEICA RBA ring-flash adapter

for use of LEICA R5/R6 with Minolta Auto-Electroflash Macro 80 PX and SCA adapter



LEICA RBA ring-flash adapter ..... consisting of: special bracket, rapid coupler as well as adapter with connecting cable

14410\_

## **MOTOR-WINDER R**



Compact, handy motor winder for film transport and shutter wind, exclusively for LEICA R4/R5/R6 models.

Extremely quiet operation through patented, low-noise unwinding gear with load-controlled force locking.

Single-frame and series releases. Frame frequency at serial release up to 2 fps.

Functional handgrip with button for series releases as accessory.

Socket 1) for the RC LEICA R Electronic Control Unit and other electrical releases (see accessory range).

Very easily and quickly interchangeable housing for six ordinary or rechargeable NiCd batteries.

Detailed description page 1-30.

### **MOTOR-WINDER R**

Code No.

with cover	14 208

## Handgrip R for hand-held exposures<sup>2</sup>)



Sturdy, practical design with two conveniently located buttons for series releases (upright and oblong format, adjustable leather loop, screw with coin slot for attaching the handgrip to the MOTOR-WINDER R or MOTOR-DRIVE R.

Handgrip R for hand-held exposures 2)..... 14 308

<sup>1)</sup> The 5-pin coupling plug 302-013.154-004 is suitable, available from Leica Service Centre.

<sup>&</sup>lt;sup>2</sup>) For MOTOR-WINDER R which on the face side have 3 contacts on the contact plate.

## Accessories for MOTOR-WINDER R

**RC LEICA R Electronic Control Unit** 



Electronic control unit for remote release Timing pulse generator for automatic release built in Seven integrated circuits (IC) in CMOS technology Digital display of the exposure through feedback from the camera. Connecting cable permanently attached to the instrument, length 2 m Exclusively for the LEICA R with motorized film transport

Detailed description page 1-34.

	Couc no.
Remote Control LEICA R (RC LEICA R)	14 277

## Adapter for external power supply MW-R



for connection to external power supply; with appliance cable, length 1 m, and screwon coupling plug <sup>1</sup>).

(The adapter for external power supply MW-R is inserted in the winder instead of the battery housing).

#### **Possibilities of connection**

Battery housing (through holder 14 279), if at low temperatures ordinary or rechargeable batteries have to be kept at body heat and therefore accommodated externally. Mains units of up to 8.5 V DC.

Adapter for external power supply MW-R	14 278
5 m extension cable for external supply MW-R	14 293

Code No

The following are suitable: Coupling socket 302-013.154-011, or 2-pin socket 042-813.155-008 for building-in, available from Leica Service Centre.

## Holder for the MW-R battery housing



with connecting sockets marked "+" and "-" for the battery charger, 50 mA, for instance Uni 1 charger by Varta AG 1); for charging the six NiCd batteries, for instance 501 RS, by Varta AG<sup>1</sup>) in the battery housing MW-R.

External power supply of the MOTOR-WINDER R through adapter for external supply MW-R, Code No. 14278. Screw-on connecting socket installed for this purpose.

Code No. Holder for the battery housing MW-R ..... 14279

## **MW-R** battery housing

for the MOTOR-WINDER R, as replacement



For heavy-duty operation (prolonged use, low temperatures, expeditions) a second housing, loaded with new or recharged batteries, offers additional reliability. Single action change within seconds.

MW-R battery housing .....

14 280

## **Tripod holder R**



for the use of the LEICA R 4 / R 5 / R 6 combination with long-focal-length lenses on a photographic tripod or for the attachment of the universal camera holder for the REPROVIT IIa and the REPROVIT-R. The universal handgrip can also be attached for horizontal pictures. Sturdy design with two conveniently-located screws for the tripod threads of the MOTOR-WINDER R or MOTOR-DRIVE R.

#### **Tripod** holder

with thread A 1/4, DIN 4503 (1/4 in) for photographic tripods. ..... 14284

1) Charging of rechargeable batteries via sockel and connecting plug 302-013.154-001 and the use of any charger with 45 mA output.

### **Electric Release Switch R**



with trigger switch for switching on the LEICA R4/R5/R6 models<sup>1</sup>) for the universal handgrip with cable, length 30 cm, and screw-on coupling plug:

Practical accessory for photography with long-focal-length lenses such as the 250 mm-f/4, 280 mm-f/2.8, 350 mm-f/4.8, 400 mm-f/6.8 and 560 mm-f/6.8.

When inserted in the universal handgrip (14 239), the trigger switch can be directly connected with the screw-on coupling plug to the MOTOR-WINDER R or MOTOR-DRIVE R through the 30 cm cable.

Electric Release Switch R	14 237
Directine Attreaded Statem Attreated	

### Electric cable release R

for remote release, with cable, length 5 m, and screw-on coupling plug. In conjunction with 25 m extension cables (14274) for electric remote release up to 100 m.

## 25 m extension cable

(for electric remote release) with coupling screw plugs

25 m extension cable	14 274
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<sup>1)</sup> Storing of the measuring values with LEICA R4/R5 (selective) only through camera release.

## **MOTOR-DRIVE R**



Compact, handy motor drive for film transport and shutter wind, exclusively for LEICA R4/R5/R6 models.

Quiet running through special gear construction.

Series releases of 4 fps, 2 fps, and single-frame release, adjustable.

Anatomical handgrip with two release buttons as accessory.

Socket 1) for RC LEICA R Electronic Control Unit and other electric releases (see accessory range).

Very easily and quickly interchangeable housing for 10 ordinary or rechargeable NiCd batteries

Detailed description page 1 - 32.

Code No.

MOTOR-DRIVE R	
with cover	14 310

## Handgrip R for hand-held exposures<sup>2</sup>)



Sturdy, practical design with 2 conveniently-located buttons for series releases (upright and oblong format) adjustable leather loop, screw with coin slot for attaching the handgrip to the MOTOR-WINDER R or MOTOR-DRIVE R.

Handgrip R for hand held exposures<sup>2</sup>)..... 14308\_

<sup>1)</sup> The 5-pin coupling plug 302-013.154-004 is suitable, available from Leica Service Centre.

<sup>2)</sup> For MOTOR DRIVE R which on the face side have 3 contacts on the contact plate.

The Leica Service Centre can modify MOTOR DRIVE R 4 from serial number 63 000 for use with Handgrip R.

## Accessories for MOTOR-DRIVE R

RC LEICA R Electronic Control Unit



Electronic control unit for remote release. Timing pulse generator for automatic release built in Seven integrated circuits (IC) in C-MOS technology Digital display of the exposure through feedback from the camera Connecting cable permanently attached to the instrument, length 2 m Exclusively for the LEICA R with motor film transport

Detailed description page 1-34.

Remote Control LEICA R (RC LEICA R)..... 14277

## Adapter for external power supply MD-R



for connection to external power supply; with cable permanently attached to the instrument, length 1 m, and screw-on coupling plug<sup>1</sup>).

(The adapter for external power supply MD-R is inserted in the drive instead of the battery housing).

#### **Possibilities of connection:**

Battery housing for external accommodation of batteries when they have to be kept at body heat (during cold weather). Mains Unit up to 15 v dc.

Adapter for external power supply MD-R	14 323
5 m extension cable for external power supply MD-R	14 325

Code No.

The following are suitable: Coupling socket 302-013.154-011, or 2-pin socket 042-813. 155-008 for building-in, available from Leica Service Centre.

## **Battery housing MD-R**

for the MOTOR-DRIVE R as replacement



For heavy-duty operation (prolonged use, low temperatures, expeditions) a second housing, loaded with new or recharged batteries, offers additional reliability. Singleaction change within seconds.

The battery housing MD-R has sockets for the connection of a battery charger, for instance uni 1 charger of Varta AG; for the recharging of the 10 NiCd batteries, for instance 501 RS of Varta AG.

The adapter for external power supply MD-R is connected with the aid of a screw-in plug.

	Code No.
Battery housing MD-R	14 322

## **Tripod holder R**



for the use of the LEICA R 4 / R 5 / R 6 combination with long-focal-length lenses on a photographic tripod or for the attachment to the universal camera holder for the REPROVIT IIa and on the REPROVIT-R. The universal handgrip can also be attached for horizontal pictures. Sturdy design with two conveniently-located screws for the tripod threads of MOTOR-WINDER R or MOTOR-DRIVE R.

**Tripod holder** with thread A <sup>1</sup>/<sub>4</sub>, DIN 4503 (<sup>1</sup>/<sub>4</sub> in) for photographic tripods 14 284

## **Electric Release Switch R**



with trigger switch for switching on the LEICA R4/R5/R6 models<sup>1</sup>) for the universal handgrip with 30 cm cable and screw-on coupling plug:

Practical accessory for photography with long-focal-length lenses such as the 250 mm-f/4, 280 mm-f/2.8, 350 mm-f/4.8, 400 mm-f/6.8 and 560 mm-f/6.8.

When inserted in the universal handgrip (14 239), the trigger switch can be directly connected with the screw-on coupling plug to the MOTOR-WINDER or MOTOR-DRIVE through the 30 cm cable.

Electric Release Switch R. 

<sup>&</sup>lt;sup>1</sup>) Storing of the measuring values with LEICA R4/R5 (selective) only through camera release.

## Electric Cable Release R

with 25 m extension cables (14 274) for electric remote release up to 100 m.	
Code No.	
Electric cable release	

....

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## 25 m extension cable

(for electric remote release) with coupling plugs

# Specifications and technical data

## LEICA R 5



#### Camera type:

Electronically controlled single-lens reflex camera with multiple automation for the format 24 x 36 mm.

#### Lens connection:

LEICA R bayonet.

#### Lenses:

More than 30 LEICA R lenses with focal lengths from 15 - 800 mm.

#### **Operating the camera:**

The camera is switched on by pressing the release button, by actuation of the program selector or by pushing down the test button for battery control (LEDs in viewfinder light up – exposure meter is working). After releasing the displays will be lighted for some 12 s before they go out automatically, provided that the shutter is being cocked.

#### Methods of exposure measurement:

Selective and average metering through the lens, combined with modes to make practical programs. Exposure measurement at full aperture and at working aperture.

#### Measuring cell:

Silicon photodiode in the lower part of the camera, protected against stray light. For selective measurement, a collector lens is moved in front of the silicon photodiode, automatically by setting the program.

#### Selective metering:

Measuring field 7 mm diameter, visible in viewfinder. The selectively metered value can be stored by taking up the slack of the camera release button for up to 30 seconds.

#### Integral metering:

Center-weighted average of full-field measurement.

#### Measuring range:

Selective metering from 1 cd/m<sup>2</sup> up to 125 000 cd/m<sup>2</sup> at f/1.4, i. e. a working range from EV + 3 to EV + 20 at ISO 100/21° corresponding to aperture / shutter speed combinations from f/1.4/1/4 s to f/22/1/2000 s. Integral metering from 0.25 cd/m<sup>2</sup> to 125 000 cd/m<sup>2</sup> at f/1.4, i. e. a working range from EV + 1 to EV + 20 corresponding to aperture / shutter speed combinations from f/1.4/1 s to f/22/1/2000 s.

#### **Programs:**

Combination of the aperture-priority, shutter speed-priority automatic program modes as well as the manual setting of shutter speed and aperture with the selective and averaging exposure measurement methods. With the program selector can be set:

Aperture priority mode with selective metering.

A perture priority mode with integral metering.

T Shutter speed priority with integral metering.

P Variable mode automation with integral metering.

m Manual setting of shutter speed and aperture with selective metering.

#### **Exposure override:**

Plus / minus 2 exposures values in  $\frac{1}{3}$  steps with clickstop. The override is indicated in the viewfinder.

#### Film speed range:

ISO 12/12° to ISO 3200/36°.

#### **Power supply:**

Two 11.6 mm OD x 5.4 mm high silver oxide button cells or 11.6 mm OD x 10.8 mm high lithium cell. Press test button to check battery voltage. For spare batteries, see Technical information.

#### Viewfinder system:

Built-in pentaprism. Five interchangeable focusing screens:

1. Universal screen (supplied with camera); 2. Uniform ground-glass screen; 3. Microprism screen; 4. Uniform ground-glass screen with grid divisions and TV marks; ; 5. Clear glass screen with cross-hairs.

#### Eyepiece:

Setting of correction values with dial from + 2 to - 2 dioptres. Integrated eyepiece diaphragm. Eyepiece mount with catch for correction lens holder, eyecup and angle view-finder.

#### Viewfinder field:

34.6 mm x 23 = 92% of frame size.

#### Viewfinder magnification:

0.8 x at 0 diopter with 50 mm lens.

#### LED displays in viewfinder (depending on program selected):

Program symbol, exposure value determined by exposure measurement (shutter speed or aperture), flash readiness and flash exposure control in combination with dedicated flash units, memory hold i. e. the storage of the selectively measured shutter speed in the aperture priority mode with selective metering, indicated by the program symbol extinguishing (the shutter speed indication remains indicated).

#### Reflected data in the viewfinder (depending on program selected):

Preset aperture, preset shutter speed.

#### LED warning indications in viewfinder:

Override setting, over- and under exposure warnings when measuring range is exceeded, restricted control range of aperture in shutter speed priority mode and mode automation, setting X, B and 100 (in this case the exposure measurement does not work).

#### Flash synchronization:

Standard contact bush (X) for flashbulb and electronic flash units, at the side of the prism housing. Central contact (hot shoe, X) in the accessory shoe.

#### TTL flash-exposure control and automatic changeover to X setting:

An electronic flash unit designed for system camera fittings 300 or 500, i. e. dedicated flash units SCA 300 or SCA 500 using SCA 351 or SCA 551 adapters, measures flash exposure through the camera lens and automatically switches the camera's electronic system to X (1/100 s) as soon as the flash unit is ready. The LED display flashes and the shutter/aperture display switches off to indicate flash-exposure control and 'flash ready'.

#### Override for TTL flash exposure measurement:

Plus / minus 2 stops. In  $\frac{1}{3}$  values with clickstops. The override setting is indicated in the viewfinder.

#### Automatic changeover to X:

When using dedicated flash units of the SCA systems 300 and 500 in combination with the SCA 350 and 550 adapters the changeover of the camera electronics to "X" (1/100 s) takes place automatically after the flash unit has been recharged. A flashing LED in the viewfinder indicates readiness to flash (LED display of shutter speed / aperture disappears).

#### Manual settings for flash synchronization using the time-setting button:

 $X = \frac{1}{100}$  s is produced mechanically and released electromagnetically.  $100 = \frac{1}{100}$  s is produced mechanically and released mechanically. All shutter speeds from  $\frac{1}{2}$  to  $\frac{1}{60}$  s with manual setting and B = exposure of any duration.

#### Metering cell for flash exposure measurent:

Silicon photodiode in the lower part of the camera, next to the metering cell for exposure measurement.

#### Film speed range:

ISO 12/12° to ISO 3200/36°.

#### Shutter:

Electronically controlled metal-blade focal-plane shutter. Vertical action.

#### Shutter speeds computed by electronics:

For automatic programs from 15 s to  $\frac{1}{2000}$  s, continuously variable. With manual setting and aperture-priority in full values from  $\frac{1}{2}$  s to  $\frac{1}{2000}$  s.

#### Shutter speeds produced mechanically:

 $X = \frac{1}{100}$  s for electronic flash synchronization. B for exposures of any duration.  $100 = \frac{1}{100}$  s if the batteries are exhausted (electronic flash synchronisation).

#### Hinged mirror system:

Semi-transparent hinged mirror with 17 deposited layers (70% reflection, 30% transmission). Behind this, Fresnel reflector for selective metering and averaging (1345 microreflectors of the Fresnel reflector concentrate the light on the metering cell). Vibration-free mirror movement.

#### Film transport:

With single-stroke advance lever (angle of movement 130°) or optionally motordriven with the MOTOR-WINDER R (2 fps) or the MOTOR-DRIVE R (switchable 4 fps, 2 fps and single frames).

#### Identification of the film plane:

By symbol on the top of the camera.

#### **Exposure counter:**

Forward counting. Automatic reset when camera back is opened.

#### Multiple exposures:

By pressing the rewind locking button. Automatic reset when the shutter is cocked. Exposure counter does not move on. Any number of exposures possible. Multiple exposures can also be taken by drive or winder.

#### Film rewind:

Hinged rewind crank on the top left of the camera.

#### Shutter release:

Shutter release button with standard thread for cable release. Circuit switched on (LEDs light up in the viewfinder - exposure meter in operation) by pressing after 0.3 mm. Storage of exposure value for (light pressure) after 1 mm. Electromagnetic release for electronically computed shutter speeds and X (=  $\frac{1}{100}$  s) after 1.3 mm. Mechanical release for mechanically produced shutter speeds B and 100 after 2.25 mm.

#### Self-timer:

Delay time approx. 9 s. Operation indicated by a flashing red LED on the front of the camera.

#### **Camera body:**

Die-cast aluminium, die-cast camera top of 1 mm thick zinc. 0.8 mm brass base plate. Camera back with film cartridge window (to check which film is inserted and the film type); can be replaced by the databack. Electric contacts for LEICA R DB2 databack. Field depth lever on the right at the lens attachment permits visual assessment of the depth of field. Tripod thread = A  $\frac{1}{4}$ , ( $\frac{1}{4}$ "). Eyelets on both sides for carrying strap. Mechanical connection and electric contacts for the MOTOR-WINDER-R/ MOTOR-DRIVE-R. Optionally black or silver chromium finish.

#### **Carrying strap:**

Of black perion with integrated anti-slip pad. If an ever-ready case is used, the carrying strap remains on the camera.

#### **Dimensions (without lens):**

Height 89.1 mm, length 138.5 mm, total depth 62.2 mm (depth of camera body 32.2 mm), weight = 625 g.

## LEICA R 6



#### Camera type:

35 mm single-lens reflex camera with mechanical shutter release and through-thelens exposure metering.

#### Lens attachment:

LEICA R bayonet.

#### Lenses:

Choice of more than thirty LEICA R lenses with focal lengths from 15 mm to 800 mm.

#### Shutter:

Manually controlled metal-blade focal-plane shutter, vertical action, compact design.

#### Shutter speeds:

Setting ring, click-stop settings for B and from 1 s to  $\frac{1}{1000}$  s; X =  $\frac{1}{100}$  s for electronic flash synchronization.

#### Shutter-speed setting ring:

Projects 6.5 mm for positive grip, central release button.

#### Shutter release:

Two-stage release button with standard socket thread for cable release. Switches on exposure meter at pressure point after 0.3 mm, releases shutter after 1.6 mm.

#### Swing-mirror system:

Semi-transparent swing mirror coated 17 layers by vacuum deposition, reflects 70% and transmits 30% light, backed by Fresnel reflector for selective and integral metering; Fresnel reflector consists of 1345 micro-reflectors that concentrate light on exposure meter's photocell. Vibration-free mirror action.

#### Independent mirror release:

Special cable-release socket for hinging up mirror without releasing shutter, also sets diaphragm of lens used to selected stop. Shutter controlled by main shutter-release button, with or without cable release.

#### **Electromagnetic self-timer:**

About 9s delay; flashing red LED on front of camera indicates that self-timer is set.

#### Film transport:

Single-movement quick-wind lever (130° movement), optional MOTOR-WINDER R (2 fps) or MOTOR-DRIVE R (single frame, 2 fps, 4 fps).

#### Film plane:

Mark at top of camera.

#### **Exposure counter:**

At top of camera. Counts forward from start at S (frame - 2) to 36; film length for 20, 24, and 36 exposures marked in red. Automatic reset when camera back is opened.

#### **Multiple exposures:**

Press rewind locking button. Automatic reset when shutter is cocked; exposure counter does not move on. Any number of exposures possible. Multiple exposures also possible with motor winder / drive.

#### **Rewind lever:**

Hinged crank at top left of camera.

#### **Exposure meter:**

Selective and integral through-the-lens metering. Selector switch below shuttersetting ring. Metering at full aperture with LEICA R lenses with automatic diaphragm, at working aperture with lenses and accessories without automatic diaphragm.

#### **Photocell:**

Silicon photodiode, protected from stray light in lower part of camera. For selective metering, the selector switch automatically places a collector lens in front of photodiode.

#### Selective metering:

Measuring field  $\overline{7}$  mm diameter, visible in viewfinder.

#### **Integral metering:**

Centre-weighted average of full-field measurement.

#### Measuring range of exposure meter:

Selective metering from 0.25 cd/m<sup>2</sup> to 63 000 cd/m<sup>2</sup> at f/1.4, i. e. from EV + 1 to + 19 at ISO 100/21°, or 1 s at f/1.4 to f/22 at 1/1000 s. Integral metering from 0.063 cd/m<sup>2</sup> to 63 000 cd/m<sup>2</sup> at f/1.4, i. e. from EV - 1 to + 19 at ISO 100/21°, or 4 s at f/1.4 to f/22 at 1/1000 s.

#### Film-speed range:

ISO 12/12° to ISO 3 200/36°.

#### **Power supply:**

Two silver oxide button cells or lithium battery. Press test button to check battery voltage.

#### **Battery life:**

About 2 500 exposures at 12 s for each exposure-meter reading, i. e. about 70 films of 36 exposures each.

#### Switch on exposure meter:

After selection of metering method: by light touch on shutter release; by pressing stop button on selector switch; by light touch on release button of MOTOR-WINDER R or MOTOR-DRIVE R; or by pressing test button for battery check fully home. With shutter cocked, viewfinder display remains lit for about 12s after release of button switch used to activate.

#### Display of metering method selected:

By symbol in window next to shutter-setting ring, and in viewfinder.

#### Display of shutter / aperture balance

in viewfinder.

#### Balancing shutter and aperture:

Set manually by selecting aperture and turning shutter-setting ring or by selecting shutter and turning aperture-setting ring until central, circular LED of shutter/ aperture balance in the viewfinder shows them balanced. The two triangular LEDs, either alone or together with the central LED, indicate over- or underexposure and the direction in which to turn the setting ring concerned.

#### Switching off exposure meter (selective mode):

Press locking button again and move selector switch to OFF.

#### Viewfinder system:

Built-in pentaprism. Five interchangeable focusing screens.

#### Viewfinder eyepiece:

Setting ring for adjustment from + 2 to - 2 diopters. Built-in eyepiece diaphragm. Eyepiece mount with retaining ring for holder of supplementary correction lenses, eyecup, and 90° viewfinder attachment.

#### Viewfinder field:

34.6 mm x 23 mm, i. e. 92 % of frame size.

#### Viewfinder magnification:

0.8 x at 0 diopter with 50 mm lens.

#### Viewfinder display

in lower margin of viewfinder image.

#### Data projected into viewfinder:

Aperture setting, shutter-speed setting (1 s to 1/1000 s, B, X).

### LED displays when exposure meter is activated:

Symbols indicate metering mode selected, shutter / aperture balance; flashing flash symbol indicates 'flash ready' and exposure check.

#### LED warning indicators:

Low-light warning, over- and underexposure override.

#### Supplementary light

may be switched on in poor ambient light for projected data of shutter speed and stop; activated only when exposure meter is ON.

#### Electronic flash synchronization:

Standard X contact socket for bulb and electronic flash units adjacent to prism housing. Central X hot-shoe contact.

#### TTL flash-exposure metering:

Flash exposure measured through camera lens for electronic flash units designed for system camera fittings 300 or 500, i. e. dedicated flash units SCA 300 or SCA 500 using SCA 351 or SCA 551 adapters.

#### Shutter settings for flash:

 $X = \frac{1}{100} s$ , B = 1 s to  $\frac{1}{60} s$ .

#### Override for TTL flash-exposure metering:

 $\pm$  two stops in steps of one-third, simple one-hand control.

#### Photocell for TTL flash-exposure metering:

Silicon photodiode, next to photocell of exposure meter, protected from stray light in lower part of camera.

#### Film-speed range for TTL flash-exposure metering:

ISO 12/12° to ISO 3 200/36°.

#### **Camera body:**

Die-cast aluminium, camera top 1 mm die-cast zinc, bottom panel 0.8 mm brass. Camera back with right-hand thumbhold and film-cartridge window (shows type and speed of film in use), interchangeable with databack. Electric contacts for LEICA R DB 2 databack. Lever at right of lens attachment for visual check of depth of field. Standard 1/4" A thread for tripod screw. Eyelets at sides for carrying strap. Mechanical contact for MOTOR-WINDER R or MOTOR-DRIVE R. Black chromium finish.

#### Dimensions and weight (excl. lens):

89.1 mm (3 ½") high, 138.5 mm (5 ½") long; overall depth 63.5 mm (2½"); weight 625 g (1 lb 6 oz).

## **DB2** LEICA R databack



The DB2 LEICA R is a quartz- and microprocessor-controlled camera back for printing data on the film during exposure. The version for the LEICA R5/R6 is without a cable.

Useful for film numbering, marking of single or serial exposures and noting the date.

#### Input and indication:

The data can be input with the use of the three buttons (MODE, ADJ. and SET) and is indicated on a liquid crystal display.

#### **Data printing:**

- 1. Day, hour and minute (24 hour display): with an accuracy of  $\pm$  15 s/month at medium temperatures.
- 2. Date: day month year, or year - month - day, or month - day - year.

Automatic calendar from 1st Januar 1982 to 31st December 2099.

3. Any numbers up to 99 99 99;

each pair can be replaced by dashes or empty spaces.

4. Picture numbering: in increasing or decreasing order.

When printing is completed, the word "PRINT" appears on the display.

The clock, the automatic calendar and the counter keep on working even without printing.

#### Data area size on the film:

The whole field is  $0.65 \times 4.6$  mm and appears on the lower right corner of the exposure (for oblong format). The six numbers are arranged into three groups.

#### **Printing method:**

Snap switch for two illumination intensity modes according to film speed. The data is printed onto the film from behind by means of a liquid crystal device (LCD). Depending on the antihalation layer of the film, the data are sometimes very faint or not visible at all with some low-speed films, such as the Kodachrome 25, Kodachrome 64, and Polaroid.

#### **Current supply:**

By two adjacent silver oxide button cells (as for LEICA R), sufficient for more than 100 films. Warning signal on the display when battery is too weak.

#### **Miscellaneous:**

Film cartridge viewing window.

#### **Dimensions and weight:**

approx.  $138.5 \times 54 \times 29.5$  mm; approx. 60 g without batteries.

## Universal handgrip with shoulder stock



The universal handgrip with shoulder stock makes it easier to hold the camera steady and can be used as a small tripod. It is part of the standard equipment of the 400 mm TELYT-R f/6.8 and 560 mm TELYT-R f/6.8 follow-focus lenses.

It is recommended also in conjunction with the 250 mm TELYT-R f/4, the 280 mm APO-TELYT-R f/2.8, the 350 mm TELYT-R f/4.8, and the Focusing Bellows R, both without and with the Motor-Winder or Motor-Drive rapid winders.

With motorized operation of the LEICA R4/R5/R6 the electric release switch (Code No. 14 237), available as an accessory, facilitates operation. The camera is then released on the handgrip. With a twin cable release (Code No. 16 494) the preset automatic diaphragm is also operated in the Focusing Bellows R.

A special carrying strap with antislip pad (Code No. 14 130), which can be attached to the universal handgrip with shoulder stock, is offered as an accessory for heavy equipment. For transport the universal handgrip with shoulder stock can be folded to form a compact, easily stored unit.

Universal handgrip and shoulder stock are adjustable to produce a comfortable fit. The shoulder stock can be detached and fixed to the handgrip to form a mini- tripod.

## **MOTOR-WINDER R**



#### **Type of instrument:**

Compact motor winder for film transport and shutter wind. Extremely quiet operation through low-noise unwinding gear with load-controlled force locking.

#### Frame frequency:

Up to two frames per second.

#### For use on:

LEICA R4/R5/R6 models. The motor winder automatically takes over the current supply of the camera.

The motor-winder can be used with all programs.

#### **Current supply:**

By six commercially available 1.5 v alkali manganese batteries or 6 NiCd rechargeable batteries, e.g. 501 RS of Varta AG in an easily interchangeable battery housing. Capacity: about 150 films of 36 exposures at 20 °C.

During recharging, the batteries remain in the battery housing with the holder for the MW-R battery housing (see Page 1-14).

#### External power supply:

Via an adapter for MW-R external power supply 14278 (see Page 1-13).

#### **Operation:**

The camera / motor-winder combination is switched on either when the slack is taken off the camera release button or by tapping the release switch on the motor winder. Operation is made easier by a practical handgrip with two release buttons, available as an accessory.

Important: When the winder is in operation, the rapid-wind lever of the camera must be in the parked position.

#### **Release possibilities on the MOTOR-WINDER:**

Series release with release switch on MOTOR-WINDER, with handgrip or via socket for remote release.

Series exposures are made as long as the above-mentioned release buttons are being pressed, or control pulses transmitted

#### Release possibilities on the camera:

Single-frame release or single-frame exposures with measured value storage with selective measurement. When the finger is taken off the release button after the exposure, the film will automatically be transported and the shutter wound. Intermediate camera release and manual winding are still possible when the motor-

#### Possible shutter speeds:

All automatically computed or manually set shutter speeds and the "X" and "100" settings.

#### Multiple exposures:

Possible with single-frame or series release. Acoustic warning signal against inadvertent multiple exposures.

#### Automatic switch-off:

When the required battery performance is no longer reached or when the frame counter is at 36 (end of film). Film transport and shutter wind can be carried out with the rapid wind lever.

#### Winder body:

Die-cast magnesium. The coupling and connecting elements between the camera and the winder are covered or protected on the bottom of the camera and the top of the winder. Locating pins simplify attachment to the bottom of the camera. Winder connected via a screw with a hinged toggle with the tripod bush of the camera. Exact orientation for attachable handgrip. Contact strip for release via handgrip.

DC micro-motor drive with air-core motor. Electronic control: Hybrid integrated Circuit (HIC) in CMOS technology. Electric release switch with protective ring on the front of the winder.

Convenient rapid change with locking button for battery housing.

Two A <sup>1</sup>/<sub>4</sub> tripod threads, chiefly for attaching the tripod holder 14 284 (accessory). Button for multiple exposures and for releasing the rewind.

Socket 1) for RC LEICA R electronic control unit and other electric releases (see range of accessories).

#### Weights and dimensions:

Height 40 mm, length 140 mm, depth 50 mm (depth of housing alone 46 mm). Weight without batteries 0.225 kg, with batteries 0.400 kg.

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<sup>1)</sup> The 5-pin coupling plug 302-013.154-004 is suitable, available from Leica Service Center.

## **MOTOR-DRIVE R**



#### Type of instrument:

Compact motor-drive for film transport and shutter wind. Quiet operation through special gear construction.

#### Frame frequencies:

Series releases of 4 fps, 2 fps and single-frame release, switchable.

#### For use on:

LEICA R4/R5/R6 models. The MOTOR-DRIVE automatically takes over the current supply of the camera.

The MOTOR-DRIVE can be used with all programs.

#### **Current supply:**

By ten commercially available 1.5 v alkali manganese batteries or 10 NiCd rechargeable batteries, e.g. 501 RS of Varta AG in an easily interchangeable battery housing. Capacity: about 150 films with 36 exposures at 20 °C.

During recharging, the batteries remain in the battery housing, which has sockets for the connection of a charger (see page 1-18).

#### External power supply:

Via an adapter for MD-R external power supply 14323 (see Page 1 - 17).

#### **Operation:**

The camera / MOTOR-DRIVE combination is switched on either when the slack is taken off the camera release button or by tapping the release switch on the MOTOR-DRIVE.

Operation is made easier by a practical handgrip with two release buttons, available as an accessory.

The MOTOR-DRIVE is switched to 4 fps and 2 fps series releases and single-frame release with a slider. This can also be done during exposure.

**Important:** When the Drive is in operation, the rapid-wind lever of the camera must be in the parked position.

#### **Release possibilities on the MOTOR-DRIVE:**

Series and single-frame release with release switch on MOTOR-DRIVE, with handgrip or via socket for remote release.

Series exposures are made as long as the above-mentioned release buttons are being pressed, or control pulses transmitted.

#### Release possibilities on the camera:

Single-frame release or single-frame exposures with measured value storage with selective measurement. When the finger is taken off the release button after the exposure, the film will automatically be transported and the shutter wound. Intermediate camera release and manual winding are still possible when the Motor-Drive is attached.

#### **Possible shutter speeds:**

All automatically computed or manually set shutter speeds and the "X" and "100" settings.

#### Multiple exposures:

Possible with single-frame or series release. Acoustic warning signal against inadvertent multiple exposures.

#### Automatic switch-off:

When the required battery performance is no longer reached or when the frame counter is at 36 (end of film). Film transport and shutter wind can be carried out with the rapid wind lever.

#### **Drive body:**

Die-cast magnesium. The coupling and connecting elements between the camera and the Drive are covered or protected on the bottom of the camera and the top of the Drive.

Locating pins simplify attachment to the bottom of the camera. Drive connected via a screw with a hinged toggle with the tripod bush of the camera. Exact orientation for attachable handgrip. Contact strip for release via handgrip.

DC micro-motor drive with air-core rotor. Electronic control: Hybrid Integrated Circuit (HIC) in CMOS technology. Electric release switch with protective ring on the front of the Drive.

Convenient rapid change with locking button for battery housing.

Two A  $\frac{1}{4}$  tripod threads, ( $\frac{1}{4}$ ") chiefly for attaching the tripod holder 14284 (accessory).

Button for multiple exposures and for releasing the rewind.

Easy-operation slider on the front of the drive, switches to 4 fps, 2 fps or single- frame. Socket 1) for RC LEICA R electronic control unit and other electric releases (see range of accessories).

#### Weights and dimensions:

Height 45 mm, length 140 mm, depth 61 mm (depth of housing alone 55.5 mm). Weight without batteries 0.320 kg, with batteries 0.620 kg.

<sup>1)</sup> The 5-pin coupling plug 302-013.154-004 is suitable, available from Leica Service Center.

## **RC LEICA R** Electronic Control Unit



#### Type of instrument:

Electronic control unit for remote release. Built-in timing pulse generator for automatic releases. Seven integrated circuits (IC) in C-MOS technology. Digital display after the exposure through feedback from the camera. Exclusively for the LEICA R with motorized film transport.

#### **Housing:**

Bolted plastic moulded parts.

All controls and function displays are easily accessible and lucidly arranged on the top. Appliance cable, length 2 m, with screw-on coupling plug for the socket on the MOTOR-WINDER R / MOTOR-DRIVE R.

Brief instructions on the back of the instrument.

#### **Functions:**

Broad push-button  $(\Box)$  for single-frame and series release.

Digital display of the exposures made through 9 mm high, 2-digit, 7-segment display in red. The segments light up for about 2 seconds after each exposure.

Reading key  $(\perp)$  for indicating the number of exposures made at any time.

After a touch, the digital display lights up for about two seconds.

Input key  $(\perp)$  for correction of the digital displays, if some exposures have already been made without the RC LEICA R (only when the slider switch is set at "TEST"). The digital display is zeroed by simultaneous operation of the reading and input keys  $(\perp + \perp)$ .

Rotary Interval switch for automatic single-frame releases at variable time intervals. Operation display through decimal point of the digital lighting up on the left. Slider switch "x1/x10" for 2 interval ranges:

The switchover to "x1" and "x10" is digital and therefore highly accurate:

Position "x1" = 1 exposure/0.5 sec. - about 1 exposure/1 min.

Position "x10" = about 1 exposure/5 sec. – about 1 exposure/10 min.

Slider switch "LEICA/TEST" for various functions.

Position "LEICA"= camera is released with push-button or interval switch.

Position "TEST" = release functions blocked.

The interval can be programmed with the aid of a rotary switch. The release pulse is signalled by the lighting up to the righthand decimal point of the digital display, but the camera is not being released. Time intervals can thereby be determined accurately. After the switchover from "TEST" to "LEICA" the camera will be released at the preselected interval.

Range with extension cables (14 274): up to 100 m.

#### Dimensions and weight:

Height 120 mm, width 60 mm, depth 30 mm, weight including cable 220 g.
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# **LEICA R lenses**

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35 mm ELMARIT-R	f/2.8	<b>2</b> – 13
35 mm PA-CURTAGON-R	f/4	<b>2</b> – 14
50 mm SUMMILUX-R	f/1.4	<b>2</b> – 15
50 mm SUMMICRON-R	f/2	<b>2</b> – 16
60 mm MACRO-ELMARIT-R	f/2.8	<b>2</b> – 17
80 mm SUMMILUX-R	f/1.4	<b>2</b> – 18
90 mm SUMMICRON-R	f/2	<b>2</b> – 19
90 mm ELMARIT-R	f/2.8	<b>2</b> – 20
100 mm APO-MACRO-ELMARIT-R	f/2.8	<b>2</b> – 21
100 mm MACRO-ELMAR-R	f/4	<b>2</b> – 22
135 mm ELMARIT-R	f/2.8	<b>2</b> – 23
180 mm ELMARIT-R	f/2.8	<b>2</b> – 24
180 mm APO-TELYT-R	f/3.4	<b>2</b> – 25
180 mm ELMAR-R	f/4	<b>2</b> – 26
250 mm TELYT-R	f/4	<b>2</b> – 27
280 mm APO-TELYT-R	f/2.8	<b>2</b> – 28
350 mm TELYT-R	f/4.8	<b>2</b> – 29
400 mm TELYT-R	f/6.8	<b>2</b> – 30
500 mm MR-TELYT-R	f/8	<b>2</b> – 31
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# The range of **LEICA R lenses**

Speed	Focal length in mm	Filter dia.	Code No.
f/3.5	15	built-in	11 213
f/2.8	16	built-in	11 222
f/2.8	19	-	11 225
f/4	21	S 8.5	11 813
f/2.8	24	S 8	11 221
f/2.8	28	S 7	11 247
f/2.8	28	67 EW	11 812
f/1.4	35	E 67	11 143
f/2	35	E 55	11115
f/2.8	35	E 55	11 251
f/4	35	S 8	11 202
f/1.4	50	E 55	11777
f/2	50	E 55	11 216
f/2.8	60	E 55	11 253
f/1.4	80	E 67	11 881
f/2	90	E 55	11254
f/2.8	90	E 55	11154
f/2.8	100	E 60	11 210
f/4	100	E 55	11 232
f/4	100	E 55	11 230
f/2.8	135	E 55	11 2 1 1
f/2.8	180	E 67	11923
f/3.4	180	E 60	11 242
f/4	180	E 55	11922
f/4	250	E 67	11925
f/2.8	280	E 112	11 245
f/4.8	350	E 77	11915
f/6.8	400	S 7	11953
f/8	500	E 77 2)	11 243
f/6.8	560	<b>S</b> 7	11 853
f/6.3	800	S 7	11921
f/3.5	35 - 70	E 67	11 248
f/4	70 - 210	E 60	11 246
	f/2.8         f/2.8         f/4         f/2.8         f/2.8         f/2.8         f/2.8         f/1.4         f/2         f/2.8         f/4         f/2.8         f/4         f/2.8         f/1.4         f/2         f/2.8         f/1.4         f/2.8         f/1.4         f/2.8         f/4         f/2.8         f/4         f/2.8         f/4         f/2.8         f/4         f/2.8         f/4.8         f/2.8         f/3.4         f/4.8         f/4.8         f/6.8         f/6.8         f/6.3         f/3.5	f/3.515 $f/2.8$ 16 $f/2.8$ 19 $f/4$ 21 $f/2.8$ 24 $f/2.8$ 28 $f/2.8$ 28 $f/2.8$ 28 $f/2.8$ 35 $f/2$ 35 $f/2$ 35 $f/2$ 50 $f/2.8$ 60 $f/1.4$ 50 $f/2$ 90 $f/2.8$ 60 $f/1.4$ 80 $f/2$ 90 $f/2.8$ 100 $f/4$ 50 $f/2.8$ 135 $f/2.8$ 135 $f/2.8$ 180 $f/4$ 180 $f/4$ 50 $f/4$ 50 $f/4$ 50 $f/4.8$ 350 $f/6.8$ 400 $f/8$ 500 $f/6.8$ 560 $f/6.3$ 800 $f/3.5$ 35 - 70	f/3.515built-in $f/2.8$ 16built-in $f/2.8$ 19- $f/4$ 21S 8.5 $f/2.8$ 24S 8 $f/2.8$ 28S 7 $f/2.8$ 2867 EW $f/1.4$ 35E 67 $f/2$ 35E 55 $f/2.8$ 60E 55 $f/2.8$ 60E 55 $f/2.8$ 60E 55 $f/2.8$ 90E 55 $f/2.8$ 100E 60 $f/4$ 100E 55 $f/2.8$ 135E 55 $f/4$ 100E 55 $f/4$ 180E 60 $f/4$ 180E 55 $f/4$ 250E 67 $f/4.8$ 350E 77 $f/6.8$ 400S 7 $f/6.8$ 560S 7 $f/6.3$ 800S 7 $f/6.3$ 800S 7 $f/3.5$ 35 - 70E 67

#### Extender R Accessories for LEICA R lenses Filters, lens hoods

for Focusing Bellows R only
 5 special filters from part of the outfit.

### 15 mm SUPER-ELMAR-R f/3.5

for the LEICA R models (all modes) **LEICAFLEX SL 2 models** 



Fast lens of extremely wide angle of view Angle of view: 110° Number of elements: 13 (12 components) Floating elements correct optical aberrations Built-in turret with four filters: UVa, yellow, orange, blue (conversion filter) Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 0.16 m (6 in) Smallest object field: 70 x 106 mm (27 x 42 in) (about 1:3) Focusing ring rubber-covered Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on lens hood Lens cap dia.: 83.5 mm Length from bayonet flange: 92.5 mm Diameter: 83.5 mm Weight: 0.815 kg

#### 15 mm SUPER-ELMAR-R f/3.5

Code No.

11 213 \_\_\_\_\_ with lens hood, lens cap and rear cover..... (Replacement lens cap, see page 2 - 37)

#### 16 mm FISHEYE-ELMARIT-R f/2.8

for LEICA R models (preferably with aperture priority and manual mode) 1) LEICAFLEX SL 2 models



Fisheye lens for special pictorial effects Angle of view: 180° Number of elements: 11 (8 components) Built-in turret with 4 filters: UVa, yellow, orange, blue 80 B (conversion) Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/16 Combined meter/feet scale Focusing range:  $\infty$  to 0.30 m (12 in) Smallest object field: 401 x 601 mm (15.8 x 23.8 in) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on lens hood Lens cap dia.: 65 mm Length from bayonet flange: 60 mm Diameter: 71 mm Weight: 0.470 kg Code No.

# 16 mm FISHEYE-ELMARIT-R f/2.8 with built-on lens hood, lens cap and rear cover ...... (Replacement lens cap, see page 2 – 37)

<sup>1)</sup> In LEICA R cameras with shutter priority and automatic program, the viewfinder symbols for these two modes may continue to flash even when the 16 mm Fisheye-Elmarit-R f/2.8 is set to its smallest aperture of f/16. This does not affect the camera functions, but is due to the camera's design. We therefore recommend using aperture priority and setting the shutter speed manually.

### 19 mm ELMARIT-R f/2.8

for LEICA R models (preferably with aperture priority and manual mode) 1) LEICAFLEX SL/SL2 models



Fast ultra-wide-angle lens Angle of view: 95.7° Number of elements: 9 (7 components) Internal thread: M 82 x 0.75<sup>2</sup>) Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.30 m (12 in) Smallest object field: 261 x 392 mm (10.3 x 15.4 in) (about 1:10) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Lockable lens hood Lens cap dia.: 88 mm Length from bayonet flange: 60 mm Diameter: 88 mm Weight: 0.500 kg

#### 19 mm ELMARIT-R f/2.8

Code No.

11 225 \_\_\_\_\_

2) We advise against the use of filters.

<sup>1)</sup> In LEICA R cameras with shutter priority and automatic program, the viewfinder symbols for these two modes may continue to flash even when the 19 mm Elmarit-R f/2.8 is set to its smallest aperture of f/16. This does not affect the camera functions, but is due to the camera's design. We therefore recommend using aperture priority and setting the shutter speed manually.

### 21 mm SUPER-ANGULON-R f/4

for LEICA R models (all modes) LEICAFLEX SL / SL 2 models



Wide-angle lens of extremely wide angle of view Angle of view: 92° Number of elements: 10 (8 components) Filter size: special 8.5 series, attachment with lens hood Internal thread: M 72 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 0.20 m (8 in) Smallest object field: 148 x 221 mm (6 x 8 3/4" approx.) (about 1:6) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Lens hood lockable, also adapter for Series 8.5 filters Lens cap dia.: 75 mm Length from bayonet flange: 43.5 mm Diameter: 78 mm Weight: 0.410 kg

#### 21 mm SUPER-ANGULON-R f/4

Code No.

### 24 mm ELMARIT-R f/2.8

for LEICA R models (all modes) LEICAFLEX SL 2 models



Lens of very wide angle of view Angle of view: 84° Number of elements: 9 (7 components) Floating elements correct optical aberrations Filter size: series 8 (attached with lens hood) Internal thread: M 60 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 0.30 m Non-rotating focusing mount Smallest object field: 250 x 374 mm (10 x 15 in) (about 1: 10.5) LEICA R rapid bayonet changer Black finish Lens hood lockable, also adapter for Series 8 filters Lens cap dia.: 63.7 mm Length from bayonet flange: 48.5 mm Diameter: 67 mm Weight: 0.420 kg

#### 24 mm ELMARIT-R f/2.8

Code No.

2 min Elimitati a 1/2.0	
with lens hood, lens cap and rear cover	11 221
(Replacement lens hood, lens cap, rear cap, and accessories see from page $2-37$ )	

### 28 mm ELMARIT-R f/2.8

for LEICA R models (all modes) 1)



Wide-angle lens Angle of view: 76° Number of elements: 8 (8 components) Filter size: 7 (attached with lens hood) Internal thread: M 48 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range: ∞ to 0,30 m Non-rotating focusing mount Smallest object field: 188 x 282 mm (7.5 x 11.3 in) (about 1:8) LEICA R rapid bayonet changer Black finish Lens hood lockable, also adapter for Series 7 filters Lens cap dia.: 51 mm Length from bayonet flange: 40 mm Diameter: 63 mm Weight: 0.275 kg

#### 28 mm ELMARIT-R f/2.8

Code No.

11247 -

The Leica Service Centre or the authorized workshop of any Leica agency can modify this lens for use also on all LEICAFLEX cameras.

### 28 mm PC-SUPER-ANGULON-R f/2,8

for LEICA R models (aperture priority and manual mode) LEICAFLEX SL / SL 2 models



Wide-angle lens for perspective correction without automatic diaphragm

Offset of optical axis: 11 mm horizontally and vertically in any direction, 9,5 mm diagonally in any direction Radial offset: Four click-stop settings, one each for landscape and portrait formats (horizontal, vertical) and two offset 45° to these (diagonal) Image angle: 73° to 93° Number of lenses: 12 elements (10 components) Aberration correction: By floating elements Filter size: 67 EW (filter glass for special angled filter holder and lens hood available from B + W Filterfabrik, Postfach 24 63, D-6550 Bad Kreuznach, and its distributors) Internal thread: M 67 x 0.75 Aperture click stops: At half-stop intervals Preselector iris diaphragm Smallest stop: f/22 Focusing ring: Metre / feet readings Focusing range: 0.30 m (lft) to ∞ Smallest object field: 219 mm x 146 mm (about 1:6) Straight-line track LEICA R quick-change bayonet coupling Lens barrel: Black anodized Lens hood: Screw-in type, also doubles as special 67 EW filter holder Diameter of front lens: 70 mm Length of bayonet coupling: 84 mm Maximum diameter: 75 mm Weight: 0.565 kg (11 b 4 oz)

#### 28 mm f/2.8 PC-SUPER-ANGULON-R

Code No.

20 mm 1/2.01 C-SUI ER-ANGULUN-R	
with lens hood, lens cap and rear cover	11812

### 35 mm SUMMILUX-R f/1.4

for LEICA R models (all modes) LEICAFLEX SL 2 models



Ultra-high-speed wide-angle lens Angle of view: 64° Number of elements: 10 (9 components) Floating elements correct optical aberrations Filter size: E 67 Internal thread: M 67 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.50 m Smallest object field: 266 x 399 mm (10.4 x 15.7 in) (about 1:11) Rubber-coated focusing ring Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 75 mm Length from bayonet flange: 76 mm Diameter: 75 mm Weight: 0.660 kg

35 mm SUMMILUX-R f/1.4

Code No.

### 35 mm SUMMICRON-R f/2

for LEICA R models (all modes) LEICAFLEX models



High-speed wide-angle lens Angle of view: 64° Number of elements: 6 (6 components) Filter size: E 55 Internal thread: M 55 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0,30 m (12 in) Smallest object field: 140 x 210 mm (5.5 x 8.3 in) (about 1:6) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 63 mm Length from bayonet flange: 54 mm Diameter: 66 mm Weight: 0.422 kg

#### 35 mm SUMMICRON-R f/2

Code No.

2 - 12

### 35 mm ELMARIT-R f/2.8

for LEICA R models (all modes) 1)



Wide-angle lens Angle of view: 64° Number of elements: 7 (6 components) Filter size: E 55 Internal thread: M 55 x 0.75 Fully automatic preset diaphragm with clickstop (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 0,30 m (12 in) Smallest object field: 140 x 210 mm (5 1/4 x 8 1/2 in) (ca. 1:6) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 63 mm Length from bayonet flange: 41.5 mm Diameter: 66 mm Weight: 0.305 kg

#### 35 mm ELMARIT-R f/2.8

Code No.

The Leica Service Centre or the authorized workshop of any Leica agency can modify this lens for use also on all LEICAFLEX cameras.

### 35 mm PA-CURTAGON-R f/4

for LEICA R models (preferably with aperture priority and manual mode) <sup>1</sup> LEICAFLEX SL / SL 2 models



Wide-angle lens without preset diaphragm without perspective compensation Displacement from the optical axis: 7 mm in each direction Radial adjustment: clickstops at 90° intervals Angle of view: 64° - 78° Number of elements: 7 (6 components) Filter size: 8, attachment through lens hood Internal thread: M 60 x 0.75 Clickstops Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 0.30 m (12 in) Smallest object field:  $140 \times 210 \text{ mm} (5.5 \times 8.3 \text{ in}) (about 1:6)$ Non-rotating focusing mount LEICA R rapid bayonet changer Black finish, with bright decorative ring Locking lens hood, also adapter for Series 8 filters Lens cap dia.: 63.7 mm Length from bayonet flange. 51 mm Diameter: 70 mm Weight: 0.290 kg

#### 35 mm PA-CURTAGON-R f/4

Code No.

with lens hood, lens cap and rear cover, and accessories see page 2-37)

#### 50 mm SUMMILUX-R f/1.4

for LEICA R models (all modes) 1)



Ultra-high-speed lens Angle of view: 45° Number of elements: 7 (6 components) Filter size: E 55 Internal thread: M 55 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.50 m (20 in) Smallest object field: 180 x 270 mm (7.1 x 10.6 in) (about 1:7.5) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 63 mm Length from bayonet flange: 50.6 mm Diameter: 66.5 mm Weight: 0.395 kg

#### 50 mm SUMMILUX-R f/1.4

Code No.

with lens hood, lens cap and rear cover	11777
(Replacement lens cap, rear cover and accessories see page 2-37)	

The Leica Service Centre or the authorized workshop of any Leica agency can modify this lens for use also on all LEICAFLEX cameras.

### 50 mm SUMMICRON-R f/2

for LEICA R models (all modes)



High-speed universal lens Angle of view: 45° Number of elements: 6 (4 components) Filter size: E 55 Internal thread: M 55 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.50 m (20 in) Smallest object field: 180 x 270 mm (7.5 x 10.75 in) (about 1:7.5) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 63 mm Length from bayonet flange: 41 mm Diameter: 66 mm Weight: 0.300 kg

Code No.

#### 50 mm SUMMICRON-R f/2

with lens hood, lens cap and rear cover11216(Replacement lens cap, rear cover and accessories see page 2 - 37)

#### ELPRO achromats near-focusing attachment for same

ELPRO 1	16 541
ELPRO 2	16 542
Leather case for 1 near-focusing attachment	14 553

Lens	ELPRO	Distance scale at	Distand object to film	ce in cm object to front lens	Object field size in mm	Repro- duction scale
SUMMICRON-R	1	∞	50	41	184 x 276	1:7.7
f/2/50 mm	1	0.5	31	21	91 x 137	1:3.8
	2	∞	30	21	94 x 141	1:3.9
	Z	0.5	24	14	62 x 93	1:2.6

All values rounded off.

#### 60 mm MACRO-ELMARIT-R f/2.8

for LEICA R models (all modes) 1)



Universal lens for photography in the range from  $\infty$  to 1:1 reproduction scale Angle of view: 39°

Number of elements: 6 (5 components) Filter size: E 55 Internal thread: M 55 x 0.75 Fully automatic preset diaphragm, also with MACRO-Adapter-R, with clickstops (also half values) Smallest aperture: f/22 Combined metre/feet scale, reproduction scale are also engraved Focusing range:  $\infty$  to 27 cm (10.8 in) free working distance: 15 cm (6 in) with MACRO-ADAPTER-R: 27 to 24 cm (10.8 to 9.5 in) free working distance: 15 to 10 cm (6 to 4 in) Smallest object field: 48 x 72 mm (1.9 x 2.9 in) (1:2) with MACRO-ADAPTER-R: 24 x 36 mm (0.95 x 1.5 in) (1:1) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, lens hood Lens cap dia.: 63 mm Length from bayonet flange: 62.3 mm Diameter: 67.5 mm Weight: 0.390 kg MACRO-ADAPTER-R: length: 30 mm diameter: 62 mm weight: 0.130 kg

53
56
03

<sup>1)</sup> The Leica Service Centre or the authorized workshop of any Leica agency can modify this lens for use also on all LEICAFLEX cameras.

<sup>2)</sup> MACRO-ADAPTER-R cannot be modified for use on LEICAFLEX / SL / SL 2 cameras.

### 80 mm SUMMILUX-R f/1.4

for LEICA R models (all modes) 1)



Ultra-high-speed lens of long focal length Angle of view: 30° Number of elements: 7 (5 components) Filter size: E 67 Internal thread: M 67 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.80 m (31 in) Smallest object field: 192 x 288 mm (175 x 113 in) (about 1:8) Rubber-covered focusing mount Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 75 mm Length from bayonet flange: 69 mm Diameter: 75 mm Weight: 0.670 kg

#### 80 mm SUMMILUX-R f/1.4

Code No.

1) Cannot be modified.

2 - 18

#### 90 mm SUMMICRON-R f/2

for LEICA R models (all modes) 1)



High-speed reportage lens Angle of view: 27° Number of elements: 5 (4 components) Filter size: E 55 Internal thread: M 55 x 0.75<sup>2</sup>) Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.70 m (28 in) Smallest object field: 140 x 210 mm (5.5 x 8.3 in) (about 1:6) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 67 mm Length from bayonet flange: 61 mm Diameter: 69 mm Weight: 0.560 kg

#### 90 mm SUMMICRON-R f/2

Code No.

11254 with lens hood, lens cap, and rear cover ..... (Replacement lens cap, rear cover and accessories see page 2 - 37)

#### ELPRO (achromat) near-focusing attachment

ELPRO 3	16 543
Leather case for near-focusing attachment	14 553

Lens	ELPRO	Distance scale at	Distand object to film	ce in cm object to front lens	Object field size in mm	Repro- duction scale
SUMMICRON-R	2	∞	74	61	161 x 241	1:6.7
f/2/90 mm	3	0.7	44	30	72 x 108	1:3.0

All values rounded off.

<sup>1)</sup> The Leica Service Center or the authorized workshop of any Leica agency can modify this lens for use also on all LEICAFLEX cameras.

<sup>2)</sup> Internal thread of lens M 54 x 0.75 mm up to serial number 2770 950.

### 90 mm ELMARIT-R f/2.8

for LEICA R models (all modes) 1)



Universal lens of medium focal length Angle of view: 27° Number of elements: 4 (4 components) Filter size: E 55 Internal thread: M 55 x 0.75 Fully automatic preset diaphragm, with clickstops (also half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 0.70 m (28 in) Smallest object field:  $140 \times 210 \text{ mm} (5.5 \times 8.3 \text{ in}) (about 1:6)$ Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 63 mm Length from bayonet flange: 57 mm Diameter: 67 mm Weight: 0.475 kg

90	mm	ELMARIT-R f/2.8	
20	111111	ELIVIANII-N I/ 2.0	

Code No.

with lens hood, lens cap and rear cover	11 154	
(Replacement lens cap, rear cover and accessories see page $2-37$ )		

#### ELPRO (achromat) near-focusing attachment

ELPRO 3	16 543
Leather case for near-focusing attachment	14 553

Lens	ELPRO	Distance scale at	Distand object to film	ce in cm object to front lens	Object field size in mm	Repro- duction scale
ELMARIT-R	2	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	74	61	161 x 241	1:6.7
f/2.8/90 mm	3	0.7	44	30	72 x 108	1:3.0

All values rounded off.

<sup>&</sup>lt;sup>1</sup>) The Leica Service Center or the authorized workshop of any Leica agency can modify this lens for use also on LEICAFLEX SL and SL2 cameras.

### 100 mm APO-MACRO-ELMARIT-R f/2.8

for LEICA R models (all modes) LEICAFLEX SL / SL 2 models



Universal lens of medium focal length for photography from  $\infty$  to the near focusing range (1:2) and correction for extended spectral range Angle of view: 25° Number of elements: 8 (6 components) Filter size: E 60 Internal thread: M 60 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale up to 0.7 m reproduction ratios engraved from 1:5 to 1:2 Focusing range:  $\infty$  to 0.45 m free working distance: (repr. ratio 1:2) = 22 cm with ELPRO 1:2-1:1 (as accessory): free working distance: (repr. ratio 1.1:1) = 7.2 cmSmallest object field: 48 x 72 mm (about 1:2) with ELPRO 1:2-1:1 (as accessory): 22 x 33 mm (1.1:1) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 68 mm Length from bayonet flange: 104.5 mm Diameter: 73 mm Weight: 0.840 kg

Code No.

v	<b>00 mm APO-MACRO-ELMARIT-R f/2.8</b> with lens hood, lens cap and rear cover	11 210
l f	ELPRO 1:2-1:1 near focusing attachment or 100 mm APO-MACRO-ELMARIT-R f/2.8	
1	ELPRO 1:2-1:1 with lens hood, lens cap and rear cover replacement lens hood replacement lens cap replacement rear cover	16 545         12 528         14 290         14 251
1	STA 1 tripod adapter for attaching the 100 mm APO-MACRO-ELMARIT-R f/2.8 to a tripod or to the universal handgrip	14 636

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### 100 mm MACRO-ELMAR-R f/4

for LEICA R models (all modes) LEICAFLEX SL / SL 2 models





MACRO-ADAPTER-R: length: 30 mm diameter: 62 mm weight: 0.130 kg

Universal lens of medium focal length for work from  $\infty$  to the near-focusing range (reproduction scale 1:1.6) Angle of view: 25° Number of elements: 4 (3 components) Filter size: E 55 Internal thread: M 55 x 0.75 Fully automatic preset diaphragm. also with MACRO-ADAPTER-R. with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale. reproduction scales are also engraved Focusing range:  $\infty$  to 60 cm (24 in) free working distance: 39 cm (15.3 in) with MACRO-ADAPTER-R: 60 to 42 cm (24 to 16.5 in) free working distance: 39 to 25 cm (15.5 to 10 in) Smallest object field: 72 x 108 mm (2.8 x 4.3 in) (about 1:3) with MACRO-ADAPTER-R: 38 x 57 mm (1.5 x 2.2 in) (about 1: 1.6) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 63 mm Length from bayonet flange: 90 mm Diameter: 67.5 mm Weight: 0.540 kg

100 mm MACRO-ELMAR-R f/4	Code No.
with lens hood, lens cap and rear cover	11 232
MACRO-ADAPTER-R for use with aperture priority and manual setting of shutter speed and aperture on LEICA R cameras*)	14 256
Covers for the MACRO-ADAPTER-R: Front cover (camera body cover) Rear cover (same as for lenses)	14 103 14 162
ELPRO (achromats) near-focusing attachments ELPRO 3 ELPRO 4 Leather case for one near-focusing attachment (Attainable reproduction ratios see page 3 – 4)	16 543 16 544 14 553

<sup>\*)</sup> On the LEICAFLEX SL/SL2 models the near focusing ring, Code No. 14 262 is necessary.

### 135 mm ELMARIT-R f/2.8

for LEICA R models (all modes) **LEICAFLEX** models



Telephoto lens

Angle of view: 18° Number of elements: 5 (4 components) Filter size: E 55 Internal thread: M 55 x 0.75\* Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 1.50 m (5 ft) Smallest object field: 220 x 330 mm (8.7 x 13.0 in) (about 1:9) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 65 mm Length from bayonet flange: 93 mm Diameter: 67 mm Weight: 0.730 kg

Code No.

135 mm ELMARIT-R f/2.8	11 211
with lens hood, lens cap and rear cover	11211
(Replacement lens cap, rear cover and accessories see page 2-37)	

#### ELPRO (achromats) near-focusing attachments

ELPRO (achromats) near-focusing attachments	16 543
ELPRO 3	16 544
ELPRO 4	14 553
Leather case for one near-focusing attachment	14 333

Lens	ELPRO	Distance scale at	Distanc object to film	te in cm object to front lens	Object field size in mm	Repro- duction scale
FINADIT D		~~~~	150	135	237 x 355	1:9.9
ELMARIT-R f/2.8/135 mm	4	1.5	84	68	106 x 159	1:4.4
1/ 2.0/ 100 1111		∞	76	61	107 x 160	1:4.5
	3	1.5	58	42	66 x 99	1:2.8

All values rounded off.

\*)up to No. 2772618 internal thread of lens M 54 x 0.75

### 180 mm ELMARIT-R f/2.8

for LEICA R models (all modes) LEICAFLEX models



High-speed telephoto lens Angle of view: 14° Number of elements: 5 (4 components) Filter size: E 67 Internal thread: M 67 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: 22 Combined metre/feet scale Focusing range:  $\infty$  to 1.80 m (6 ft) Smallest object field: 193 x 290 mm (7.6 x 11.4 in) (about 1:8) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 75 mm Length from bayonet flange: 121 mm Diameter: 75 mm Weight: 0.825 kg

#### 180 mm ELMARIT-R f/2.8

Code No.

### 180 mm APO-TELYT-R f/3.4

for LEICA R models (all modes) LEICAFLEX models



Special lens of extended spectral range Angle of view: 14° Number of elements: 7 (4 components) Filter size: E 60 Internal thread: M 60 x 0.75\* Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 2.50 m (8 ft 4 in) Smallest object field: 276 x 414 mm (10.9 x 16.3 in) (about 1:11.5) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 66 mm Length from bayonet flange: 135 mm Diameter: 68 mm Weight: 0.750 kg

Code No.

180 mm APO-TELYT-R f/3.4	
with lens hood, lens cap and rear cover	11 242
(Replacement lens cap, rear cover and accessories see page 2-37)	

<sup>\*)</sup> up to No. 2947 023 internal thread M 59 x 0.75

### 180 mm ELMAR-R f/4

for LEICA R models (all modes) LEICAFLEX models



Handy telephoto lens Angle of view: 14° Number of elements: 5 (4 components) Filter size: E 55 Internal thread: M 55 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 1.80 m (6 ft) Smallest object field: 175 x 262 mm (6.9 x 10.3 in) (about 1:7) Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 65 mm Length from bayonet flange: 100 mm Diameter: 65.5 mm Weight: 0.540 kg

#### 180 mm ELMAR-R f/4

Code No.

### 250 mm TELYT-R f/4

for LEICA R models (all modes) LEICAFLEX SL / SL 2 models



Telephoto lens Angle of view: 10° Number of elements: 7 (6 components) Filter size: E 67 Internal thread: M 67 x 0.75 Fully automatic preset diaphragm with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 1.70 m (12 ft 6 in) Can be focused beyond  $\infty$ Smallest object field: 124 x 186 mm (4.9 x 7.3 in) (about 1:5.2) Rubber-covered focusing ring Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Tripod thread: A 1/4 (DIN 4503), (1/4 in) tilting for upright and horizontal pictures, clickstops Leather pouch Lens cap dia.: 75 mm Length from bayonet flange: 195 mm Diameter: 75 mm Weight: 1.230 kg

250 mm TELYT-R f/4

Code No.

	and the second se
with lens hood, lens cap and rear cover, leather case	11 925
(Replacement lens cap, rear cover, leather case and accessories	
see page 2 – 37)	

### 280 mm APO-TELYT-R f/2.8

for LEICA R models (all modes) LEICAFLEX SL / SL 2 models



High-speed telephoto lens with internal focusing and correction for extended spectral range Angle of view: 8.5° Number of elements: 8 (7 components) Filter size: E 112 Internal thread: M 112 x 1.5 Fully automatic preset diaphragm. with clickstops (including half values except between f/2.8 and f/4) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 2.5 m (6 ft 2 in) Can be focused beyond  $\infty$ Can be used for infra red exposures without focusing correction Smallest object field: 195 x 293 mm (7.7 x 11.5 in) (about 1:8) LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood with edge protection Eyelets for attachment of carrying strap Tripod thread: A 1/4, DIN 4503, (1/4 in). tilting for upright and horizontal pictures, with clickstops Pistol stock Filter ND x E 112 with edge protection Carrying strap Case with attachable carrying strap Lens cap dia.: 125 mm Length from bayonet flange: 261 mm

Diameter: 125 mm Weight: 2.750 kg

#### 280 mm APO-TELYT-R f/2.8

#### **APO-EXTENDER-R 1.4 x**

2 - 28

12/89

Code No.

Jude INO.

### 350 mm TELYT-R f/4.8

for LEICA R models (all modes) LEICAFLEX SL / SL 2 models



Telephoto lens

Angle of view: 7° Number of elements: 7 (5 components) Filter size: E 77 Internal thread: M 77 x 0.75 Fully automatic preset diaphragm, with clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 3 m (9 ft 10 in) Can be focused beyond  $\infty$ Smallest object field: 171 x 257 mm (6.7 x 10.1 in) (about 1:7.1) Rubber-covered focusing ring Non-rotating focusing mount LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Tripod thread: A 1/4, DIN 4503, (1/4 in), tiltable for upright and horizontal pictures, with clickstops Leather case Lens cap dia.: 83.5 mm Length from bayonet flange: 286 mm Diameter: 83.5 mm Weight: 1.820 kg

Code No.

#### 350 mm TELYT-R f/4.8

#### 400 mm TELYT-R f/6.8

for LEICA R models (preferably with aperture priority and manual mode) LEICAFLEX SL / SL 2 models



12/89

#### 500 mm MR-TELYT-R f/8

for LEICA R models (preferably with aperture priority and manual mode) LEICAFLEX SL / SL 2 models



Catadioptric telephoto lens (reflecting-lens construction) Angle of view: 5° Number of elements: 5, 2 of them back mirror coated, with one special filter Filter size on the front ring of the lens: E 77 Internal thread: M 77 x 0.75 Combined metre/feet scale Focusing range:  $\infty$  to 4 m (13 ft 4 in) Can be focused beyond  $\infty$ Smallest object field: 180 x 270 mm (7.1 x 10.6 in) (about 1:7.5) Covered helical focusing mount for hand support Rubber-covered focusing ring LEICA R rapid bayonet changer Black finish Screw-in lens hood Five special screw-in filters M 32 x 0.5: UVa, neutral density 4 x, yellow, orange (to be screwed into the rear mount of the lens) Leather case Lens cap dia.: 83.5 mm Length from bayonet flange: 121 mm Diameter: 87 mm Weight: 0.750 kg

#### 500 mm MR-TELYT-R f/8

Code No.

### 560 mm TELYT-R f/6.8

for LEICA R models (preferably with aperture priority and manual mode) LEICAFLEX SL / SL 2 models

Long-focal length follow-focus lens Angle of view: 4.3° Number of elements: 2 (1 compone Filter size: Series 7 (in filter slot) Clickstops (between f/8 and f/16		
also half values) Smallest aperture: f/32 Focusing range: ∞ to 6,40 m (21 ft) From Series No. 2976 426 can be focused beyond ∞		
Follow-focus device (adjustable front part of lens with parallel guide, push-button to release the focusing mechanism) Smallest object field: 224 x 336 mm (8.8 x 13.2 in) (about 1:9)	Black finish	r stock,
Built-on, telescopic, easy-grip lens hood covered with grained PVC Rotatable swiveling device for uprig and horizontal format with clickst Lens can be dismantled for easy transport		
Lens tube Universal handgrip with shoulder s	of: 	Code No. 11 907 11 906 14 239 14 581
<b>560 mm TELYT-R f/6.8</b> , complete with lens hood, lens cap and rear co (Replacement lens cap, rear cover a	over and accessories see page <b>2</b> – 37)	11 853
Recommended accessories for the 56	0 mm TELYT-R f/6.8	
operating range (near focusing) Focusing range (with one intermediate tube):	mm TELYT-R f/6.8 lens to extend the Smallest object field (with one intermediate tube): 11.2 x 16.8 cm (4.4 x 6.6 in)	14 182
		14 130
Electric cable release for insertion	in the universal handgrip for LEICA R / MOTOR-DRIVE R	14 237
2 - 32		12/89

#### TELYT-S 1:6,3/800 mm

for LEICA R models (preferably with aperture priority and manual mode) LEICAFLEX SL / SL 2 models



Extreme telephoto lens with LEITZ special glasses for maximum optical performance Angle of view: 3° Number of elements: 3 (1 component) Filter size: Series 7 (in filter slot) Clickstops (between f/6.3 and 22 also half values) Preset diaphragm Smallest aperture: f/32 Focusing range:∞ to 12.50 m (41 ft) Smallest object field: 320 x 480 mm (1 ft 0.6 in - 1 ft 7 in) (abourt 1:13) Rapid focusing by means of an easy-grip rotary knob and parallel guide Lens can be dismantled into 5 parts for transport in a special metal case Assembly and dismantling by means of bayonet and marked locking rings with lever Sturdy carrying handle for assembled lens Lining-up device in the shape of a sports finder with rear and front sight and field-of-view orientating device for upright and horizontal format. protected against damage by integration with the carrying handle Detachable and lockable lens hood Slot with cover for Series 7 filters Tripod thread A 1/4 and A 3/8, DIN 4503, (1/4 and 3/8 in) for sturdy tripods Support ring, rotatable with tripod thread A 1/4 DIN 4503 (1/4 in) for additional monopod Black finish LEICA R rapid bayonet changer Rotatable swivelling device for upright and horizontal format clickstops Lens cap dia.: 152 mm Length from bayonet flange: 790 mm Diameter: 152 mm Weight: 6.860 kg

Code No.

**800 mm TELYT-S f/6.3**, complete, with special metal transport case.....

12/89

11 921 \_\_\_\_\_

### 35-70 mm VARIO-ELMAR-R f/3.5

for LEICA R models (all programs) LEICAFLEX SL / SL 2 models



Length of variable focal length Angle of view: 64° - 35° Number of elements: 8 (7 components) Filter size: E 67 Internal thread: M 67 x 0.75 Fully automatic diaphragm Diaphragm selection with clickstops (also half values) Smallest diaphragm: 22 Combined meter / feet scale Focusing range:  $\infty - 1$  m Smallest object field: 35 mm focal length:  $632 \times 947$  mm (about 1:26) 70 mm focal length: 338 x 507 mm (about 1:14) Separate zooming ring LEICA R rapid-interchange bayonet Lens anodized in black Lens hood: built-on, telescopic Front lens diameter: 75 mm Length to bayonet flange: 66.5 mm Maximum diameter: 76.5 mm Weight: 0.450 kg

#### 35-70 mm VARIO-ELMAR-R f/3.5

Code No.

### 70 - 210 mm VARIO-ELMAR-R f/4

for LEICA R models (all modes) LEICAFLEX SL / SL 2 models



#### Zoom lens

Angle of view: 35° - 12° Number of elements: 12 (9 components) Filter size: E 60 Internal thread: M 60 x 0.75 Fully automatic preset diaphragm with clickstops (including half values except between f/4 and f/5.6) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 1.10 m Smallest object field: 70 mm length: 264 x 396 mm (10.4 x 15.6 in) (about 1:11) 210 mm length: 96 x 144 mm (3.8 x 5.7 in) (about 1:4) Rubber-covered setting tube: zooms as well as focuses LEICA R rapid bayonet changer Black finish Built-on, telescopic lens hood Lens cap dia.: 73.5 mm Length from bayonet flange: 157 mm Diameter: 73.5 mm Weight: 0.720 kg

#### 70-210 mm VARIO-ELMAR-R f/4

Code No.

with lens hood, lens cap and rear cover..... (Replacement lens cap, rear cover and accessories see page 2-37)

### **EXTENDER-R 2** x

for LEICA R

#### for LEICA R models (preferably with aperture priority and manual mode)



Focal-length extending lens attachment Focal-length extension: 2 x Aperture reduction: 2 stops Number of elements: 5 (4 components) Aperture range: f/2 to f/22Fully automatic preset diaphragm transfer for aperture priority and manual setting of shutter speed and aperture Suitable for focal length 50 mm and longer 1) LEICA R rapid bayonet changer Black finish Length from bayonet flange: 30 mm Diameter: 62 mm Weight: 0.180 kg

<b>EXTENDER-R 2 x</b> for LEICA $R^{1}$ )	Code No.
with two covers	11 236
Replacement cover:	
Rear cover (lens rear cover)	14 162
Front cover (camera body cover)	14 103

### **APO-EXTENDER-R 1.4 x**

for 280 mm R f/2.8 for LEICA R models (all modes)



Optical focal length extension system for 280 mm APO-TELYT-R f/2.8

Focal length extension: 1.4 x Aperture reduction: 1 stop Number of elements: 5 (4 components) Aperture range: f/2.8 - f/22 Fully automatic preset diaphragm transfer LEICA R rapid bayonet changer Black finish Length from bayonet flange: 36 mm Diameter: 62 mm Weight: 0.220 kg

## APO-EXTENDER-R 1.4 x for 280 mm R 1:2.8 with two covers.....

 with two covers.
 11 249 \_\_\_\_\_\_

 Replacement covers:
 14 162 \_\_\_\_\_\_\_

 Front cover .
 14 252 \_\_\_\_\_\_\_

Code No.

Slight vignetting will occur from 400 mm focal length upwards (except with the 500 mm MR-TELYT-R f/8 reflecting lens). EXTENDER-R 2x not recommended for 70-210 mm VARIO-ELMAR-R f/4.

# Accessories for LEICA R lenses

### Filters

	Screw-in filters				
	E 32 <sup>1</sup> )	E 55	E 60	E 67	E 77
UVa	13 400	13 373	13 381	13 386	13 337
Circular polarizing	_	13 357	13 376	13 377	13 334
Yellow	13 403	_	-	_	_
Yellow-green	_	13 391	13 392	13 393	13 333
Orange	13 402	13 312	13 383	13 388	_
Neutral density 4 x	13 405	_	-	_	-

	Series filters <sup>2</sup> )		
	6	7	8
UVa	13 012	13 009	13 018
Circular polarizing	_	13 370	13 372
Yellow	13 013	—	_
Yellow-green	13 014	13 007	13 021
Orange	13 011	13 008	13 017

E 112 ND x 1 (replacement) for 280 mm APO-TELYT-R f/2.8	13 (
---	------

### Leather case

for 250 mm TELYT-R f/4 (replacement) for 500 mm MR-TELYT-R f/8 (replacement) Carrying strap with anti-slip pad (replacement)	14 578 14 559 14 253
Leather case for 400 mm TELYT-R f/6.8 (replacement) for 560 mm TELYT-R f/6.8 (replacement)	14 582 14 581
Carrying case for 280 mm APO-TELYT-R f/2.8 (replacement) Pistol stock	14 583
for 280 mm APO-TELYT-R f/2.8 (replacement)	14 632

2) Filter attachment see page 2-39

Code No.

<sup>1)</sup> E 32 as replacement for the 500 mm MR-TELYT-R f/8
# Tripod adapter



for an optimally rigid fit of a long focal-length lens on a tripod	
	Code No.
STA 1 for 100 mm R f/2.8	14 636

LEICA R lens:	Code- No.	Dia. mm	Lens hood (replace- ment)	Lens cap (replace- ment)	Rear cover (replace- ment)	Filter-1) size	Adapter <sup>2</sup> ) (for Series filter size)	ELPRO <sup>3</sup> ) near focusing attachments
f/3.5/15	11213	83.5	built-in	14 294	14 162	built-in	-	-
f/2.8/16	11222	65	built-in	14 089	14 162	built-in	-	-
f/2.8/19	11 2 2 5	88	12 529	14 221	14 162	_		_
f/4/21	11813	75	12 506	14 145	14 162	Series S 8.5	Lens hood	-
f/2.8/24	11 221	63.7	12 523	14 290	14 162	Series 8	Lens hood	-
f/2.8/28	11247	51	12 509	14 172	14 162	Series 7	Lens hood	-
PC f/2.8/28	11812	70	12 540	14 232	14 162	67 EW <sup>8</sup> )	-	_
f/1.4/35	11143	75	built-in	14 291	14 162	E 67	14 264 S 8	-
f/2/35 from No. 2791417	11115	63	built-in	14 289	14 162	E 55	14 225 S 7	-
f/2.8/35	11251	63	built-in	14 289	14 162	E 55	14 225 S 7	-
from No. 2928901 f/4/35	11 202	63.7	12 5 14	14 290	14 162	Series 8	Lens hood	_
f/1.4/50	11777	63	built-in	14 289	14 162	E 55	14 225 S 7	-
from No. 2806 501 f/2/50	11216	63	built-in	14 289	14 162	E 55	14 225 S 7	16541 16542
from No. 2777 651 f/2.8/60	11 253	63	built-in	14 289	14 162	E 55	14 225 S 7	_
from No. 3013651 f/1.4/80	11881	75	built-in	14 291	14 162	E 67	14264 S8	-
f/2/90	11254	67	built-in	14 289	14 162	E 55	14 225 S 7	16 543
from No. 3381677 f/2.8/90	11154	63	built-in	14 289	14 162	E 55	14 225 S 7	16 543
from No. 3 260 101 f/2.8/100	11210	68	built-in	14 290	14 162	E 60	14263 S 7.5	16 5 4 5
f/4/100	11 232	63	built-in	14 289	14 162	E 55	14 225 S 7	16 543 16 544
f/4/100 for Bellows-R	11 2 3 0	65	built-in	14 289	14 162	E 55	14 225 S 7	-
from No. 2933 351 f/2.8/135	11211	65	built-in	14 289	14 162	E 55	14 225 S 7	16 543 16 544
from No. 2772619 f/2.8/180	11923	75	built-in	14 291	14 162	E 67	14264 S 8	-
from No. 2939701 f/3.4/180	11 2 4 2	66	built-in	14 290	14 162	E 60	14263 S 7.5	-
from No. 2947 024 f/4/180	11922	65	built-in	14 289	14 162	E 55	14 225 S 7	_
f/4/250	11925	75	built-in	14 291	14 162	E 67	14 264 S 8	-
from No. 3 050 601 f/2.8/280	11 2 4 5	125	built-in	14012	14 162	E 112	-	-
f/4.8/350	11915	83.5	built-in	14 294	14 162	E 77	14 201 S 8.5	-
f/6.8/400	11953	78	built-in	14152 4)	14 162	Series 7 5)	Filter- slot	-
f/8/500	11 2 4 3	83.5	built-in	14 294	14 162	E 77 6)	Lens hood S 8.5 <sup>6</sup> )	-
f/6.8/560	11853	98	built-in	14 295	14 162	Series 7	Filter- slot	-
f/6.3/800	11 291	152	built-in	7)	14 162	Series 7	Filter- slot	-
f/3.5/35 - 70	11248	75	built-in	14 291	14 162	E 67	14 264 S 8	-
from No. 3 393 301 f/4/70 - 210	11246	73.5	built-in	14 290	14 162	E 60	14263 S 7.5	_

 Filters see Table 2-37
 In place of the recommended screw-in filters, Series filters can be used, which are attached to the lens with an adapter. Polarizing Series filters cannot be rotated in the adapter.

3) - See also page 3 - 4
4) - Rear cap for lens head with 028 - 861.017 and front cap for

lens tube with 028 - 861.049 obtainable from Leica Service Centre.

Service Centre.
Or Series 8 with adapter 14 165.
Five special M 32 x 0.5 mm filters included, for screwing into the mount for the rear element of the lens.
Obtainable from Leica Service Centre.
Filter glass for special wide-angle holder with sunshade obtainable from B & W.

# Contents

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# **Close-focus equipment** for the LEICA R system

# ELPRO close-focus attachments for LEICA R lenses



ELPRO close-focus attachments (achromats)

#### Thread measurements

**External thread** for screwing the ELPRO on the lens: in ELPRO 1 and 2: M 55 x 0.75 and M 44 x 0.75 in ELPRO 3 and 4: M 55 x 0.75

**Internal thread** for mounting filters and attachments in ELPRO 1, 2, 3 and 4: M 55 x 0.75

ELPRO 1	
ELPRO 2 ELPRO 3	16 542
ELPRO 4	16 544

### ELPRO 1:2-1:1

for 100 mm APO-MACRO-ELMARIT-R f/2.8



for extending the focusing range from 1:2 to 1.1:1 Smallest object field: 22 x 33 mm Free working distance: front edge ELPRO to object: approx. 10 cm front edge lens hood to object: approx. 7.5 cm Filter size: E 60 (M 60 x 0.75) Length for transport: 45 mm Length during exposure: 56 mm When screwed in, extends the lens by approx. 36 mm Diameter: 68 mm Weight: 0.190 kg

#### ELPRO 1:2-1:1

with lens hood, front and rear cover	16 545
Lens hood (spare)	12 528
Front cover (spare)	14 290
Rear cover (spare)	14 251

Code No.

Lens	ELPRO Code No.	Distance scale at	Distan Object to film	ce in cm Object to front lens	Object field in mm	Repro- duction scale
SUMMICRON-R f/2/50 mm from	1 16 541	∞ 0,5	50 31	41 21	184 x 276 91 x 137	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
No. 27776511) (E 55)	2 16 542	∞ 0,5	30 24	21 14	94 x 141 62 x 93	1: 3.9 1: 2.6
SUMMICRON-R f/2/90 mm from No. 2 770 9511) (E 55)	3 16 543	∞ 0.7	74 44	61 30	161 x 241 72 x 108	1: 6.7 1: 3.0
ELMARIT-R f/2.8/90 mm from No. 2809001 <sup>1</sup> ) (E 55)	3 16 543	∞ 0.7	74 44	61 30	161 x 241 72 x 108	1: 6.7 1: 3.0
MACRO- ELMAR-R f/4/100 mm	3 16 543	∞ 0.6	75.5 41.6	61 24	145 x 218 48 x 72	1:6 1:2
(E 55)	+ MACRO- ADAPTER-R 14256	∞ 0.6	42 37.4	24 17	49 x 73 29 x 44	1: 2 1: 1.2
	4 16 544	∞ 0.6	150.5 48.6	136 31	323 x 484 61 x 92	1:13 1:2.5
	+ MACRO- ADAPTER-R 14256	∞ 0.6	48.8 40.4	31 20 ·	63 x 94 34 x 51	1: 2.6 1: 1.4
APO-MACRO- ELMARIT-R f/2.8/100 mm	16545	∞ 1:2	35.4 30.5	16 10	49 x 73 22 x 33	1: 2 1.1: 1
ELMARIT-R f/2.8/135 mm from	3 16543	∞ 1.5	76 58	61 42	107 x 160 66 x 99	1: 4.5 1: 2.8
No. 27726191) (E 55)	4 16544	∞ 1.5	150 84	135 68	237 x 355 106 x 159	1: 9.9 1: 4.4

All values rounded off.

<sup>1)</sup> ELPRO near-focusing attachments for earlier LEICA R lenses see page 12-10.

# MACRO-ADAPTER-R

for LEICA R models (preferably with aperture priority and manual mode)



#### MACRO-ADAPTER-R

for LEICA R lenses with fully automatic preset diaphragm transfer for aperture priority and manual setting of shutter speed and aperture.

Length from bayonet flange: 30 mm Diameter: 62 mm Weight: 0.130 kg

MACRO-ADAPTER-R	Code No. 14 256
Covers for the Macro-Adapter-R: Front cover (camera body cover) Rear cover (the same as for lenses)	14 103 14 162

Lens	Distance scale at (m or repro- duction scale)	Distance Object to front lens in cm	Repro- duction scale	Object field in mm
SUMMICRON-R f/2/50 mm		11.6 9.9	$\begin{array}{ccc} 1: & 1.75 \\ 1: & 1.42 \end{array}$	42 x 63 34 x 51
MACRO-ELMARIT-R	∞	16	1: 2	48 x 72
f/2.8/60 mm	1:2	9.7	1: 1	24 x 36
SUMMICRON-R f/2/90 mm ELMARIT-R f/2.8/90 mm	∞ 0.7	32 23	$1: 3 \\ 1: 2$	72 x 108 48 x 72
MACRO-ELMAR-R	∞	42	$1: 3.3 \\ 1: 1.6$	80 x 120
f/4/100 mm	0.6	25		39 x 59
ELMARIT-R	∞	75	1: 4.5	108 x 162
f/2.8/135 mm	1.5	55	1: 3	72 x 108
ELMARIT-R	∞	124	1: 6	144 x 216
f/2.8/180 mm	1.8	78.4	1: 3.4	82 x 123
APO-TELYT-R	°°	133	1: 6	144 x 216
f/3.4/180 mm	2.5	95.6	1: 3.9	95 x 142
TELYT-R	∞	256	1: 8.4	202 x 303
f/4/250 mm	1.7	99.1	1: 2.9	70 x 105
TELYT-R	∞	477	1:11.6	278 x 417
f/4.8/350 mm	3.0	178	1: 4.1	97 x 146

All values rounded off.

# Ring combination for the close-focus range

for LEICA R models (preferably with aperture priority and manual mode) LEICAFLEX SL/SL2 models



#### Ring combination for the close-focus range with semi-automatic preset diaphragm

Two-part ring (height 25 mm) Centre ring (height 25 mm) to increase the reproduction scale	Code No. 14 158 14 135
Combination complete, weight: 0.175 kg	14 159
Twin cable release	16 494

Lens	Distan-		Ring combination					
	ce scale	2-part (h	neight 25 n	nm) 14158	3-part (ł	neight 50 r	nm) 14159	
	at	Distance Object – front lens cm	Repro- duction scale	Object field mm	Distance Object to front lens cm	Repro- duction scale	Object field mm	
SUMMICRON-R f/2/50 mm	$0.5^{\infty}$	13.5 11.2	$1: 2.1 \\ 1: 1.6$	50 x 75 38 x 58	8.1 7.5	1:1.04 1.09:1	25 x 37 22 x 33	
SUMMICRON-R f/2/90 mm ELMARIT-R f/2.8/90 mm	∞ 0.7	37.6 25.2	1: 3.6 1: 2.2	86 x 130 53 x 79	21.4 17.6	1:1.8 1:1.4	43 x 65 34 x 50	
ELMARIT-R	∞	87.2	$1: 5.4 \\ 1: 3.4$	130 x 195	50.7	1:2.7	65 x 97	
f/2.8/135 mm	1.5	59.7		81 x 121	42.3	1:2.1	50 x 75	
ELMARIT-R	∞	146	$\begin{array}{ccc} 1: & 7.2 \\ 1: & 3.8 \end{array}$	172 x 258	81.2	1:3.6	86 x 129	
f/2.8/180 mm	1.8	84.9		91 x 137	61.3	1:2.5	60 x 90	
APO-TELYT-R	∞	154	$\begin{array}{ccc} 1: & 7.2 \\ 1: & 4.4 \end{array}$	172 x 258	89.4	1:3.6	86 x 129	
f/3.4/180 mm	2.5	104		106 x 159	74.0	1:2.7	66 x 99	
TELYT-R	∞	299	1:10.1	242 x 363	172	1:5.0	121 x 181	
f/4/250 mm	1.7	104	1: 3.2	76 x 114	85.8	1:2.3	55 x 82	
TELYT-R	∞	558	1:13.9	334 x 501	316	1:7.0	167 x 250	
f/4.8/350 mm	3.0	187	1:4.4	105 x 157	153	1:3.2	76 x 114	

All values rounded off.

### **Focusing Bellows-R**

for LEICA R models (preferably with aperture priority and manual mode) LEICAFLEX SL / SL 2 models



#### **Focusing Bellows-R**

Very robust, variable extension for continuous adjustment in conjunction with the LEICA and all LEICAFLEX models.

Maximum extension 100 mm.

Rotatable scale carrier: the reproduction scales for 90, 100, and 135 mm LEICA-R lenses are engraved.

Additional mm scale, length 100 mm.

Additional clamping adjustment facility for the preservation of a given reproduction scale.

Lens stop closed to the preselected value with twin-cable release of pressure on the sliding knob (preset diaphragm).

Alternative upright and horizontal format Tripod thread A <sup>1</sup>/<sub>4</sub> and A <sup>3</sup>/<sub>8</sub> DIN 4503 (<sup>1</sup>/<sub>4</sub> and <sup>3</sup>/<sub>8</sub> in) Weight: 0.780 kg

Focusing Bellows-R (without lens) Twin cable release for same	<b>16 860</b> 16 494
With 100 mm MACRO-ELMAR f/4 special lens for photography within the range of $\infty$ to 1:1.	

#### Universal handgrip

with shoulder stock for hand-held exposures with the Focusing Bellows-R	
Universal handgrip with shoulder stock	

14 239 \_\_\_\_\_

Code No.

Detailed description page 1-29

# 100 mm MACRO-ELMAR f/4



Lens for use on the Focusing Bellows-R

Angle of view: 25° Number of elements: 4 (3 components) Filter size: E 55 Internal thread: M 55 x 0.75 Clickstops (including half values) Smallest aperture: f/22 Focusing range with Focusing Bellows-R:  $\infty$  to 1.1 Smallest object field:  $24 \times 36 \text{ mm} (1 \times 1.5 \text{ in})$ LEICA R rapid bayonet changer Black finish Permanently attached telescopic lens hood Lens cap dia.: 65 mm Length from bayonet flange: 62.5 mm Diameter: 68 mm Weight: 0.365 kg

#### 100 mm MACRO-ELMAR f/4

Code No.

with lens hood, lens cap and rear cover ..... . . . . . . . . . . . . . . . . . . (Spare lens cap, rear cover, and accessories see page 2-37)

11 230

### **PHOTAR** lenses for the Focusing Bellows-R



Lens	Code No.	short bellows repr. scale	extension free working distance	long bellows repr. scale	extension free working distance
PHOTAR 1 : 2.4/12.5 mm PHOTAR 1 : 2 /25 mm PHOTAR 1 : 4 /50 mm		7.5:1 3:1 1.2:1	8 mm 22 mm 88 mm	15.5:1 7:1 3.2:1	7 mm 17 mm 59 mm
All values rounded off. The free working distance is the distance between the object and the lens mount.					

PHOTAR lenses (thread: W 0.8" x 1/36") attachable through PHOTAR Adapter-R ...... 14259 \_\_\_\_\_

### Possibilities of combination with LEICA R lenses on the Focusing Bellows-R

Lens	Reproduction scale	Distance Object to front lens cm	Object field mm
SUMMICRON-R f/2/50 mm	1: 1.2 - 2.9 : 1	9.1 - 4.5	29.6 x 44.4 to 8.4 x 12.5
MACRO-ELMARIT-R f/2.8/60 mm	1:1.5-2.8:1	12.5 - 5.7	35 x 53 to 8.5 x 12.8
SUMMICRON-R f/2/90 mm ELMARIT-R f/2.8/90 mm	1 : 2.1 - 1.8 : 1	24.5 - 10.4	51.1 x 76.6 to 13.7 x 20.6
MACRO-ELMAR® f/4/100 mm	∞-1 :1	∞- 18.7	$\infty$ to 24.0 x 36.0
MACRO-ELMAR-R f/4/100 mm with helical focusing mount	1 : 2.4 - 1.7 : 1	32.6- 14.7	57.1 x 85.7 to 14.2 x 21.3
ELMARIT-R f/2.8/135 mm	1:3.2 - 1.2:1	57.7 - 25.9	77.2 x 115.8 to 20.6 x 30.9
ELMARIT-R f/2.8/180 mm	1:4.3-1 :1.09	93.5 - 36.3	102.7 x 154.0 to 26.2 x 39.4
APO-TELYT-R f/3.4/180 mm	1:4.3-1 :1.14	101.8 - 45.3	102.7 x 154.0 to 27.4 x 41.1
TELYT-R f/4/250 mm	1:6 -1 :1.1	195.9 - 62.2	144.0 – 216.0 to 27.4 x 41.1
TELYT-R f/4.8/350 mm	1:8.3-1 :1.6	362.0 - 107.0	199.0 x 298.0 to 38.0 x 57.0

All values rounded off.

#### Intermediate ring for use

Other LEICA M lenses can be used with adapter 14 167.

### **REPROVIT-R**



**REPROVIT-R** consisting of: 50 x 46 x 2.8 cm baseplate 90 cm column with parallel guide Carrying arm Illuminating unit Tungsten halogen lamps

Dimensions: maximum height 97 cm maximum length 135 cm maximum depth 46 cm Weight: 12.5 kg

The REPROVIT-R is a universal reproduction stand with illuminating unit. It offers the photographer versatile possibilities in the field of reproduction and close-up photography. Two tungsten halogen lamps ensure even illumination and constant colour temperature.

The REPROVIT-R is outstanding in its great stability and simple and convenient operation and is a reliable instrument, suitable for the photography both of plane and of 3-dimensional objects, in colour and in black-and-white. The column is long enough to permit photography of objectives up to about DIN A 3 sizes with a 50 mm or 60 mm lens without difficulty. The camera carrying arm with its non-wearing friction drive is a positive feature, permitting continuous vertical adjustment along the column. Easy operation prevents fatigue even during work for prolonged periods. As on the earlier reproduction stand the camera carrying arm has a fixing screw for all the 35 mm and medium-format cameras on the market. A guide groove and locating pins ensure precision alignment.

The illuminating unit with two tungsten halogen lamps is ideally matched for the use of artificial-light colour reversal film at a colour temperature of 3200 to 3400 °K. Both lamps are fitted with a detachable protective cage and a low-noise and low-vibration cooling fan. They can be individually switched, adjusted, and detached for special techniques of illumination.

The attachment of the lamp holders to the baseplate leaves room for protruding originals. Their alignment is optimised and guarantees full freedom of movement during work. The lamp holders have standard tripod bushes, to which, for instance, flash lamps can be attached.

Owing to the sturdy mechanical design and simple operation, performance of the optical accessories can be fully utilised. The picture quality of the lenses, on which, especially in the reproduction and the near-focusing range, particularly high demands are made, can thereby be fully taken advantage of.

Suitable for:

LEICA R and LEICAFLEX models with and without Winder/Drive, with and without Focusing Bellows.

LEICA M models with Visoflex with and without Winder, with and without Focusing Bellows.

LEICINA models

All 35 mm s.l.r. and medium-format cameras with A 1/4 DIN 4503 (1/4 in) tripod bush.

**REPROVIT-R** 

with 220 to 250 v/300 w tungsten halogen lamps	16717
with 115/120 v/650 w tungsten halogen lamps	16718

Code No.

# Light box



For the reproduction of slides, negatives, X-ray originals, stained-glass windows. As background illumination for reproduction of three-dimensional objects. For the easy sorting of negatives and slides.

#### **Technical data**

Grey metal body, space-saving trapezoidal design.

Large working top owing to the trapezoidal shape, illuminated area and surrounding area at the same level (no disturbing edges).

Low height creates favourable conditions for reproduction.

 $400 \times 614$  mm illuminated area (sufficient, for instance, for the photography of 96 50 x 50 mm slides).

Two fluorescent tubes: for instance Philips TL-D 18 W/83 or Osram L-18 W/31, brightness about 6000 and 8000 lux respectively, only slight heating of the working top. The light colour of these fluorescent tubes corresponds to a colour temperature of about 3200 °K. Because fluorescent tubes do not emit a continuous spectrum, the light box cannot be recommended for colour reproduction if perfect colour fidelity is required. For colour reproductions in transmitted light (duplicating of colour transparencies) the ILLUMITRAN is particularly well suited.

420 x 437 mm glass sheet for flattening the originals.

Two built-in carrying handles.

Appliance cable.

On/off switch.

Four pieces of black screening cloth to eliminate stray light.

Dimensions:	maximum	height:	17	cm
	maximum	length:	70	cm
	maximum	depth:	47	cm

	Code No.
Light box (220 v)	16792

#### Accessories for shadowless photography with the light box

Four spacing rods, to be screwed into the M8 threads of the carrying handles to support a sheet of glass. Spacing rods can obtained from our Technical Service, Item No. 042-721.020. The sheet of glass, size 500 x 750 mm, can be obtained by the customer from a glazier.

# Angle viewfinder

for LEICA R models / LEICAFLEX SL 2 models with 1 x and 2 x magnification



Code No.

for viewing from above, and also for work with the REPROVIT-R and for photography "round the corner" or above the heads of a crowd.

Angle viewfinder 90°, can be clamped in position, right way-round, up-right image, focusing eyepiece, switchable to  $1 \times \text{ or } 2 \times \text{ magnification} \dots$  (see also page 1–5)

14 300 \_\_\_\_\_

# **Contents**

# **LEICA M models**

### 1. Product range

LEICA M 6	4 - 3
Accessories for LEICA M models	4 - 4
LEICA WINDER M	
Correction lenses	
Cases	
Table-top tripod	
Ball-and-socket head	
Other accessories	

### 2. Specifications and technical data

LEICA M 6	4 - 8
LEICA WINDER M	<b>4</b> – 11

# LEICA M 6



35 mm measuring viewfinder camera. Selective exposure measurement through the lens (TTL). Interchangeable lenses from 21 to 135 mm focal length. Measuring viewfinder with field-of-view frames for the focal lengths 28 \* and 90 mm, 35 and 135 mm, 50 and 75 mm, split-image and coincident-image rangefinder.

Available as an accessory:

The LEICA WINDER M motorised winding mechanism (LEICA WINDERs M 4-P and M 4-2 from No. 10350 can also be used on the LEICA M 6).

Detailed description on page 4 - 8.

#### Use of earlier LEICA M lenses

All LEICA M lenses can be used without restriction, but the following are unsuitable for exposure measurement: 15 mm HOLOGON f/8, 21 mm SUPER-ANGULON-M f/4, 21 mm SUPER-ANGULON-M f/3.4 below Serial No. 2 473 251, 28 mm ELMARIT-M f/2.8 below Serial No. 2 314 921.

50 mm SUMMICRON f/2 with near focusing device must be set to infinity when the lens is changed.

<sup>\* 28</sup> mm lenses from Serial No. 2 411 001.

# Accessories for LEICA M models

# LEICA WINDER M

for LEICA M 6 LEICA M 4-P LEICA M 4-2 LEICA MD-2



Compact, handy winder. Release via the camera release button. Frame frequency up to 3 fps. Extremely quiet running.

Detailed description see page 4 - 11.

	Code No.
LEICA WINDER M	14 403
Housing for ordinary and rechargeable batteries (replacement)	14 402

# **Correction lenses M**

for LEICA M models (spherical), with rubber reinforcement

+ 0.5	
+ 1.0	
+ 1.5	14352
+ 2.0	14 353
+ 3.0	
- 0.5	
$-1.0\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$	
- 1.5	14 357
- 2.0	
- 3.0	14359

For astigmatism we supply suitable correction lens mounts through our Service Department (Item No. 042-253.008). Production and mounting of the lens by an ophthalmic optician.

# **Carrying strap**

with anti-slip pad (replacement)	14 253
Camera body cover M-bajonet (replacement)	14 195
Flash socket cover for LEICA M models (replacement)	15 526

### **Ever Ready Case**

for LEICA M6 (without LEICA WINDER)



black leather for 21, 28, 35, 50 f/2 or 50 f/1.4 lenses ...... 14 505 \_\_\_\_

Code No.

### Small combination bag M (compact version) 1)

for LEICA M 6 without Winder (suitable for all M models apart from LEICA M 5, without LEICAMETER) to hold: 1 LEICA M 6 with lens attached, 1 LEICA M 6 camera body, and up to 2 other lenses.



 Bag (external dimensions approx. 22 x 11 x 18 cm) with

 O coupling ring to lock two lenses together

 O adjustable carrying strap with anti-slip pad

 O front compartment for accessories

 beige leather

 Coupling ring (replacement)

List of items accommodated see "Technical Information" page 11 - 18 to 11 - 23. 12/89

# Large combination bag M (standard version) 1)

for LEICA M 6 with or without Winder (suitable for all M models apart from LEICA M 5, without LEICAMETER)

to hold: 1 LEICA M 6 with or without Winder, with lens attached and up to 4 other lenses.



<ul> <li>Bag (external dimensions approx. 25 x 14 x 19 cm) with</li> <li>coupling ring to lock two lenses together</li> <li>adjustable carrying strap with anti-slip pad</li> <li>front compartment for accessories</li> <li>in black leather.</li> </ul>	Code No. 14 842
Coupling ring (replacement)	14 838

# Holdall M<sup>1)</sup>

for LEICA M with or without winder (suitable for all M models apart from LEICA M 5, with LEICAMETER)  $\,$ 

to hold:

1 LEICA M with or without winder or LEICAMETER attached, with lens attached, as well as up to

4 other lenses.



Holdall (external dimensions approx. 31 x 18 x 23 cm) with

• coupling ring to lock two lenses together

• adjustable carrying strap with anti-slip pad

front compartment for accessories

in black leather	14 827
Coupling ring (replacement)	14 838

<sup>1)</sup> List of items accommodated see "Technical Information" page 11-18 to 11-23.

# **Tabletop tripod**



	Code No.
Tabletop tripod with three foldings legs, tripod thread A 1/4, DIN 4503	
(¼ in)	14 100

# **Ball-and-socket head**



Ball-and-socket head with tripod thread A <sup>1</sup>/<sub>4</sub>, DIN 4503 (<sup>1</sup>/<sub>4</sub> in)..... 14110

# **Cable releases**

for all camera models with conical thread

Cable release, length 25 cm, with arresting screw	14 067
Cable release, length 50 cm, with arresting screw	14 076

# Specifications and technical data

# LEICA M 6



#### Type of camera:

35 mm rangefinder viewfinder camera. Selective exposure metering through the lens (TTL). Interchangeable lenses. Motorized rapid wind through attachable LEICA WINDER M or LEICA WINDER M 4-P or LEICA WINDER M 4-2 (from No. 10 350 onwards).

#### Camera body:

Compact all-metal body, with hinged back, covered with easy-grip textured PVC. 0.8 mm zinc diecast camera top and 0.8 mm brass baseplate. Chromium finish. Measuring viewfinder. Stainless-steel carrying eyelets on the both sides. Mechanical connection for motorized wind. Standard tripod thread A 1/4 (1/4 in). Rapid bayonet changer for the LEICA M lenses and accessories. Accessory shoe with central contact. Field of view selector.

#### Lens system:

LEICA M lenses with rapid bayonet changer from 21 to 135 mm focal length. With VISOFLEX attachment (deleted from the product range) from 65 to 800 mm.

#### Rangefinder viewfinder:

• Bright high-contrast viewfinder image with bright-line frames for:

28 mm and 90 mm or

35 mm and 135 mm or

50 mm and 75 mm

with automatic parallax compensation. When a lens is being inserted the associated image frame is automatically faded in \*). With the aid of the field-of-view selector any required pair of frames can be preselected. The image field corresponds to that of the lens at a short focusing distance. Even spectacle wearers are able to survey the field of view fully. Correction lenses, of which ten are available from + 3 to - 3 dioptres, can be attached.

• Split-image and coincident-image rangefinder standing out as a bright field in the centre of the viewfinder image. Long effective measuring base of 49.9 mm (measuring base 69.25 mm x 0.72 viewfinder magnification). This ensures quick reliable focusing even in poor lighting conditions with all lenses of up to 135 mm focal length.

• Exposure meter display by light balance (two LEDs) at the bottom edge of the viewfinder image when the exposure meter is switched on.

<sup>\*) 28</sup> mm lenses from Serial No. 2411001.

#### **Exposure metering:**

Selective metering. The measuring element is a silicon photodiode in the top part of the camera interior. For the better utilisation of the incident light the photodiode is fitted with a collecting lens.

The metering field consists of a 12 mm dia. white patch in the centre of the shutter curtain. The measurement takes place with the camera ready for action i. e. wound. The size of the metering field in the viewfinder is about 23 % of the viewfinder field of the lens in use.

The field measured corresponds to a circle of a diameter two thirds of the short side of the picture area of the lens in the camera: e.g.:





135 mm

50 mm

#### Measuring range of exposure meter:

0.12 cd/sq.m to 125.000 cd/sq.m at f/1. For the 50 mm NOCTILUX-M f/1 this produces a working range from 0 to + 20 exposure values at ISO 100/21° (ASA 100/21 DIN), corresponding to aperture/shutter speed combinations from f/1 1 sec. to f/32/1/1000 sec.

#### Film speed range:

Film speed selector on the back of the camera. Range: ISO 6/9° to ISO 6,400/39° (ASA 6/9 DIN to ASA 6,400/39 DIN). Clickstops at 1/3 aperture steps.

#### **Batteries:**

Two 1.55 v silver oxide button cells, size: dia.11.6 mm, height 5.4 mm, or 1 lithium battery, size dia. 11.6, height 10.8 mm (replacement batteries see under Technical Information).

#### Shutter:

Horizontally-acting rubber-cloth focal-plane shutter, extremely quiet action. Mechanically produced speeds: 1,  $\frac{1}{12}$ ,  $\frac{1}{12}$ ,  $\frac{1}{125}$ ,  $\frac{1}{250}$ ,  $\frac{1}{250}$ ,  $\frac{1}{250}$ ,  $\frac{1}{1000}$  sec. and B = time exposure of any duration.

#### **Release:**

Silky smooth shutter release. International conical thread in the release button for cable release.

#### Flash synchronisation:

Synchronisation for electronic flash (X contact) from "B" to  $\frac{1}{50}$  sec. Standard X contact as well as separate centre contact (X) in the accessory shoe. Two flash units can be fired simultaneously through the two contacts.

Flash table see "Technical Information".

#### Film insertion:

Remove the baseplate and turn up the centre part of the camera back. Rapid film changing system for all commercially available 35 mm films and for LEICA cassettes.

#### Film transport:

Angled rapid winding lever with movable end-piece for film transport and shutter wind. Its stand-by position makes it convenient for the photographers using their left eye for the viewfinder. Winding angle of the rapid winding lever 120°. Interval winding possible. Double-exposure lock.

Forward counting automatic film counter under a magnifier. Automatic reset to start (-2 frames) when the camera is being opened. Lever for film rewinding release with automatic reset when the shutter wind is operated.

Angled, hinged crank handle for convenient and rapid rewinding of the film.

#### **Carrying strap:**

Black fabric tissue, length adjustable. At any temperature and in any weather it is always soft and pliable. Anti-slip pad. When the ever ready case is used, the carrying strap remains on the camera.

#### **Dimensions:**

Height: 77 mm, length: 138 mm, depth: 38 mm

#### Weight:

Camera body without lens: 0.560 kg Camera body with the 50 mm SUMMICRON-M f/2: 0.755 kg

# LEICA Winder M

for LEICA M 6 LEICA M 4-P LEICA M 4-2 LEICA MD-2



#### Type of instrument: Winder

Compact, handy winder.

Single-frame release through the camera release button.

Series exposures are possible. One exposure after another will be made with normal continual pressure on the release button.

Frequency up to 3 fps.

Extremely quiet action of gears and motor.

#### **Body:**

Sturdy, fibreglass-reinforced plastic body, easy-grip covered with textured PVC. Driven by a d.c. micromotor with air core rotor.

The winder is attached to the camera in place of the baseplate. It is mechanically controlled exclusively by the camera.

The battery housing is attached to the underside of the winder. Tripod thread A  $\frac{1}{4}$  ( $\frac{1}{4}$  in).

#### Power supply through:

Four 1.5 v alkali-manganese batteries in the battery housing. Capacity under Leica test conditions: about 150 36-exposure films at 20 °C. or

four NiCd rechargeable batteries, for instance DEAC 501 RS by Varta AG, in the battery housing.

Possible exposure times:

1/1000 sec. to 1 sec. and "B".

#### **Release:**

Through the camera release button.

#### **Measurement:**

Height to the underside of the camera 60 mm, length 138 mm, depth 35 mm.

#### Weight:

0.330 kg (without batteries)

# **Contents**

# **LEICA M lenses**

Product range, specifications, and technical data

21 mm ELMARIT-M
28 mm ELMARIT-M
35 mm SUMMILUX-M ASPH.
35 mm SUMMILUX-M
35 mm SUMMICRON-M
50 mm NOCTILUX-M
50 mm SUMMILUX-M
50 mm SUMMICRON-M
75 mm SUMMILUX-M
90 mm SUMMICRON-M
90 mm ELMARIT-M
135 mm ELMARIT-M
135 mm TELE-ELMAR-M

Accessories for M lenses
Brilliant finder
Lens hoods
Screw-in and
series filters

f/2.8	5-4
f/2.8	5-5
f/1.4	5-6
f/1.4	5-7
f/2	5-8
f/1	5-9
f/1.4	5 - 10
f/2	5 - 11
f/1.4	5 - 12
f/2	5 - 13
f/2.8	5 - 14
f/2.8	5 - 15
f/4	5 - 16
	5 - 17

# The range of LEICA M lenses

Designation of lens	Speed	Focal length mm	Filter dia.	Code No.
ELMARIT-M	f/2.8	21	E 60	11 134
ELMARIT-M	f/2.8	28	E 49	11 804
SUMMILUX-M ASPH.	f/1.4	35	E 46	11873
SUMMILUX-M	f/1.4	35	S 7	11 870
SUMMICRON-M	f/2	35	E 39	11 3 1 0
NOCTILUX-M	f/1	50	E 60	11 821
SUMMILUX-M	f/1.4	50	E 43	11114
SUMMICRON-M	f/2	50	E 39	11 819
SUMMILUX-M	f/1.4	75	E 60	11 815
SUMMICRON-M	f/2	90	E 55	11 136
ELMARIT-M	f/2.8	90	E 46	11 807
ELMARIT-M	f/2.8	135	E 55	11 829
TELE-ELMAR-M	f/4	135	E 39	11 851

# 21 mm ELMARIT-M f/2.8

for all LEICA M models

21 mm FI MADIT-M f/2 8



Lens of extremely wide angle Angle of view: 92° Number of elements: 8 (6 components) Filter size: E 60 Internal thread: M 60 x 0.75 Clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.70 m (28 in) Smallest object field: 705 x 1058 mm (28 x 42 in) (about 1:30) Non-rotating focusing mount Separate brilliant finder LEICA M rapid bayonet changer Black finish Push-on lens hood Lens cap dia.: 62 mm Length from bayonet flange: 46.5 mm Diameter: 62 mm Weight: 0.290 kg

Code No.

with lens hood, lens cap, and rear cover	11 134
	12 008
Replacement case	14 628
(Spare lens cap, rear cover, lens hood, and accessories see page 5-17)	

# 28 mm ELMARIT-M f/2.8

for all LEICA M models



Wide-angle lens Angle of view: 76° Number of elements: 8 (6 components) Filter size: E 49 Internal thread: M 49 x 0.75 Clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 0.70 m (28 in) Smallest object field: 533 x 800 mm (21 x 31 in) (about 1:22) Non-rotating focusing mount Viewfinder: camera viewfinder with the LEICA M6 and the LEICA M4-P LEICA M rapid bayonet changer Black finish Push-on lens hood Lens cap dia.: 51 mm Length from bayonet flange: 48 mm Diameter: 53 mm Weight: 0.250 kg

28 mm ELMARIT-M f/2.8

with lens hood, lens cap and rear cover	11804 -
Brilliant finder with case 1)	12009
Replacement case	14 628
(Spare lens cap, rear cover, lens hood, and accessories see page 5 - 17)	

1) Brilliant finder not required with LEICA M6 and LEICA M4-P.

12/89

Code No.

# 35 mm SUMMILUX-M f/1.4 ASPHERICAL

for all LEICA M models



Ultra-high-speed wide-angle lens with aspherical lens surfaces for excellent optical performance Angle of view: 64° Number of elements: 9 (5 components, 2 aspherical lens surfaces) Filter size: E 46 Clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.7 m (28 in) Smallest object field: 420 x 630 mm (252 x 375 in) (about 1:17.5) Non-rotating focusing mount Built-in camera finder 1) LEICA M rapid bayonet changer Black finish Push-on lens hood Lens cap dia.: 49 mm Length from bayonet flange: 44,5 mm Diameter: 53 mm Weight: 0.275 kg

#### 35 mm SUMMILUX-M f/1.4 ASPHERICAL

Code No.

11 873 \_\_\_\_\_

1) In the LEICA M3, the 135 mm bright-line frame is reflected into the viewfinder.

# 35 mm SUMMILUX-M f/1.4

for all LEICA M models



Ultra-high-speed wide-angle lens Angle of view: 64° Number of elements: 7 (5 components) Filter size: Series 7, for insertion into the lens hood, which can be dismantled Clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 1 m Smallest object field: 630 x 950 mm (25 x 375 in) (about 1:26) Non-rotating focusing mount Built-in camera finder 1) LEICA M rapid bayonet changer Black finish Lens hood designed as a filter holder, can be dismantled for accepting the Series 7 filters Lens cap dia.: 42 mm Length from bayonet flange: 28 mm Diameter: 53 mm Weight: 0.200 kg

35 mm SUMMILUX-M f/1.4

11870 \_\_\_\_\_ with lens hood, lens cap and rear cover.....

(Spare lens cap, rear cover, lens hood, and accessories see page 5-17)

Code No.

1) In the LEICA M3, the 135 mm bright-line frame is reflected into the viewfinder.

12/89

# 35 mm SUMMICRON-M f/2

for all LEICA M models



High-speed wide-angle lens Angle of view: 64° Number of elements: 7 (5 components) Filter size: E 39 Internal thread: M 39 x 0.5 Clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.70 m (28 in) Smallest object field: 430 x 640 mm (17 x 25 in) (about 1:18) Non-rotating focusing mount Camera finder 1) LEICA M rapid bayonet changer Black finish Push-on lens hood Lens cap dia.: 42 mm Length from bayonet flange: 26 mm Diameter: 52 mm Weight: 0.150 kg

#### 35 mm SUMMICRON-M f/2

Code No.

11 310 \_\_\_\_\_

1) In the LEICA M3, the 135 mm bright-line frame is reflected into the viewfinder.

### 50 mm NOCTILUX-M f/1

for all LEICA M models



High-performance lens of extreme speed Angle of view: 45° Number of elements: 7 (6 components) Filter size: E 60 Internal thread: M 60 x 0.75 Clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 1 m (40 in) Smallest object field: 410 x 620 mm (16 x 24 in) (about 1:17) Non-rotating focusing mount Camera finder LEICA M rapid bayonet changer Black finish Push-on lens hood Lens cap dia.: 62 mm Length from bayonet flange: 62 mm Diameter: 69 mm Weight: 0.580 kg

50 mm NOCTILUX-M f/1

Code No.

5-9

# 50 mm SUMMILUX-M f/1.4

for all LEICA M models



Ultra-high-speed lens Angle of view: 45° Number of elements: 7 (5 components) Filter size: E 43 Internal thread: M 43 x 0.5 Clickstops (from Serial No. 2048701 onwards including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 1 m (40 in) Smallest object field: 410 x 620 mm (16 x 24 in) (about 1:17) Non-rotating focusing mount Camera finder LEICA M rapid bayonet changer Black finish Push-on lens hood Lens cap dia.: 45 mm Length from bayonet flange: 46 mm Diameter: 53 mm Weight: 0.255 kg

### CITINABATT TIX BA CIT

Code No

50 mm SUMMILUX-M f/1.4		
with lens hood, lens cap and rear cover	11 114	
(Spare lens cap, rear cover, lens hood, and accessories see page 5-17)		

# 50 mm SUMMICRON-M f/2

for all LEICA M models



High-speed universal lens Angle of view: 45° Number of elements: 6 (4 components) Filter size: E 39 Internal thread: M 39 x 0.5 Clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.70 m (28 in) Smallest object field: 277 x 416 mm (11 x 16.4 in) (about 1:11.5) Non-rotating focusing mount Camera finder LEICA M rapid bayonet changer Black finish Push-on lens hood Lens cap dia.: 42 mm Length from bayonet flange: 42 mm Diameter: 52 mm Weight: 0.195 kg

Code No.

# 50 mm SUMMICRON-M f/211819with lens hood, lens cap and rear cover11819(Spare lens cap, rear cover, lens hood, and accessories see page 5 - 17)

# 75 mm SUMMILUX-M f/1.4

for all LEICA M models



Ultra-high-speed, medium focal-length lens Angle of view: 31° Number of elements: 7 (5 components) Filter size: E 60 Internal thread: M 60 x 0.75 Clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 0.75 m Smallest object field: 192 x 288 mm (8 x 11 in) (about 1:8) Non-rotating focusing mount Camera finder LEICA M rapid bayonet changer Black finish Permanently fitted telescopic lens hood Lens cap dia.: 62 mm Length from bayonet flange: 80 mm Diameter: 68 mm Weight: 0.625 kg

#### 75 mm SUMMILUX-M f/1.4

Code No.

vith lens hood lens can and roor cover	11015
with lens hood, lens cap and rear cover	11 815
(Spare lens cap, rear cover, lens hood, and accessories see page $5-17$ )	

# 90 mm SUMMICRON-M f/2

for all LEICA M models



High-speed press lens

Angle of view: 27° Number of elements: 5 (4 components) Filter size: E 55 Internal thread: M 55 x 0.75 Clickstops (including half values) Smallest aperture: f/16 Combined metre/feet scale Focusing range:  $\infty$  to 1 m (40 in) Smallest object field: 220 x 330 mm (8.7 x 13 in) (about 1:9) Non-rotating focusing mount LEICA M rapid bayonet changer Black finish Permanently fitted telescopic lens hood Lens cap dia.: 62.5 mm Length from bayonet flange: 77 mm Diameter: 62.5 mm Weight: 0.460 kg

#### 90 mm SUMMICRON-M f/2

Code No.

11 136 \_

# 90 mm ELMARIT-M f/2.8

for all LEICA M models



Universal lens of medium focal length Angle of view: 27° Number of elements: 4 (4 components) Filter size: E 46 Internal thread: M 46 x 0.75 Clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 1 m (40 in) Smallest object field: 220 x 330 mm (8.7 x 13 in) (about 1:9) Non-rotating focusing mount Camera finder LEICA M rapid bayonet changer Black finish Built-in telescopic lens hood Lens cap dia.: 54 mm Length from bayonet flange: 72 mm Diameter: 56.5 mm Weight: 0.380 kg

#### 90 mm ELMARIT-M f/2.8

Code No.

with lens hood, lens cap and rear cover	11807
(Spare lens cap, rear cover, and accessories see page 5 - 17)	
# 135 mm ELMARIT-M f/2.8

with viewfinder front attachment for all LEICA M models



High-speed telephoto lens Angle of view: 18° Number of elements: 5 (4 components) Filter size: E 55 Internal thread: M 55 x 0.75 Clickstops (including half values) Smallest aperture: f/32 Combined metre/feet scale Focusing range:  $\infty$  to 1.50 m (5 ft) Smallest object field: 220 x 330 mm (8.7 x 13 in) (about 1:9) Non-rotating focusing mount Camera finder LEICA M rapid bayonet changer Black finish Lens unit can be unscrewed Built-in telescopic lens hood Lens cap dia.: 63.7 mm Length from bayonet flange: 114 mm Diameter: 66 mm Weight: 0.735 kg

# 135 mm ELMARIT-M f/2.8

Code No.

# 135 mm TELE-ELMAR-M f/4 for all LEICA M models



Telephoto lens Angle of view: 18° Number of elements: 5 (3 components) Filter size: E 39 Internal thread: M 39 x 0.5 Clickstops (including half values) Smallest aperture: f/22 Combined metre/feet scale Focusing range:  $\infty$  to 1.50 m Smallest object field: 220 x 330 mm (8.7 x 13 in) (about 1:9) Non-rotating focusing mount Camera finder LEICA M rapid bayonet changer Black finish Lens unit can be unscrewed Push-on lens hood Lens cap dia.: 42 mm Length from bayonet flange: 105 mm Diameter: 59 mm Weight: 0.550 kg

#### 

# Accessories for LEICA M lenses

LEICA M lens	Code	Dia-	Lens	Lens	Lens	Rear	Filter	
	No.	meter	hood (re- place- ment)	hood cover (replace- ment	cap (re- place- ment)	cover (re- place- ment)	or screw in Series	
f/2.8/21 from No. 3 363 300	11 134	62	12 543	-	14 290	14 269	E 60	
f/2.8/28 from No. 2977 551	11 804	51	12 536	_	14 001	14 269	E 49	
f/1.4/35	11 873	49	12 587	14 013	14 23 1	14 269	E 46	
f/1.4/35 from No. 2 166 701	11 870	42	12 504	-	14 268	14 269	Series 7 in lens hood	
f/2/35 from No. 2974251	11 3 1 0	42	12 524	-	14 268	14 269	E 39	
f/1/50 from No. 3 220 709	11 821	62	12 544	-	14 290	14 269	E 60	
f/1.4/50	11 114	45	12 586	14 037	14 007	14 269	E 43	
f/2/50 from No. 2915801	11 819	42	12 538	14 033	14 268*	14 269	E 39	
f/1.4/75 from No. 3 223 301	11 815	62	built-in	-	14 290	14 269	E 60	
f/2/90 from No. 3 177 201	11 136	62,5	built-in	-	14 289	14 269	E 55	
f/2.8/90 from No. 3 462 071	11 807	54	built-in	-	14 23 1	14 269	E 46	
f/2.8/135 from No. 2788 927	11 829	63,7	built-in	-	14 289	14 269	E 55	
f/4/135	11 851	42	12 575	-	14268*	14 269	E 39	

\*) offered as an accessory

# Brilliant finders and cases

Right-way-round, brilliant image Superimposed bright picture frame.

# Brilliant finder for 21 mm lenses



	Code No.
Reproduction scale 0.3, with parallax compensation markings below 2 m,	12.000
with case	12 008
Case (replacement)	14 628

# Brilliant finder for 28 mm lenses



Reproduction scale 0.5 with line marking for parallax compensation	
below about 2 m (6 ft 8 in), with case	12 (
Case (replacement)	146

# Filters

Filter	Screw-in filters					Series filter	
	E 39	E 43	E 46	E 49	E 55	E 60	7
UVa	13 13 1	13 206	13 004	13 328	13 373	13 381	13 009
Yellow-green		-	_	_	13 391	13 392	13 007
Orange	_		—	_	13 312	13 383	13 008
Polarizing filter	13 352 A 42	_	_	_	_	_	_

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# **LEICA AF-C1**



Compact 35 mm viewfinder autofocus camera with motorized changeover for two focal lengths, 40 mm f/2.8 and 80 mm f/5.6. Centre-weighted integral exposure-meter system, automatic correction for excessive contrast. Active multi-beam infra-red autofocus with focus memory. Automatic exposure meter with exposure memory. Built-in fast-sequence flash unit; flash angle automatically adjusts to camera angle of focal length in use; automatic flash release in poor light and extreme contrast. Automatic film threading and motorized film transport.

See page 6-4 for detailed description.

See page 0 - 4 for detailed description.	Code No.
LEICA AF-C1	18 001
Accessories: Ever-ready case	18 501
Carrying strap with antislip pad (replacemen)	18 515

# Specifications and technical data

# LEICA AF-C1

# Camera type:

Compact 35 mm viewfinder autofocus camera.

# Viewfinder system:

Kepler-type telescope viewfinder, adapts automatically to 40 mm and 80 mm focal length.

# Variable viewfinder magnification:

0.5x for 40 mm focal length, 1x for 80 mm focal length.

# Viewfinder field:

At a range of 3 m, the viewfinder field shows 85 % of the field covered by the exposure.

# Visible in viewfinder:

Autofocus frame; the camera determines the range for the subject inside this frame. Close-up marks. Green ready light. Green flash ready light. Red flash warning.

## Lenses:

Two built-in focal lengths with motorized changeover: 40 mm f/2.8 (4 lenses in 4 lens elements), 80 mm f/5.6 mm (basic lens with 2x converter behind, 3 lenses in 2 elements). Close-up range down to 0.70 m.

# Smallest object field:

40 mm focal length: about 580 mm x 380 mm, image scale about 1:16. 80 mm focal length: about 290 mm x 190 mm, image about 1:8.

### Autofocus system:

Five separate infra-red beams scan the subject fanwise.

# Focusing range of automatic focusing system:

From 0.70 m to infinity.

### **Focusing memory:** Light pressure on shutter-release button stores measurement and setting.

### **Exposure-meter system:**

Centre-weighted integral exposure-meter mode, with automatic correction in conditions of extreme contrast.

# **Photo-electric cell:**

Above lens.

# Measuring range of exposure meter:

8 cd / sq.m to 125 000 cd / sq.m

# Working range of exposure meter:

With basic lens: for ISO 100/21° from EV 6 to EV 17, i. e. from  $\frac{1}{6}$  s at f/2.8 to  $\frac{1}{400}$  s at f/18. With telephote lengt from EV 8 to EV 10, i.e. from 1/6 s at f/2 ( to 1/4 to 5/2 (

With telephoto lens: from EV 8 to EV 19, i. e. from 1/8 s at f/5.6 to 1/400 s at f/36.

### Exposure memory:

Light pressure on shutter-release button stores measurement and setting.

#### Automatic program:

Initially, increasing brightness reduces only the shutter speed, while full aperture is maintained. From 1/60 s onward, both shutter speed and aperture are reduced.

#### Automatic flash system:

Automatic flash release in poor light and when the available light is inadequate for an exposure free from camera shake. Automatic flash release in extreme contrast. Motorized adjustment of reflector to the focal length in use.

### Manual flash override:

Button for optional flash illumination, button to inhibit automatic flash.

#### **Power supply:**

6 V 2CR5 lithium battery. Battery life adequate for about 25 36-exposure films, about 50 % with flash. Low-battery warning.

#### Film speed:

Camera sets automatically to speed of DX-coded film from ISO 50/18° to 3200/36°.

#### Shutter:

Software-controlled between-lens-shutter, stepless adjustment of shutter speed from 1/8 s to 1/400 s.

### Film transport:

The motor automatically winds the film one frame after each exposure. Automatic threading, automatic rewind at end of film. Manual rewind control possible. Frame counter; counter reading is stored in memory when the battery is changed.

### Switching the camera on and off:

When the lens cover is opened, the camera is ready for exposure with the 40 mm lens. When the lens cover is closed, all camera functions are switched off.

#### **Camera body:**

Closed camera body, reinforced with ribbed rubber finish. Hinged camera back. Eyelets at sides for 11 mm wide adjustable shoulder strap. Standard 1/4" type A tripod thread to DIN 4503.

### Overall dimensions and weight:

40 mm focal length: 140 mm long x 60 mm wide x 76 mm high. 80 mm focal length: 140 mm long x 83 mm wide x 92 mm high. Weight without battery 345 g, with battery 385 g.

# **Contents**

# **LEICA** enlargers

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LEICA V 35 Autofocus	<b>7</b> - 7

# LEICA V 35



Compact enlarger for colour and black and white with automatic focusing and 40 mm WA-FOCOTAR f/2.8 wide-angle lens,

for: Negative formats 24 x 36 mm,

28 x 28 mm,

13 x 17 mm,

35 mm slides (external format 50 x 50 mm)

with 12 v/75 W tungsten halogen lamp with cold-light mirror,

Extremely long, automatic enlarging range 3 to 16x with the 40 mm WA-FOCOTAR f/2.8.

30% more enlargement and 70% more picture area (compared with a 50 mm lens).

### LEICA V35

complete with built-in transformer, mains cable, 12 v/75 W tungsten halogen lamp, cold-light mirror, 24 x 36 mm negative holder, adjusted lens, interchangeable module.

Detailed description see page 7-7.

#### 

# Accessories for the LEICA V 35

# **Conversion modules:**







 Colour module
 Black-and-white module
 Code No.

 Colour module
 17 428
 17 428

 Black-and-white module.
 17 427
 17 441

# Negative holders / Slide holder:



24 x 36 mm negative holder (replacement, one-sided glass pressure)	17 003
28 x 28 mm negative holder	17 007
13 x 17 mm negative holder	17 424
24 x 36 mm glassless negative holder	17 009
24 x 36 mm negative holder with glass-pressure on both sides	17 002
25 x 37 mm negative holder for enlargements with black margin	17 012



Holder for 35 mm slide (external format 50 x 50 mm)	17 419
	17 425

# **LEICA Focometer 2**



Microprocessor-controlled automatic exposure meter with exposure control for black-and-white and color processing.

All operation and display elements are illuminated and clearly identifiable in the dark. Arrangement of these elements is optimally adapted to laboratory requirements and thus guarantees reliability and ease of operation.

The different time and metering ranges are coordinated with professional measuring techniques.

Detailed description on page 7-11.

	Code No.
LEICA Focometer 2 220 v version	17 444
LEICA Focometer 2 110 v version	17 445
Footswitch for FOCOMETER	17 434

# **Diffusion disk**



Diffusion disk for integral light metering, swivelled into position in front of lens before measurement.

Diffusion disk	fusion disk	<b>k</b>	17 430
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# **Masking frames**



	Code-No.
24 x 30 cm (10 x 12 in) universal masking frame (height 25 mm) with 4 adjustable masking strips, combined foot/metre scale	17 584
<b>30 x 40 cm masking frame</b> (height 30 mm) with 4 adjustable masking strips and adapter ring for the column (only for FOCOMAT Ic) for compensating the greater thickness of this frame	17 586
Masking frame english system (inch): 12 x 16 in masking frame (height 1.18)	17 630

# Voltage stabilizer



Recommended for colour enlargements in the event of mains fluctuations. Only for the LEICA V 35.

Voltage stabilizer: 115 v version	17 437
Voltage stabilizer: 230 v version	17 438

# **Other accessories:**

	00001101
Red filter (to be swivelled in front of the lens, can also be used together	
with the diffussion (disk)	17 440
Dust cover for the enlarger	17 429
Intermediate ring for 1:1.3 reproduction scale (8 mm)	17 439
(up to three intermediate rings can be combined, reproduction scale up	
to 1.15 : 1)	

# **Replacement lamps:**

Supply from: Technical Service of the Leica GmbH or the National LEITZ Agency. Ordering details: 75 W/12 v, base GZ 6,35 038-101.147-000

Conversion of an existing enlarger from 50 mm Ysaron f/3.5 to the high-performance 40 mm WA-FOCOTAR f/2.8 lens through Technical Service of the Leica GmbH, or authorised workshops of the Agencies.

Code No.

# Specifications and Technical data

# LEICA V35



## Type of instrument:

Compact enlarger for colour and black-and-white with automatic focusing and 40 mm WA-FOCOTAR f/2.8 wide-angle lens for: Negative formats 24 x 36 mm,

28 x 28 mm,

# 13 x 17 mm,

35 mm transparencies (external format 50 x 50 mm)

with 12 v/75 W tungsten halogen lamp with cold-light mirror.

Extremely large automatic enlarging range 3-16 x with the 40 mm WA-FOCOTAR f/2.8

30% more enlargement and

70% more picture area is offered by the 40 mm WA-FOCOTAR compared with a 50 mm lens at the same working distance from the baseboard.

### Negative stage:

for negative holder with glassless support exerting one-sided glass pressure (with anti-Newton surface) interchangeable for the formats:

24 x 36 mm\* (contained in the basic outfit)

28 x 28 mm 13 x 17 mm 25 x 37 mm

for the 24 x 36 mm glassless negative holder

for the 24 x 36 mm glass negative holder (glass pressure on both sides)

for holder for 35 mm slides (external format 50 x 50 mm) for convenient, rapid colour slide enlargement. After initial focusing automatic focusing within the enlargement range from 3-16 x.

Srew-on film trays.

<sup>\* =</sup> with film number windows

# Technical description of the film stage:

The cast part is screwed on to the chassis of the enlarger head.

Film stage aligned parallel to the baseboard at right angles to the optical axis.

Maximum transmission 28 x 36 mm.

Swinging pressure plate exerts spring pressure on the negative or slide holder.

Rapid and easy insertion of the negative or slide holders in the lamp housing when the pressure plate is raised.

The pressure plate is raised for effortless movement of the inserted film strips to the next frame.

Convenient arrangement of the controls on the left and right.

Integrated format masking, continuously adjustable with rotary knobs on the front. Adjustment facility: from about 37 mm to 3 mm in the x-direction

and

from about 28 mm to 6 mm in the y-direction.

The negative strips of the various formats can be inserted and fixed in position without risk of damage. Single negatives, too, are effectively positioned in the holder. If the anti-Newton disc is damaged the upper pressure plate can be easily exchanged.

## **Precision autofocusing:**

High-precision, durable Autofocus device.

Automatic mechanism prevents wrong/inaccurate focusing.

Rapid continuous focusing within the automatic enlargement range without manual refocusing.

Long Autofocus range with the 40 mm WA-FOCOTAR f/2.8 for enlargements from 72 x 108 mm to 384 x 576 mm, i.e. focusing range with 3 x to 16 x enlargement.

Fibre-optics-illuminated enlargement indication between the swivelling arm and lamp housing. Can be switched for separate indication of the enlarging ratios of 40 or 50 mm lenses. Convenient arrangement of this indication permits reading of the enlarging scale also from a sitting position.

Adjustment range of the focal plane from 0 to 60 mm, for the adaption of the automatic focusing mechanism to different heights of masking frames. Raising of the column to 60 mm = 17.5 x enlargement (manual on the baseboard).

Large baseboard area permits easy and convenient adjustment of the masking frame. "Giant enlargement" when the column is swivelled (floor projection).

The autofocus device saves time and material.

Ideal for croppings.

Adjustment of the lens in the enlarger through a factory-adjusted stainless steel precision cam.

# 40 mm WA-FOCOTAR f/2.8 enlarging lens:

High-performance wide-angle enlarging lens in the top class (WA = wide angle). Enlarging lens of the world-famous FOCOTAR series specially computed for the LEICA V 35, with use of highly refractive LEITZ glasses.

Number of elements: 5, modified Gauss type.

Apertures f/2.8 - f/16, with clickstops for full aperture values, can be switched to continuous adjustment. Illuminated aperture scale can be read from the front.

High contrast, high resolving power, very good illumination and excellent colour differentiation ensure brilliant reproduction.

Optimum correction up to 11 x magnification.

Optimum reproduction already from f/5.6 means shorter exposure times and reduced risk of vibration when making giant enlargements. Helical focusing mount on the instrument ensures easy focusing outside the automatic range.

# Lamp housing:

Illuminating system developed according to the latest illuminating techniques. Light deflection according to the principle of Ulbricht's sphere in the mixing chamber made of neutral-colour polyalkene foam guarantees:

high light utilization,

optimum illumination,

unsurpassed homogeneity of colours.

The diffuse illuminating system gives soft light, which makes it eminently suitable for colour work.

# Modules for colour and black-and-white:

In the black-and-white version of the LEICA V 35 the red filter is part of the module, which is inserted in the lamp housing between the lamp and the light chamber.

The red filter can be swivelled into and out of the optical path with a rotary knob. Rapid and simple exchange of the black-and-white module against the colour module. Colour module with cam-controlled dichroic filters.

The subtractive colour correction filters can be continuously adjusted.

All three filters (Y, M, C) can be swivelled from the optical path simultaneously with preservation of the programmed filter values, and, of course, be swivelled back into it in the programmed state.

The filter density range for Y, M and C extends from 0 to 200 densitometric filter values (this corresponds to 288 Kodak CC densities or 400 Agfa densities).

Control knobs with indicator scale for density values of the dichroic filters are also part of the colour module. The scales are colour-coded, illuminated and arranged in the sequence Y, M, C from bottom to top.

When the colour module is inserted the control knobs are on the left of the lamp housing. Convenient operation from a sitting position.

High linearity of the density curves permits accurate dosage of the filter values throughout the entire range.

Variocontrast module for working with multigrade contrast paper.

Gradation adjustment from extra soft to extra hard.

Easy-to-operate "single-button" for gradation change.

### **Excellent cooling system:**

The cold-light mirror of the horizontally mounted tungsten halogen lamp deflects the heat rays to the rear.

In addition, optimum heat dissipation already at the lamp base through special dissipation principle (cooling ring).

This cooling ring prolongs the life of the lamp.

Additional infra-red suppression filter on the front of the mixing chamber – reflects heat rays.

The IR suppression filter is matched for the spectral sensitivity of the colour materials and suppresses only radiation in the infra-red region.

A deflecting baffle (DBGM design registered) on the outside of the mixing chamber additionally removes heat from the chamber.

# Great stability:

Robust steel column, circular cross section, in reflection-reducing black chromium finish rotatably mounted in the large foot of the instrument. Diameter 60 mm. Total height baseboard to swivelling arm 600 mm.

Asymmetrically arranged vertical-adjustment arm, aluminium diecast, rotates on the column in a needle bearing.

Lamp housing rotates on the vertical-adjustment arm.

Vertical-adjustment arm fully screened, with rolling-band mechanism and diagonal spring. This ensures rigid parallel guidance of the lamp housing and weight compensation during vertical adjustment throughout the entire range.

A brake, also integrated in the arm, is operated by release or tightening of the lamphousing. After release of the handgrip rapid and positive adjustment of the verticaladjustment arm. After arrest of the clamping knob the lamp housing remains absolutely rigid in the chosen position without any vibration.

Diecast column foot:

The foot of the column contains the transformer, fuse, on/off switch, voltage selector, mains plug and the mechanism for the vertical adjustment. The column can be raised continuously up to 60 mm. Setting by means of a scale.

Large, rigid baseboard:

Professional baseboard with effective white area of 540 x 590 mm.

Shock-absorbing 4-point support.

Additional stabilization of the baseboard through profile steel on the underside. Space for a large package of enlarging paper under the baseboard.

### Electrical data / safety:

All electrical cables are wired inside the instrument and fully protected. The only cable outside the instrument is the mains cable. Low-voltage transformer built into the foot of the enlarger, hence no separate part to be set up. Transformer input maximum: 100 W Input voltage / frequency: 110/220 v / 50 - 60 Hz Fuses: T 630 mA Tungsten halogen lamp: 12 v / 75 W with cold-light mirror. Test symbols: VDE-GS, CSA, DEMKO, NEMKO, SEMKO and SEV safety symbol.

### **Dimensions and weights:**

Height: 600 mm Width: 540 mm Depth: 750 mm LEICA V 35 Autofocus = 21.8 kg Colour module = 0.475 kg

# **LEICA Focometer 2**



**Type:** Microprocessor-controlled automatic exposure meter and control system for black-and-white and colour processing.

### Modes:

Selector switch on instrument for the following operating modes:

Manual exposure control from 0.1 second to 999 seconds and from 0.1 minute to 99.9 minutes.

Spot measurement from 0.1 second to 999 seconds, measuring range 0.1 lux to 40 lux. Multispot mode with automatic computation of mean value, from 0.1 second to 999 seconds; range 0.1 to 40 lux.

Gradation, range 0 to 5.

Contrast measurement, range 0.00 to 3.60 log D.

Densitometry, range 0.00 to 3.60 log D.

Illuminance, range 0.01 to 10 lux.

Sensitivity of photographic material: index, measurement, input, and storage of values; range 0.1 to 655 lux/second.

### **Exposure-meter modes:**

Selective mode (spot measurement), field 3 mm x 3 mm; integral, with diffusion screen in front of enlarger lens; semi-integral, by partial integrator fitted to measuring probe, field 25 mm OD.

### **Measuring probe:**

Cable 0.95 mm, plug-and-socket connection; with adapter for partial integrator; pressbutton control to start measurement.

### **Photocell:**

Silicon photodiode, colour-corrected, field area 3 mm x 3 mm.

### **Memories:**

10 addressable memories for the sensitivity of photographic material, including 3 memories for compensation of different types of reciprocity failure.

### Memory back-up:

By built-in battery, for about six months' data security.

### Manual override:

In positive and negative directions, in steps of 1/8th stop.

### **Countdown timer:**

Digital display to 0, can be stopped at any time.

# **Repeatability:**

Unlimited.

# **Electrical connections:**

Mains; maximum 880 VA (220 V) or 440 VA (110 V) for enlarger; maximum 880 VA (220 V) or 440 VA (110 VA) for darkroom light; footswitch; measuring probe.

# Standard delivery includes:

Black-and-white test negative, test colour slide, diffusing film for integral metering, spare diffusion film for partial integrator.

**Mains voltage:** 220 V 50/60 Hz, 110 V 50/60 Hz.

Mains fuse: 4 A delayed-action fuse to DIN 41662.

**Test certificates:** VDE, GS.

# Contents

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# **LEICA P 2000**



Automatic 35 mm slide projector, modern design, for two types of magazines: LKM magazines (compact, spill-proof) for 60 or 80 slides.

Standard magazines for 36 or 50 slides.

For the projection of the 40 x 40 mm format see page 8-5.

Autofocus override in remote control.

Fast slide change of 1 s.

Economy switch.

High optical performance

with the 90 mm COLORPLAN f/2.5 for glass-mounted slides

with the 90 mm COLORPLAN-CF f/2.5 for unglazed slides.

Projector lenses from 35 – 300 mm focal length.

Zoom projector lenses 60 - 110 mm, 110 - 200 mm.

Officially tested, with VDE and GS test symbol.

Detailed description page 8-9.

# LEICA P 2000 with autofocus (adjustable 110 – 240 v/50 – 60 Hz)

with built-in Triac and 14-pin socket (10 pins in use) for dissolve projection: complete with 24 v/250 W lamp, connecting cable, cable remote control, 60-slide LKM magazine, interchangeable condenser, sleeve and lens:

merenange			Code No.
35 mm*	ELMARON-P	f/2.8	30 706
50 mm **	ELMARIT-P	f/2.8	30 707
60 mm ***	ELMARON-P	f/2.8	30 708
85 mm	ELMARON-P	f/2.8	30 709
90 mm	COLORPLAN-P	f/2.5	30 710
90 mm	COLORPLAN-P CF	f/2.5	30711
120 mm	ELMARON-P	f/2.8	30712
150 mm	ELMARIT-P	f/2.8	30713
200 mm	ELMARON-P	f/3.4	30714
250 mm	ELMARON-P	f/4	30715
300 mm	EPNOR-P	f/4.3	30 716
necting cat	ole, 60-slide LKM mag	ve 35 – 200, cable remote control, con- azine, 50 – 200 interchangeable conden-	
ser and 24	v/250 W lamp		30 697
Extension of	cable, 8-pin for remote	control (10 m)	37 957

<sup>\*</sup> Only up to 24 x 36 mm (35 mm) format and 45 slides in the LKM magazine or 30 slides in the standard magazine.

<sup>\*\*</sup> Only up to 24 x 36 mm format not for 80-slide LKM magazine or 50-slide standard magazine.

<sup>\*\*\*</sup> Up to effective 40 x 40 mm format not for 80-slide LKM magazine or 50-slide standard magazine.

# **Accessories** for the LEICA P 2000

# **Dissolve** projection

See page 8 - 7

# Hood



for projector with lenses of up to 120 mm focal length (except for zoom lenses) protecting it against dust, and serving as a projector base with projection area.

Hood for LEICA P 2000..... 37 985

# Case



Case for projector with lens of up to 250 mm focal length	37 961
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# **Projector lenses**

35 mm <sup>1</sup> ) 50 mm <sup>2</sup> ) <sup>4</sup> ) 60 mm <sup>3</sup> )	ELMARON-P Elmarit-p Elmaron-p	f/2.8 f/2.8 f/2.8	37 041 37 011 37 004
85 mm	ELMARON-P	f/2.8	37 004
90 mm	COLORPLAN-P	f/2.5	37 005
90 mm	COLORPLAN-P CF	f/2.5	37 015
120 mm	ELMARON-P	f/2.8	37 022
120 mm	ELMARIT-P CF	f/2.8	37 012
150 mm	ELMARIT-P	f/2.8	37 017
150 mm	ELMARIT-P CF	f/2.8 (Ø 42.5 mm)	37 013
200 mm	ELMARON-P	f/3.4 (Ø 42.5 mm) <sup>4</sup> )	37 009
250 mm	ELMARON-P	f/4	37 082
300 mm	EPNOR-P	f/4.3	34 837
60 – 110 mm	VARIO-ELMARON-P	f/3.5 (Ø 42.5 mm) <sup>5</sup> )	37 026
110 - 200 mm	VARIO-ELMARON-P	f/3.5 (Ø 42.5 mm) <sup>4</sup> ) <sup>5</sup> )	37 027

4) Can be used with the standard condenser 50-150.

5) Only up to 24 x 36 mm format.

Code No.

<sup>1)</sup> Only up to 24 x 36 mm format and 45 slides in the LKM-magazine or 30 slides in the standard magazine.

<sup>2)</sup> Up to 24 x 36 mm format only, not for 80-slide LKM magazine or 50-slide standard magazine.

<sup>3)</sup> Up to effective 40 x 40 mm format, not for 80-slide LKM magazine or 50-slide standard magazine.

Lens sleeves	Code No.
for 35 – 200 mm focal length and lenses of 42.5 mm diameter for 250 mm focal length	37 119 37 130 34 640

# Interchangeable condensers (24 x 36)

for 35 mm	37 223
for 50 – 200 mm (standard condenser)	37 224
for 250 – 300 mm.	37 225
10f 230 - 300  mm	01 220

# Accessories for 40 x 40

Interchangeable condensers (40 x 40)	
for 60 – 200 mm	37 227
for 250 – 300 mm	37 228
Aspherical lens for 40 x 40	37 226

# Spare parts

Cable remote control (3 m) with light pointer	37 939
Mains cable	37 644

# Projector lamps, light pointer and AF lamps

Replacements obtainable from the Leica Service Centre or the local Leica agency. Please state technical details in full.

# Timer-C



Sturdy plastic body.

Interval-setting wheel, adjustable from about 3 to about 30 seconds, figures engraved and inlaid in white. 0.60 m cable, 10-pin plug. For use with any PRADOVIT fitted with 14-pin (10 pins in use) socket.

See page 8 – 12 for detailed description.

	Code No.
Timer-C complete	37 986

# PCM infra-red remote control



Range about 20 m.

0.60 m cable link, 10-pin plug for projector's 14-pin (10 pins in use) remote-control socket.

Power supplied by 9 V IEC 6 F 22 battery.

See page 8-12 for detailed description.

PCM infra-red remote control, complete, without 9 V battery (IEC 6 F 22)

# 37 988 \_

# Magazines



LKM stacking box with 2 60-slide magazines	37 979
LKM-stacking box with 2 80-slide magazines	37 980
Stacking box with 2 36-slide standard magazines	37 844
Stacking box with 2 50-slide standard magazines	37 855

# Fade projection

# Fade-control unit DU-24 P



For two projectors with recording facility for cassette and soundtrack.

### Uses:

Projection in the home, lecturing, advertising, teaching and information. Detailed description page 8 - 13.

	Code No.
<b>Fade-control unit DU-24 P</b> with coupling cable for "free head" and junction pieces 1 and 2	37 637
Accessories: Handset P with 2 m connecting cable 10 m extension cable (7-pin) for handset P	37 638

# Fade-control unit DU-24 M



For two projectors for manual fade-control.

### Uses:

Projection in the home, lecturing, advertising, teaching and information. Detailed description page 8-15.

Fade-control unit DU-24 M.....

37 987 \_

12/89

8 - 7

# **Console for fade projection**



On this console two PRADOVIT projectors are installed above each other, free from vibration.

Detailed description page 8-16.

	Code No.
PRADOVIT console	37 972

# **Possibility of combining projectors**

All automatic 35 mm PRADOVIT projectors with a built-in triac for lamp control can be used with the DU-24 P control unit: PRADOVIT C 1500, CA 1500, C 2500, CA 2500, CA 2502, COLOR 2, LEICA P 2000, PRADOVIT S and S / AF, PRADOVIT R 150, RA 150, R 152, RA 152, PRADOVIT 253 DU and 153 DU, LEICA P 253 DU and 153 DU, PRADOVIT COLOR – 150 or 250 W with or without autofocus. Mixed coupling of these projectors is also possible, but it is recommended that they have the same lamp output. On account of their convenient operation PRADOVIT projectors with autofocus are preferable.

The Leica Service Centre or any authorized dealer's workshop can subsequently modify existing PRADOVIT C/CA, S, S/AF, R/RA, and PRADOVIT COLOR projectors for use with DU-24 P and DU-24 M dissolve-control units.

Any modified projector with 14-pin socket wired for 10-pin plug and built-in triac may be used as usual as a single projector without an additional dummy plug.

# Specifications and technical data

# **LEICA P 2000**



**Type of projector:** Automatic 35 mm slide projector.

## Slide formats:

Optimised for the 24 x 36 mm format. For the superslide format ( $40 \times 40 \text{ mm}$ ) a special condenser and aspherical  $40 \times 40 \text{ mm}$  illuminating lens should be used.

### Magazine systems:

Standard magazines for 36 or 50 slides. LKM magazines for 60 or 80 slides.

# Magazine guide and slide transport:

Free access to the slide space of the projector.

Convenient insertion of the magazines without previous switchover.

Easy switching between LKM and standard magazines with swivelling arm on the slide claw.

Simple guide of the slide magazine in the magazine trough.

Good sliding properties and excellent heat insulation.

Perfect slide transport with a positively guided claw and sliding elements made of stainless steel. Projects all types of mount (mount according to DIN 108).

Dark phase between slides approx. 1 sec.

Automatic closure of the slide when an empty claw is moved into the optical path. Low-noise slide transport and change.

When the slide claw is pulled out, the slide magazine can be moved backward or forward as required.

# Body:

High-quality aluminium diecast of stylish design and optimum stability.

Silver grey metallic finish and dark centre band result in an attractive appearance. Quiet, high-precision function.

Very stable three-point support.

Vertical adjustment with knurled screws for precise horizontal alignment.

Socket for mains cable.

On / off switch.

Dimmer switch for the lamp.

Slide-changing button.

Carrying handle.

### Lenses:

Excellent optical performance, optimum image quality through 90 mm COLORPLAN-P f/2.5 for glass-mounted slides

90 mm COLORPLAN-P CF (curved field) f/2.5 for other slides, and through lenses from 35 to 300 mm focal length.

Meeting all requirements from wide-angle projection to the bridging of long distances.

#### Illuminating system:

24 v/250 W tungsten halogen lamp:

Projectors supplied complete with lamp. Optimum lamp centration carried out in the factory.

Easy change of the projector lamp.

Modern, aspherical condenser system, optimised for the 24 x 36 mm format. Condensers interchangeable - for the 24 x 36 mm format:

35 mm lens

50 - 200 mm lenses

250 - 300 mm lenses

On request, superslide format (40 x 40 mm) - through exchange of the aspherical condenser and of the interchangeable condenser for 60 - 200 mm and 250 - 300 mm projector lenses.

Illumination of the slides in conjunction with the aspherical condenser system radiantly bright from corner to corner.

Uniformity of illumination more than 80% (referred to the 90 mm COLORPLAN-P f/2.5 and 24 x 36 mm slide size).

Effective light flux: to DIN 19 021 standard, referred to 24 x 36 mm slide size and 90 mm COLORPLAN-P f/2.5: 950 lm.

Slide gauge temperature to DIN 19021 standard: 65 °C (rise in temperature 49 K). Dimmer switch (separate switch) für roughly doubling the life of the lamp.

# Autofocus device:

Automatic focusing with override.

Extremely high, extremely rapid response sensitivity through silicon photo elements. High focusing accuracy.

Autofocus override allows any correction through remote control, without any change in the basic setting, which is fully restored after each slide change.

Autofocus device independent of the centration of the projector lamp owing to its own light source. Focusing already in the dark phase (dissolve projection). Automatic middle position after magazine change.

#### Slide change through:

Forwards and reverse with

Slide change button on projector,

Cable remote release (with focusable light pointer).

Infra-red remote control PCM.

Forwards with

Timer,

Slide control units (soundtrack), Dissolve control units

### Sockets:

Socket, 14-pin (10 pins in use) for connection of DU-24 P or DU-24 M dissolve control units and infra-red remote control PCM.

Socket, 8-pin for remote control.

Socket, 6-pin wired to DIN standards. Facility for connecting soundtrack or slide control units and Timer.

Simultaneous use of the remote-control cable and slide control unit (without any additional twin plugs) through these two sockets.

Built-in triac for lamp modulation.

### Other possibilities:

Timer, which can be connected for automatic showing with adjustable time interval. IR remote control, attachable, without wires.

Dissolve devices (with or without soundtrack control).

#### **Cooling system:**

2-channel blower for optimum cooling.

Separate cooling air streams for slide gate and lamp through ingenious 2-channel radial blower.

In addition: 2.7 mm – thick heat filter (KGI glass for the absorption of the infra-red rays).

Extremely quiet blower running.

#### Mains connection:

Voltage selector 110 - 240 v/50 - 60 Hz in all models.

#### **Electrical safety:**

VDE or GS and interference suppression symbol, Semko, Nemko, Demko and SEV.

#### Thermostat:

Built-in. Automatically switches current off during overheating (for instance with a broken fanbelt).

#### **Dimensions and weight:**

Lenght: 335 mm, width: 270 mm, height: 165 mm. Weight: about 9 kg depending on the outfit.

### Standard outfit:

Projector with carrying handle. 2.5 m mains cable, detachable. Tungsten halogen lamp centred in the factory. Cable remote control, 3 m, detachable, with light pointer. 60-slide standard magazine. Customer's choice of projector lens (35 mm - 300 mm).

# Timer-C



For use with any projector fitted with a 14-pin socket wired for a 10-pin plug to DIN 45 322.

Robust plastic body, with black grained surface. Interval-setting wheel, adjustable from about 3 s to 30 s, figures engraved and inlaid in white. 0.60 m cable, 10-pin plug. The cable is long enough for any desired set-up next to the projector.

The Timer-C is suitable for the following projectors: LEICA P2000, PRADOVIT COLOR 2, PRADOVIT CA 2502, and PRADOVIT 2500 equipped for fade control, LEICA P153/253 and for PRADOVIT 153/253 models. Please contact the Leica Service Centre or your national Leica agency for information on connecting other PRADOVIT projectors.

# **Dimensions:**

Length 65 mm, width 50 mm, height 23.5 mm.

# PCM infra-red remote control



Range about 20 m. Detector in robust plastic housing, modern design. 0.60m cable link, 10-pin plug. Transmitter in handy, robust plastic housing. Powered by 9 v IEC 6 F 22 battery. Four transmitting channels with a push-button each for slide transport forward, slide transport reverse and focusing forward and focusing reverse. Push-buttons conveniently and practically arranged.

#### **Dimensions and weight:**

IR detector: Length 130 mm, width 63 mm, height 32 mm Weight 0.140 kg IR transmitter: Length 140 mm, width 52 mm, height 27 mm Weight 0.080 kg

# DU-24 P fade-control unit



for two projectors with recording facility for cassette and tape.

# Uses:

Home projection, lecturing, advertising, teaching and communication.

# Brief technical description and function:

Control unit for continuous gradual and cut fades.

No time limit for gradual fades.

24 v supply through the modified projectors with built-in triac for lamp control, hence no heating of the control unit.

Handpiece with slider with integrated switches for slide change in the end position. Light change of the projectors can be repeated as often as desired, because slide transport is not coupled.

"Fade" key for 1 to 10 second dissolve with subsequent slide change.

"Cut" key for hard fade with subsequent slide change.

"Flip" key for hard fade without subsequent slide change.

"Super" key for superimposition of the second slide as long as the key is pressed, then slide change.

"Record" key for recording the control signals on tape.

Multifunction slider.

The built-in signalling device controls the fade of the projectors through its frequency modulation. A signal of this frequencyy modulation can be recorded on a cassette or stereo tape recorder without difficulty (AV instruments).

Black metal housing with bright front plate. All contents are arranged on the front. 10-pin socket for the connection of the handset P, available as an accessory.

6-pin socket for the connection of cassette recorders with built-in AV head or reel tape units with AV head (the slide control unit cannot be used for this purpose).

5-pin socket (for stereo plug) for the connection of stereo tape recorders for multi-play methods.

Warning light to check the control signal.

Two 0.75 m connecting cables with 10-pin plugs for the projectors at the back of the control unit.

No additional mains cable required.

Handset with 2 m connecting cable, with the following controls:

Slider switch for dissolve control.

Operating mode switch with 3 positions:

"Record" - normal position for manual dissolve and tape recording.

"Play" - automatic signal processing from the tape.

"Erase" - erasure of the recorded signal.

"Flip-over button" - rapid dissolve without slide transport.

Coupling cable for "free head" and junction pieces 1 and 2 are part of the outfit.

### Accessories:

Handset P with 2 m connecting cable. 7-pin extension cable (10 m) for handset P.

### Possibility of combining the projectors:

All the automatic PRADOVIT 35 mm projectors which have the conversion kit with built-in triac for lamp control can be used with the DU-24 P control unit:

PRADOVIT C 1500, CA 1500, C 2500, CA 2500, CA 2502, COLOR 2, LEICA P 2000, PRADOVIT S- and PRADOVIT S / AF,

PRADOVIT R 150, RA 150, R 152, RA 152, 153 DU, 253 DU,

LEICA P 153 DU / 253 DU,

PRADOVIT COLOR - 150 or 250 W with and without autofocus.

The projectors to be coupled need not be identical, but the combination of instruments of the same lamp power is recommended.

On account of operating convenience PRADOVIT projectors with Autofocus are preferable.

# **Dimensions and weights:**

Control unit:

Length 230 mm, width 215 mm, height 55 mm Weight 2.14 kg

Handset:

Length 150 mm, width 55 mm, height 43 mm Weight 0.29 kg

# DU-24 M fade-control unit



for 2 projectors for manual fade-control.

## Uses:

Home projection, lecturing, advertising, teaching and communication.

## Brief technical description and function:

Hand piece with all controls.

Push-button for triggering the dissolve and slide change of the "dark" projector. Dial for the pre-selection of the desired time from cut to up to about 5 sec. dissolve. Push-button for switching on the built-in light pointer.

Dial for switching on the built-in timer and presetting the required interval from about 6 to about 60 seconds permits "automated projection".

Connecting cable, length 3 m, dividing after 2.5 m for connection to the two projectors. 10-pin plugs for the projectors.

### Possibility of combining the projectors:

All automatic 35 mm PRADOVIT projectors which have the conversion kit with builtin triac for lamp control can be used with the control unit DU-24 M:

PRADOVIT C 1500,, CA 1500, C 2500, CA 2500, CA 2502, COLOR 2, LEICA P 2000 PRADOVIT S, PRADOVIT S / AF,

PRADOVIT R 150, RA 150, R 152, RA 152, 153 DU, 253 DU,

LEICA P 153 DU / 253 DU

PRADOVIT COLOR 150 or 250 W with and without autofocus.

The projectors to be coupled need not be identical, but the combination of instruments of the same lamp power is recommended.

In the interest of operating convenience PRADOVIT projectors with autofocus are preferable.

## Dimensions and weight:

Length 155 mm, width 65 mm, height 35 mm. Weight: 0.390 kg

# **Console for fade projection**



With this console two projectors are set up vibration-free above each other. This saves space and moves the optical axes of the dissolve projectors as closely together as possible (optimum coincidence of the projected images). Two rubber strips ensure secure installation.

### **Dimensions and weight:**

Length 325 mm, width 355 mm, height 300 mm Weight 4.2 kg

# LKM magazine system for 60 and 80 slides



The new LKM system has five distinct advantages:

- 1. It can be used for all sorts of slide frames up to 2 mm thickness.
- 2. It's spillproof.
- 3. It is compact and space-saving.
- Its stacking containers easily fit the stacking containers of the standard magazine system, thus facilitating slide storage.
- 5. Slides can easily be removed from the magazine, even when it's in the projector.

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# **LEICA P 253 models**



Automatic 35 mm slide projector of modern design for three magazine systems: LKM magazines (compact, non-spill) for 60 or 80 slides. Standard magazines for 36 or 50 slides. CS magazines. Removable slide stage (editor). Autofocus override in the remote control. Appliance cable, length 2.0 m. Rapid slide change, 1.2 sec. High optical performance through 90 mm COLORPLAN-P f/2.5 for glass-mounted slides or 90 mm COLORPLAN-P CF f/2.5 for other slides. Projection lenses from 50 - 150 mm focal length and zoom projection lens 60 - 110 mm focal length.

Officially tested, GS and international test symbols.

# LEICA P 253

Standard projector with autofocus, cable remote control, 24 v/250 W lamp.

# LEICA P 253 IR

High-comfort projector with autofocus, infra-red remote control, rapid lamp changer with two 24 v/150 W lamps.

# LEICA P 253 DU

Projector for use mainly in fade projection, with built-in triac, autofocus, cable-operated remote control, rapid lamp changer with two 24 V 250 W

Detailed description on page 9-15.
## **LEICA P 253**



Standard projector with autofocus, cable remote control, 24 v / 250 W lamp.

LEICA P 253 with autofocus (220 v / 50 Hz) complete with 24 v / 250 W lamp, cable remote control, 60-slide LKM magazine and lens:

		Code No.
50 mm * ELMARIT-P	f/2.8	30 730
85 mm ELMARON-P	f/2.8	30 731
90 mm COLORPLAN-P	f/2.5	30 732
90 mm COLORPLAN-P CF	f/2.5	30 733
120 mm ELMARON-P	f/2.8	30734
150 mm ELMARIT-P	f/2.8	30 735
	24 v / 250 W lamp, cable remote control and	30 729
<b>Case</b> for dust-free storage <b>Magazines</b> see page <b>9</b> – 12.		37 416
<b>Replacement part</b> Cable remote control 253 (3	m) with light pointer	37 639

<sup>\*</sup> Not for 80-slide LKM magazines, 50-slide standard magazines, or 100-slide CS magazines.

## LEICA P 253 IR



Luxury projector with autofocus, infra-red remote control (without battery 9 v, IEC 6 F 22), rapid lamp changer with two 24 v / 250 W lamps.

**LEICA P 253 IR** with autofocus (adjustable 110 - 240 v / 50 - 60 Hz) complete with two 24 v / 250 W lamps, **IR** remote control, 60-slide LKM magazine and lens:

		Code No.
50 mm* ELMARIT-P	f/2.8	30 736
85 mm ELMARON-P	f/2.8	30 746
90 mm COLORPLAN-P	f/2.5	30 756
90 mm COLORPLAN-P CF	f/2.5	30 766
120 mm ELMARON-P	f/2.8	30 776
150 mm ELMARIT-P	f/2.8	30 786
LKM magazine	v / 250 W lamp, IR remote control and 60-slide	30 726 37 416
<b>Spare part</b> IR remote control (without	battery 9 v, IEC 6 F 22)	37 989

<sup>\*</sup> Not for 80-slide LKM magazines, 50-slide standard magazines, or 100-slide CS magazines.

## LEICA P 253 DU



Mainly for dissolve projection, with built-in triac, autofocus, cable remote control, rapid lamp changer with two 24 v / 250 W lamps.

**LEICA P 253 DU** with autofocus (adjustable 110 - 240 v / 50 - 60 Hz) complete with two 24 v / 250 W lamps, cable remote control, 60-slide LKM magazine and lens:

magazine and iens.		
		Code No.
50 mm * ELMARIT-P	f/2.8	30 790
85 mm ELMARON-P	f/2.8	30 791
90 mm COLORPLAN-P	f/2.5	30 792
90 mm COLORPLAN-P CF	f/2.5	30 793
120 mm ELMARON-P	f/2.8	30 794
150 mm ELMARIT-P	f/2.8	30 795
and 60-slide LKM magazine Case for dust-free storage	two 24 v/250 W lamps, cable remote control	30 789 37 416
Magazines see page 9 - 12.		
Dissolve projection see page	<b>9</b> – 13.	
<b>Replacement part</b> Cable remote control 153/2	53 (3 m) with light pointer	37 639

<sup>\*</sup> Not for 80-slide LKM magazines, 50-slide standard magazines, or 100-slide CS magazines.

## **LEICA P153 models**



Automatic 35 mm slide projector of modern design for three magazine systems: LKM magazines (compact, non-spill) for 60 or 80 slides. Standard magazines for 36 or 50 slides. CS magazines.
Removable slide stage (editor).
Autofocus override in the remote control.
Appliance cable, length 2.0 m.
Rapid slide change, 1.2 sec.
High optical performance through 90 mm COLORPLAN-P f/2.5 for glass-mounted slides or 90 mm COLORPLAN-P CF f/2.5 for other slides. Projection lenses from 50 - 150 mm focal length an zoom projection lens 60 - 110 mm focal length.

Quality tested, GS and international test symbols.

## LEICA P153

Standard projector with autofocus, cable remote control, 24 v / 150 W lamp.

## LEICA P153 IR

Luxury projector with autofocus, infra-red remote control, rapid lamp changer with two 24 v / 150 W lamps.

## LEICA P153 DU

Projector mainly for dissolve projection, with built-in triac, autofocus, cable remote control, rapid lamp changer with two 24 v / 150 W lamps.

Detailed descriptions see page 9-17.

## LEICA P153



Standard projector with autofocus, cable remote control, 24 v / 150 W lamp.

## **LEICA P153** with autofocus (220 v / 50 Hz)

complete with 24 v/150 W lamp, cable remote control, 60-slides LKM magazine and lens:

magazine and tens.		
50 mm* ELMARIT-P 85 mm ELMARON-P 90 mm COLORPLAN-P 90 mm COLORPLAN-P CF 120 mm ELMARON-P 150 mm ELMARIT-P	f/2.8	Code No.         30 607         30 608 <b>30 609 30 610</b> 30 611         30 687
Body without lens, <b>but with</b> 60-slide LKM magazine	24 v / 150 W lamp, cable remote control and	30 657
	(adjustable 110 - 240 v / 50 - 60 Hz) lamp, cable remote control, 60-slide LKM	
50 mm* ELMARIT-P 85 mm ELMARON-P 90 mm COLORPLAN-P 90 mm COLORPLAN-P CF 120 mm ELMARON-P 150 mm ELMARIT-P	f/2.8 f/2.8 f/2.5 f/2.5 f/2.8 f/2.8 f/2.8	30 627         30 628 <b>30 629 30 630</b> 30 631         30 688
	24 v / 150 W lamp, cable remote control and	30 658
<b>Case</b> for dust-free storage <b>Magazines</b> see page 9 – 12.		37 416
<b>Replacement part</b> Cable remote control 153 (3	m) with light pointer	37 639

<sup>\*</sup> Not for 80-slide LKM magazines, 50-slide magazines, or 100-slide CS magazines.

## LEICA P153 IR



Luxury projector with autofocus, infra-red remote control (without battery 9 v, IEC 6 F 22), rapid lamp changer with two 24 v / 150 W lamps.

**LEICA P 153 IR** with autofocus (adjustable 110 - 240 v / 50 - 60 Hz) complete with two 24 v / 150 W lamps, IR remote control, 60-slide LKM magazines and lens:

		Code No.
50 mm* ELMARIT-P	f/2.8	30 633
85 mm ELMARON-P	f/2.8	30 643
90 mm COLORPLAN-P	f/2.5	30 667
90 mm COLORPLAN-P CF	f/2.5	30 668
120 mm ELMARON-P	f/2.8	30 669
150 mm ELMARIT-P	f/2.8	30 670
LKM magazine	v / 150 W lamp, IR remote control, and 60-slide	30 600 37 416
Magazines see page 9 - 12.		
<b>Spare part</b> IR remote control (without	battery 9 V, IEC 6 F 22)	37 989

12/89

<sup>\*</sup> Not for 80-slide LKM magazines, 50-slide standard magazines, or 100-slide CS magazines.

## LEICA P153 DU



Mainly for dissolve projection, with built-in triac, autofocus, cable remote control, rapid lamp changer with two 24 v / 150 W lamps.

**LEICA P 153 DU** with autofocus (adjustable 110 - 240 v / 50 - 60 Hz) complete with two 24 v / 150 W lamps, cable remote control, 60-slide LKM magazine and lens:

magazine and lens.		Code No.
50 mm* ELMARIT-P 85 mm ELMARON-P 90 mm COLORPLAN-P 90 mm COLORPLAN-P CF 120 mm ELMARON-P 150 mm ELMARIT-P	f/2.8 f/2.8 f/2.5 f/2.5 f/2.5 f/2.8 f/2.8	30 677
	two 24 v/150 W lamps, cable remote control	30 605
<b>Case</b> for dust-free storage <b>Magazines</b> see page <b>9</b> - 12.		37 416
Fade projection see page 9 - 1	3.	
<b>Replacement part</b> Cable remote control 153 (3	m) with light pointer	37 639

**9** – 10

<sup>\*</sup> Not for 80-slide LKM magazines, 50-slide standard magazines, or 100-slide CS magazines.

## Accessories for LEICA P 253 models LEICA P 153 models

Case



	Code No.
Case for dust-free storage	37 416
Multiple plug (6- and 10-pin) for instance for the connection of the slide	
control unit (tape coupling)	37 641
Extension cable for remote control, 10 m	37 642

## **Projector lenses**

50 mm * ELMARIT-P	f/2.8	37 011
85 mm ELMARON-P	f/2.8	37 003
90 mm COLORPLAN-P	f/2.5	37 005
90 mm COLORPLAN-P CF	f/2.5	37 015
120 mm ELMARON-P	f/2.8	37 022
120 mm ELMARIT-P CF	f/2.8	37 012
150 mm ELMARIT-P	f/2.8	37 017
150 mm ELMARIT-P CF	f/2.8	37 013
60 - 110 mm VARIO-ELMARON-P	f/3.5	37 026

## Spare parts

### Projector lamps, light pointer and AF lamps

Replacements obtainable from the Leica Service Centre or the local Leica agency. Please state technical details in full.

Code No

<sup>\*</sup> Not for the 80-slide LKM magazines, 50-slide standard magazines, or 100-slide CS magazines.

## Timer-C



Sturdy plastic body. Interval-setting wheel, adjustable from about 3 to about 30 seconds, figures engraved and inlaid in white. 0.60 m cable, 10-pin plug. For use with any projector fitted with 14-pin (10 pins in use) socket.

Detailed description see page 9 – 20.

	Code No.	
Timer C, complete	37 986	

## PCM infra-red remote control



Range about 20 m. Connecting cable, 60 cm, with 10-pin plug. Current supplied by 9 v battery IEC 6 F 22.

Detailed description on page 9-20.

**PCM IR remote control complete** (without battery 9 v, IEC 6 F 22) .....

37 988 -

## Magazines





LKM stacking box with 2 60-slide magazines	37 979
LKM stacking box with 2 80-slide magazines	37 980
Stacking box with 2 36-slide standard magazines	37 844
Stacking box with 2 50-slide standard magazines	37 855

## Fade projection

## Fade-control unit DU-24 P



for two projectors with recording facility for cassette and soundtrack.

### Uses:

Projection in the home, lecturing, advertising, teaching and information. Detailed description see page 9-21.

	Code No.	
<b>Fade-control unit DU-24 P</b> with coupling cable for "free head" and junction pieces 1 and 2	37 637	
Accessories: Handset P with 2 m connecting cable Extension cable (7-pin), 10 m, for handset P	37 638 37 636	

## Fade-control unit DU-24 M



for two projectors for manual dissolve control.

## Uses:

Projecton in the home, lecturing, advertising, teaching and information.

Detailed description see page 9-23.

	Code No.
Fade-control unit DU-24 M	37 987

## Console for fade projection



On this console two PRADOVIT projectors can be installed above each other, free from vibration.

Detailed description see page 9 - 24.

	Code No.
PRADOVIT console	37 972

## **Possibility of combining projectors**

All automatic 35 mm PRADOVIT projectors with a built-in triac for lamp control can be used with the DU-24 P control unit: PRADOVIT C 1500, CA 1500, C 2500, CA 2500, CA 2502, COLOR 2, LEICA P 2000, PRADOVIT S and S / AF, PRADOVIT R 150, RA 150, R 152, RA 152,

PRADOVIT 253 DU and 153 DU, LEICA P 253 DU and 153 DU, PRADOVIT COLOR – 150 or 250 W with and without autofocus.

Mixed coupling of these projectors is also possible, but it is recommended that they have the same lamp output.

On account of their convenient operation PRADOVIT projectors with autofocus are preferable.

The Leica Service Centre or any authorized dealer's workshop can subsequently modify existing PRADOVIT C/CA, S, S/AF, R/RA, and PRADOVIT COLOR projectors for use with DU-24 P and DU-24 M fade-control units.

Any modified projector with 14-pin socket wired for 10-pin plug and built-in triac may be used as usual as a single projector without an additional dummy plug.

# Specifications and technical data

## LEICA P 253 models





LEICA P 253

LEICA P 253 IR (infra-red remote control)



LEICA P 253 DU (for fade projection)

### Type:

Automatic 35 mm slide projector.

### Magazine systems:

LKM magazines for 60 or 80 slides. Standard magazines for 36 or 50 slides. CS magazines for 40 or 100 slides.

### Lenses:

Excellent optical performance with 90 mm COLORPLAN-P f/2.5 for glass-mounted slides, 90 mm COLORPLAN-P CF (curved field) f/2.5 for other slides. Projection lenses from 50 to 150 mm focal length and the zoom projection lens 60 - 110 mm.

### **Body:**

Modern design. Impact resistant, high-quality plastics with textured surface, light and dark grey. Component groups make servicing easy.

Rigid 3-point support. Levelling through vertical adjustment of two freely-moving knurled screws up to about 6°.

On / off switch.

Appliance cable for mains connection; winding facility in the bottom of the projector. Integrated carrying handle. Coarse focusing.

Coarse rocus

## Socket:

- 14-pin (10 pins in use) for:
- Remote control, an extension cable (10 m) can be additionally used.
- Multiple plug (Code No. 37 641) for the connection of the slide control unit (tape coupling) with 6-pin socket.
- Timer for automatic slide showing at adjustable time intervals (see page 9 12).
- IR remote control (see page 9 12).

## Magazine guide and slide transport:

Free access to the magazine space of the projector.

Convenient insertion of the LKM magazines, the standard magazines, and the CS magazines.

Perfect slide transport through hard chromed slide guide elements and positively guided claw (does not protrude beyond the projector body).

Projection of all types of mounts no matter how different (to DIN 108).

Rapid slide change, dark interval only about 1.2 sec.

Random adjustment forward and reverse of the inserted slide magazine when the claw has been pulled out.

Quiet slide transport and change.

Slide stage removable for the editing of slides or single-slide projection.

Automatic blocking of the slide window when an empty claw is moved into the optical path.

#### Slide change through:

Remote control for slide transport forward and reverse, focusing with autofocus override.

Slide changing button on the projector (forward and reverse).

#### Autofocus device:

The autofocus with override allows any correction required through remote control, without any change in the basic autofocus setting. It is restored after each slide change.

The autofocus device has its own light source (tubular lamp) which makes it independent of the centration of the projector lamp. High setting accurary.

#### System of illumination:

24 v/ 250 W tungsten halogen lamp. Projectors supplied complete with lamp. Easy change of the projector lamps. Built-in condenser for 50 – 150 mm focal length. Uniformity of illumination more than 80% (referred to the 90 mm COLORPLAN-P f/2.5 and 24 x 36 mm slide size).

#### Effective light flux:

To DIN 19 $\overline{021}$  standard, referred to 24 x 36 mm slide size and 90 mm COLORPLAN-P f/2.5 lens: about 900 lm.

#### **Cooling system:**

Direct blower for optimum cooling of slide, lamp and projector. Absorption of the infra-red rays and therefore reduction of the heat load of the slide through additional KG 1 heat filters.

Very quiet, trouble-free blower function.

#### Slide window temperature:

To DIN 19021: 67 °C on average (temperature rise 47 K).

### Electrical safety:

Insulated instrument: VDE or GS and interference suppression symbol, in addition SEMKO, NEMKO, DEMKO and SEV. Easy accessible fuses.

#### Dimensions and weight:

Length: 295 mm width: 270 mm height: 135 mm Weight: about 5 kg

## **LEICA P153 models**







LEICA P153

LEICA P153 IR (infra-red remote control)

LEICA P153 DU (for fade projection)

**Type:** Automatic 35 mm slide projector.

### Magazine systems:

LKM magazines for 60 or 80 slides. Standard magazines for 36 or 50 slides. CS magazines for 40 or 100 slides.

### Lenses:

Excellent optical performance with 90 mm COLORPLAN-P f/2.5 for glass-mounted slides, 90 mm COLORPLAN-P CF (curved field) f/2.5 for other slides. Projection lenses from 50 to 150 mm focal length and the zoom projection lens 60 - 110 mm.

#### **Body:**

Modern design. Impact resistant, high-quality plastics with textured surface, light and dark grey. Component groups make servicing easy.

Rigid 3-point support. Levelling through vertical adjustment of two freely-moving knurled screws up to about 6°.

On/off switch.

Appliance cable for mains connection; winding facility in the bottom of the projector. Integrated carrying handle. Coarse focusing.

Coarse rocus

## Socket:

14-pin (10 pins in use) for:

- Remote control, an extension cable (10 m) can be additionally used.
- Multiple plug (Code No. 37641) for the connection of the slide control unit (tape coupling) with 6-pin socket.
- Timer for automatic slide showing at adjustable time intervals (see page 9-12).
- IR remote control (see page 9 12).

## Magazine guide and slide transport:

Free access to the magazine space of the projector.

Convenient insertion of the LKM magazines, the standard magazines, and the CS magazines.

Perfect slide transport through high quality slide guide elements and positively guided claw (does not protrude beyond the projector body).

Projection of all types of mounts no matter how different (to DIN 108).

Rapid slide change, dark interval only about 1.2 sec.

Random adjustment forward and reverse of the inserted slide magazine when the claw has been pulled out.

Quiet slide transport and change.

Slide stage removable for the editing of slides or single-slide projection.

Automatic blocking of the slide window when an empty claw is moved into the optical path.

#### Slide change through:

Remote control for slide transport forward and reverse, focusing with autofocus override.

Slide changing button on the projector (forward and reverse).

#### Autofocus device:

The autofocus with override allows any correction required through remote control, without any change in the basic autofocus setting. It is restored after each slide change.

The autofocus device has its own light source (tubular lamp) which makes it independent of the centration of the projector lamp. High setting accuracy.

### System of illumination:

24 v / 150 W tungsten halogen lamp. Projectors supplied complete with lamp. Easy change of the projector lamps. Built-in condenser for 50 – 150 mm focal length. Uniformity of illumination more than 80% (referred to the 90 mm COLORPLAN-P f/2.5 and 24 x 36 mm slide size).

#### **Effective light flux:**

To DIN 19 021 standard, referred to  $24 \times 36$  mm slide size and 90 mm COLORPLAN-P f/2.5 lens: about 600 lm.

#### **Cooling system:**

Direct blower for optimum cooling of slide, lamp and projector. Absorption of the infra-red rays and therefore reduction of the heat load of the slide through additional KG 1 heat filters.

Very quiet, trouble-free blower function.

#### Slide window temperature:

To DIN 19021: 60 °C on average (temperature rise 40 K).

#### **Electrical safety:**

Insulated instrument: VDE or GS and interference suppression symbol, in addition SEMKO, NEMKO, DEMKO and SEV. Easily accessible fuses.

#### Dimensions and weight:

Length: 295 mm width: 270 mm height: 135 mm Weight: about 4.4 kg

## Special features of the individual models

	LEICA P 153 / 253		LEICA P 153 IR / 253 IR		LEICA P153 DU/253 DU
	220 V/50 Hz	adjustable 110-240 V/ 50-60 Hz	220 V/50 Hz	adjustable 110-240 V/ 50-60 Hz	adjustable 110–240 V/ 50–60 Hz
Cable remote control 153 / 253 with light pointer Code No. 37 639	Х	Х	1)	1)	Х
Infra-red remote control, range about 12 m	_	_	Х	Х	_
Infra-red remote control, range about 20 m, see page <b>8</b> -11	1)	1)	1)	1)	1)
Built-in triac for fade projection	_	-	-	_	Х
Rapid lamp changer	-	-	Х	Х	Х
Number of lamps included with the outfit	1	1	2	2	2

1) as accessories

## Timer C



For use with any projector fitted with a 14-pin socket wired for a 10-pin plug to DIN 45 322.

Robust plastic body, with black grained surface. Interval-setting wheel, adjustable from about 3 s to 30 s, figures engraved and inlaid in white. 0.60 m cable, 10-pin plug. The cable is long enough for any desired set-up next to the projector.

The Timer C is suitable for the following projectors: LEICA P 2000 PRADOVIT, PRADOVIT COLOR 2, PRADOVIT CA 2502, and PRADOVIT 2500 equipped for fade control, LEICA P 153 / 253 models, and for PRADOVIT 153 / 253 models. Please contact the Leica Service Centre or your national Leica agency for information on connecting other PRADOVIT projectors.

### **Dimensions:**

Length 65 mm, width 50 mm, height 23.5 mm.

## PCM infra-red remote control



Range about 20 m. Detector in robust plastic housing, modern design. 0.60 m cable link, 10-pin plug. Transmitter in handy, robust plastic housing. Powered by 9 v IEC 6 F 22 battery. Four transmitting channels with a push-button each for slide transport forward, slide transport reverse, and focusing forward and focusing reverse. Push-buttons conveniently and practically arranged.

### **Dimensions and weight:**

IR detector: Length 130 mm, width 63 mm, height 32 mm Weight 0.140 kg IR transmitter: Length 140 mm, width 52 mm, height 27 mm Weight 0.080 kg

## DU-24 P fade-control unit



for two projectors with recording facility for cassette and tape.

#### Uses:

Home projection, lecturing, advertising, teaching and communication.

### Brief technical description and function:

Control unit for continuous gradual and cut fades.

No time limit for gradual fades.

24 v supply through the modified projectors with built-in triac for lamp control, hence no heating of the control unit.

Handpiece with slider with integrated switches for slide change in the end position. Light change of the projectors can be repeated as often as desired, because slide transport is not coupled.

"Dissolve" key for 1 to 10 second fade with subsequent slide change.

"Cut" key for hard fade with subsequent slide change.

"Flip" key for hard fade without subsequent slide change.

"Super" key for superimposition of the second slide as long as the key is pressed, then slide change.

"Record" key for recording the control signals on tape.

Multifunction slider.

The built-in signalling device controls the fade of the projectors through its frequency modulation. A signal of this frequencyy modulation can be recorded on a cassette or stereo tape recorder without difficulty (AV instruments).

Black metal housing with bright front plate. All contents are arranged on the front. 10-pin socket for the connection of the handset P, available as an accessory.

6-pin socket for the connection of cassette recorders with built-in AV head or reel tape units with AV head (the slide control unit cannot be used for this purpose).

5-pin socket (for stereo plug) for the connection of stereo tape recorders for multi-play methods.

Warning light to check the control signal.

Two 0.75 m connecting cables with 10-pin plugs for the projectors at the back of the control unit.

No additional mains cable required.

Handset with 2 m connecting cable, with the following controls:

Slider switch for dissolve control.

Operating mode switch with 3 positions:

"Record" - normal position for manual dissolve and tape recording.

"Play" - automatic signal processing from the tape.

"Erase" - erasure of the recorded signal.

"Flip-over button" - rapid fade without slide transport.

Coupling cable for "free head" and junction pieces 1 and 2 are part of the outfit.

#### Accessories:

Handset P with 2 m connecting cable. 7-pin extension cable (10 m) for handset P.

#### Possibility of combining the projectors:

All the automatic PRADOVIT 35 mm projectors which have the conversion kit with built-in triac for lamp control can be used with the DU-24 P control unit:

PRADOVIT C 1500, CA 1500, C 2500, CA 2500, CA 2502, COLOR 2, LEICA P 2000 PRADOVIT S- and PRADOVIT S/AF,

PRADOVIT R 150, RA 150, R 152, RA 152, 153 DU, 253 DU, LEICA P 153 DU / 253 DU PRADOVIT COLOR – 150 or 250 W with and without autofocus.

The projectors to be coupled need not be identical, but the combination of instruments of the same lamp power is recommended.

On account of operating convenience PRADOVIT projectors with autofocus are preferable.

#### **Dimensions and weights:**

Control unit:

Length 230 mm, width 215 mm, height 55 mm Weight 2.14 kg

Handset:

Length 150 mm, width 55 mm, height 43 mm Weight 0.29 kg

## DU-24 M fade-control unit



for 2 projectors for manual dissolve control.

### Uses:

Home projection, lecturing, advertising, teaching and communication.

## Brief technical description and function:

Hand piece with all controls.

Push-button for triggering the fade and slide change of the "dark" projector.

Dial for the pre-selection of the desired time from cut to up to about 5 sec. fade. Push-button for switching on the built-in light pointer.

Dial for switching on the built-in timer and presetting the required interval from about 6 to about 60 seconds permits "automated projection".

Connecting cable, length 3 m, dividing after 2.5 m for connection to the two projectors. 10-pin plugs for the projectors.

### Possibility of combining the projectors:

All automatic 35 mm PRADOVIT projectors which have the conversion kit with builtin triac for lamp control can be used with the control unit DU-24 M:

PRADOVIT C 1500,, CA 1500, C 2500, CA 2500, CA 2502, COLOR 2, LEICA P 2000 PRADOVIT S, PRADOVIT S / AF,

PRADOVIT R 150, RA 150, R 152, RA 152, 153 DU, 253 DU, LEICA P 153 DU / 253 DU PRADOVIT COLOR 150 or 250 W with and without autofocus.

The projectors to be coupled need not be identical, but the combination of instruments of the same lamp power is recommended.

In the interest of operating convenience PRADOVIT projectors with autofocus are preferable.

### Dimensions and weight:

Length 155 mm, width 65 mm, height 35 mm. Weight: 0.390 kg

## Console for fade projection



With this console two projectors are set up vibration-free above each other. This saves space and moves the optical axes of the fade projectors as closely together as possible (optimum coincidence of the projected images). Two rubber strips ensure secure installation.

### **Dimensions and weight:**

Length 325 mm, width 355 mm, height 300 mm Weight 4.2 kg

## LKM magazine system for 60 and 80 slides



The new LKM system has five distinct advantages:

- 1. It can be used for all sorts of slide frames up to 2 mm thickness.
- 2. It's spillproof.
- 3. It is compact and space-saving.
- 4. Its stacking containers easily fit the stacking containers of the standard magazine system, thus facilitating slide storage.
- 5. Slides can easily be removed from the magazine, even when it's in the projector.

## **Contents**

## **LEICA** binoculars

## Product range

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## **Product range of LEICA binoculars**

Model	Magni- fica- tion	Lens dia- meter	Exit pupil	Twilight factor	m/° field at 1000 m	Approx. weight	Dimensions Width Depth Height	Code	Page
8 x 20 BC	8 x	20 mm	2.5 mm	12.65	115 m/6.3	220 g	60 mm 35 mm 92 mm	40 3 05	<b>10</b> – 4
8 x 20 BCA green	8 x	20 mm	2.5 mm	12.65	115 m/6.3	225 g	60 mm 35 mm 92 mm	40307	10 - 4
8 x 20 BCA black	8 x	20 mm	2.5 mm	12.65	115 m/6.3	225 g	60 mm 35 mm 92 mm	40 3 09	10 - 4
10 x 25 BC	10 x	25 mm	2.5 mm	15.8	95 m/5.4	240 g	60 mm 36 mm 110 mm	40 306	<b>10 -</b> 5
10 x 25 BCA green	10 x	25 mm	2.5 mm	15.8	95 m/5.4	245 g	60 mm 36 mm 110 mm	40 308	<b>10 -</b> 5
10 x 25 BCA black	10 x	25 mm	2.5 mm	15.8	95 m/5.4	245 g	60 mm 36 mm 110 mm	40310	<b>10 -</b> 5
8 x 42 BA black	8 x	42 mm	5.25 mm	18.3	130 m/7.44	890 g	130 mm 57 mm 141 mm	40 0 1 2	<b>10 -</b> 6
8 x 42 BA green	8 x	42 mm	5.25 mm	18.3	130 m/7.44	890 g	130 mm 57 mm 141 mm	40 2 39	<b>10 -</b> 6
10 x 42 BA black	10 x	42 mm	4.2 mm	20.5	110 m/6.3	890 g	130 mm 57 mm 137 mm	40014	<b>10 -</b> 7
10 x 42 BA green*	10 x	42 mm	4.2 mm	20.5	110 m/6.3	890 g	130 mm 57 mm 137 mm	40 241	<b>10 -</b> 7
10 x 42 B black	10 x	42 mm	4.2 mm	20.5	110 m/6.3	890 g	130 mm 57 mm 137 mm	40 229	<b>10 -</b> 7
7 x 42 BA black	7 x	42 mm	6 mm	17.2	140 m/8	890 g	130 mm 57 mm 141 mm	40 0 1 3	10 - 8
7 x 42 BA green*	7 x	42 mm	6 mm	17.2	140 m/8	890 g	130 mm 57 mm 141 mm	40 240	10 - 8

B = Suitable for spectacle wearers C = Compact binoculars A = Rubber covered \*= Available from mid 1990

## **Compact binoculars LEICA 8 x 20 BC LEICA 8 x 20 BCA**





LEICA 8 x 20 BC

LEICA 8 x 20 BCA

Compact high-performance binoculars. Ideal where compact light-weight binoculars are required. Metal construction.

Magnification:	8 x				
Lens diameter:	20 mm				
Exit pupil:	2.5 mm				
Twilight factor:	12.65				
Field:	$6.3^{\circ} = 115 \text{ m at } 1000 \text{ m range}$				
Close-range focus to:	3 m				
Central drive, internal f	focusing.				
Optical adjustment $\pm 3$	Optical adjustment $\pm$ 3.5 diopters.				
Adjustable eyecups, interchangeable soft rubber support					
Folding binoculars, eyebase adjustable from 32 mm to 83 mm.					
Ribbed central section and tubes finished in textured pvc (BC) or in green or black rubber (BCA); exposed external metal parts black anodized or green enamelled.					
Dimensions (folded): 60 mm wide, 35 mm deep, 92 mm high.					

Weight: BC 220 g, BCA 225 g

LEICA 8 x 20 BC, with neck cord LEICA 8 x 20 BCA, green, with neck cord LEICA 8 x 20 BCA, black, with neck cord	40 307
Accessories for LEICA 8 x 20 BC and 8 x 20 BCA Soft nappa leather case	42 198

## **Compact binoculars LEICA 10 x 25 BC LEICA 10 x 25 BCA**





LEICA 10 x 25 BC

LEICA 8 x 20 BCA

Compact binoculars for high magnification. Superb optical performance. The ideal mini-size leisure binoculars. Metal construction.

Magnification:	10 x	
Lens diameter:	25 mm	
Exit pupil:	2.5 mm	
Twilight factor:	15.8	
Field:	$5.4^{\circ} = 95 \text{ m at } 1000 \text{ m range}$	
Close-range focus to:	5 m	
Central drive, internal	focusing.	
Optical adjustment $\pm 3$	.5 diopters.	
Adjustable eyecups, int	erchangeable soft rubber support	
Folding binoculars, eye	base adjustable from 32 mm to 83 mm.	
Ribbed central section	and tubes finished in textured pvc (BC) or in green or black	
rubber (BCA); exposed	external metal parts black anodized or green enamelled.	
Dimensions (folded): 6	0 mm wide, 36 mm deep, 110 mm high.	
Weight: BC 240 g, BCA	245 g	

 LEICA 10 x 25 BC, with neck cord
 40 306

 LEICA 10 x 25 BCA, green, with neck cord
 40 308

 LEICA 10 x 25 BCA, black, with neck cord
 40 310

 Accessories for LEICA 10 x 25 BC and 10 x 25 BCA
 42 199

## Universal binoculars LEICA 8 x 42 BA



LEICA 8 x 42 BA

Universal wide-field binoculars with medium magnification and large exit pupil. Enhanced performance for daylight and twilight viewing. Sliding eyepiece sleeve. Metal construction.

Magnification:	8 x	
Lens diameter:	42 mm	
Exit pupil:	5.25 mm	
Twilight factor:	18.3	
Field:	$7.44^{\circ} = 130 \text{ m at } 1000 \text{ m range}$	
Close-range focus to:	5.3 m	
Central drive, true inte	rnal focusing, waterproof to a depth of 5 m.	
Optical adjustment great	ater than $\pm$ 3.0 diopters.	
Folding binoculars, eye	ebase adjustable from 56 mm to 74 mm.	
Body fully enclosed in	black or green positive-grip PUR plastic.	
Eyelets for carrying stra	ap.	
Dimensions: 130 mm w	ide, 57 mm deep, 141 mm high.	
Weight: 890 g		
0		Code No.
LEICA 8x42 BA, black	x, with carrying strap and non-slip pad, eyepiece	
cap, soft nappa leather	ever-ready case	40 012
LEICA 8x42 BA. greet	n, with carrying strap and non-slip pad, evepiece	
, 0	ever-ready case	40 239

## Universal high-performance binoculars LEICA 10 x 42 B LEICA 10 x 42 BA





LEICA 10 x 42 B

LEICA 10 x 42 BA

Universal high-performance binoculars with high magnification and extreme closerange focusing. Especially suitable for daylight and twilight viewing, in bird-watching, the observation of animals in general, hunting, and the inspection of architectural and structural details. Sliding eyepiece sleeve.

Metal construction.

Magnification: Lens diameter: Exit pupil:	10 x 42 mm 4.2 mm	
Twilight factor: Field:	20.5 6.3° = 110 m at 1000 m range	
Close-range focus to:		
,	rnal focusing, waterproof to a depth of 5 m.	
	ater than $\pm$ 3.0 diopters.	
	base adjustable from 56 mm to 74 mm.	
plastic with synthetic-le	black or green positive-grip PUR plastic (BA) or bl	ack PUR
Evelets for carrying stra		
, , ,	ride, 57 mm deep, 137 mm high.	
	lue, 57 mini deep, 157 mini ingn.	
Weight: 890 g		Code No.
,	k, with carrying strap and non-slip pad, eyepiece ever-ready case	40 014
LEICA 10 x 42 BA, gree	n, with carrying strap and non-slip pad, eyepiece	
cap, soft nappa leather	ever-ready case	40 241
LEICA 10 x 42 B. black.	with carrying strap and non-slip pad, eyepiece cap,	
	-ready case	40 229

## Hunting and night glasses LEICA 7 x 42 BA



LEICA 7 x 42 BA

Special wide-field hunting and night glasses with extra-large exit pupil for keeping the object in view even when the support is unstable. Especially suitable for hunting, sailing, and marine use. Sliding eyepiece sleeve. Metal construction.

Magnification:	7 x	
Lens diameter:	42 mm	
Exit pupil:	6 mm	
Twilight factor:	17.2	
Field:	$8^{\circ} = 140 \text{ m at } 1000 \text{ m range}$	
Close-range focus to:	6.3 m	
Central drive, true inte	rnal focusing, waterproof to a depth of 5 m.	
Optical adjustment gre	ater than $\pm$ 3.0 diopters.	
Folding binoculars, eye	ebase adjustable from 56 mm to 74 mm.	
Body fully enclosed in	black or green positive-grip PUR plastic.	
Eyelets for carrying str	ap.	
Dimensions: 130 mm w	vide, 57 mm deep, 141 mm high.	
Weight: 890 g		
		Code No.
LEICA 7 x 42 BA, black	k, with carrying strap and non-slip pad, eyepiece	
cap, soft nappa leather	ever-ready case	40 013
LEICA 7 x 42 BA, gree	n, with carrying strap and non-slip pad, eyepiece	
cap, soft nappa leather	ever-ready case	40 240

## **Accessories for LEICA binoculars**

Code No.
42 142
42 143
42 151
42 152
42 153
42 154
42 144
42 129
42 169
42 166

## **Specifications**

## LEICA 8 x 20 BC and BCA 10 x 25 BC and BCA

Precision mechanical system:

Special space-saving design reduces the overall volume and folds to vest-pocket size.

Position for viewing





Extra-light for ease of carrying and fatigue-free viewing.

Easy-to-focus central drive.

Optical adjustment to user's visual acuity.

Solid all-metal construction ensures perfect long-term retention of adjustment and maximum protection of all optical and mechanical components.

BCA model particularly silent and non-slip.

Maintenance-free.

Their true internal focusing system makes these binoculars absolutely dust- and splash-proof.

### **High-performance optics:**

The special layout of the optical paths gives these binoculars their elegant flat shape. All glass-to-air surfaces specially coated for perfect contrast and a bright image to match the human eye's maximum sensitivity.

Pentaprisms made to extremely close angular tolerances for maximum accuracy.

Stringent quality control in the selection of all optical elements. Lenses, prisms, and eyepieces are carefully matched.

Shockproof prism mounts fitted with precision-adjusted prisms.

The two optical systems produce the same magnification and are in perfect parallel alignment for fatigue- and headache-free long-term viewing.

Optics designed for extra-wide field and enhanced close-range viewing.

Special optical design and sliding eyepiece sleeve with rubber eyecups also suitable for use by spectacle wearers.

30 years' warranty.

Position for carrying and storage

## LEICA 8 x 42 BA 10 x 42 BC and BCA 7 x 42 BA

### Precision mechanical system:

Compact modern construction reduces the overall volume as compared with conventional binoculars. Functional, ergonomic design for fatigue-free viewing.

New-type central drive. Central focusing and optical adjustment to user's visual acuity by triple-function combination drive knop

#### Comparison:



Conventional central drive: Separate knob for optical adjustment



Single-eyepiece focusing: No combined control of the two optical systems



New-type central drive: Combined control of both optical systems

Strong all-metal body ensures perfect long-term rentention of adjustment and maximum protection of all optical and mechanical components.

Fully enclosed body covered in shock-absorbent, non-slip, sound-absorbent PUR plastic mantle; B type additionally with imitation leather inserts.

Special optical design and sliding eyepiece sleeves with rubber eyecups also suitable for use with spectacles.

Watertight to a depth of 5 m. True internal focusing system, special sealing, and nitrogen filling make these binoculars absolutely proof against damage by dust and water. Maintenance-free.

Working temperature range from  $-25 \,^{\circ}$ C to  $+55 \,^{\circ}$ C ( $-13 \,^{\circ}$ F to  $131 \,^{\circ}$ F). Short focusing path for fast location of focusing plane.

#### **High-performance optics:**

Stringent quality control in the selection of all optical elements. Lenses, prisms, and eyepieces are carefully matched.

For perfact contrast and a bright image, multiple coating of all glass-to-air surfaces to match the human eye's maximum sensitivity.

Hard-coated external lens and eyepiece surfaces.

Phase-corrected coating of pentaprisms made to extremely close angular tolerances for maximum accuracy.

Shockproof prism mounts fitted with precision-adjusted prisms.

The two optical systems produce the same magnification and are in perfect parallel alignment for fatigue- and headache-free long-term viewing.

Optics for extended wide-field and enhanced close-range viewing.

Made in Germany.

30 years' warranty.

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## LEICA R and M cameras and lenses

## **Batteries (button cells)**

(as replacement)

Manufacturers: Designation:

### for LEICA R models and LEICA M 6:

lls (2 required):
EPX 76
S 76 E
Nr. 357
D 357 (10 L 14)
V 76 PX
V 76 GS
V 357
S 76 E
SR 44
SR 44 W
RS 76 G
RW 42
SR 44 P
SR 44
SR 44 SW
uired):
DL 1/3 N
CR 1/3 N
2 L 76

## for LEICAFLEX / SL / SL 2:

Mercuric oxide button cell (1 required): Mallory PX 625 Varta-Pertrix 7002

### for LEICA M 5:

Mercuric oxide button cell (1 required): Mallory PX 625 Varta Pertrix 7002

## for LEICA CL:

Mercuric oxide button cell (1 required): Mallory PX 625 Varta Pertrix 7002 Mallory National H-D

## for LEICAMETER MR:

Mercuric oxide cell (1 required): Mallory PX 625

Type of flash electronic		vpo of flash R6		R 4 models *	R 3 m	odels *	all LEICAFLEX models		
		X-contact	X-contact	X-contact	X-contact	M-contact	<b>4</b> = X-contact	= M-contact	
		<b>X</b> ( <sup>1</sup> /100) 1 → $^{1}/_{60}$ , <b>B</b>		$\vec{X}$ , 100 (1/100) 1 $\rightarrow$ 1/60, B	<b>X</b> ( <sup>1</sup> /90) 4 s → $^{1}/_{60}$ , <b>B</b>	_	B→ <b>4</b> (= ½100)	_	
	AG 1 AG 3 cube	1 → 1/30, <b>B</b>	$1/_{2} \rightarrow 1/_{30}, B$	1 → 1/30, <b>B</b>	$4 \text{ s} \rightarrow 1/30, \text{ B}$	_	1 → 1/30, <b>B</b>	1 → <sup>1</sup> /60	
Flashbulbs	PF 1 XM 1	$1 \rightarrow 1/_{30}, \mathbf{B}$	$1/_2 \rightarrow 1/_{30}, \mathbf{B}$	1 → 1/30, <b>B</b>	$4 \text{ s} \rightarrow 1/_{30}, \mathbf{B}$	-	1 → 1/30, <b>B</b>	$1 \rightarrow 1/_{15}$	
	M 2	$1 \rightarrow 1/60, \mathbf{B}$	$1/_2 \rightarrow 1/_{60}, B$	$1 \rightarrow 1/_{60}, \mathbf{B}$	$4 \text{ s} \rightarrow 1/60, \mathbf{B}$	-	$1 \rightarrow 1/60, \mathbf{B}$	-	
	PF 5	1 → 1/30, <b>B</b>	$1/_{2} \rightarrow 1/_{30}, B$	1 → 1/30, <b>B</b>	$4 \text{ s} \rightarrow 1/_{30}, \mathbf{B}$	1/125 - 1/1000	1 → 1/30, <b>B</b>	1 - 1/125	
	M 3 GE 5 B	1 → 1/30, <b>B</b>	$1/_{2} \rightarrow 1/_{30}, B$	1 → 1/30, <b>B</b>	$4 \text{ s} \rightarrow 1/_{30}, \mathbf{B}$	1/125 - 1/1000	1 → 1/30, <b>B</b>	1 → <sup>1</sup> / <sub>250</sub>	
	FP 26 PF 6	1 → 1/15, <b>B</b>	$1/_{2} \rightarrow 1/_{15}, B$	1 → 1/15, <b>B</b>	$4 \text{ s} \rightarrow 1/15, \mathbf{B}$	1/30 - 1/1000	1 → 1/15, <b>B</b>	-	

## **Flash synchronization**

\* for flash pictures the camera must be set at "Manual".

With system compatible electronic flash units on LEICA R 4 / R 5 models automatic switchover of the camera electronics to "X" (1/100 sec.), when the unit is charged. Effective with all modes. With shutter-speed priority and automatic mode the aperture is no longer produced automatically. It closes to the set values.

Type of flash		pe of flash M6		models . 854 001	N up to No	CL	
			<b>∳</b> = X-contact	S = M-contact	🖠 = X-contact	<b>?</b> = M-contact	X-contact
electronic			B → $\pounds$ (= 1/50) B → $\bullet$ (= 1/50)	-	$\mathbf{B} \rightarrow 1/_{50}$	-	<b>B</b> - 1/60
	AG 1 AG 3 cube M 2	<b>B</b> → 1/ <sub>30</sub>	$\mathbf{B} \rightarrow 1/_{30}$	_	$\mathbf{B} \rightarrow 1/_{25}$	_	$\mathbf{B} \rightarrow 1/_{30}$
	XM 1 B PF 1	<b>B</b> → 1/ <sub>30</sub>	-	<b>B</b> → 1/60	-	$\mathbf{B} \rightarrow 1/_{50}$	-
lbs	PF 5	<b>B</b> → 1/30	-	<b>B</b> → 1/ <sub>60</sub>	—	<b>B</b> → 1/100	-
Flashbulbs	M 3	$\mathbf{B} \rightarrow 1/_{30}$	-	$\mathbf{B} \rightarrow 1/_{125}$	-	-	-
Fla	GE 5 B Press 25	$\mathbf{B} \rightarrow 1/_{30}$	-	<b>B</b> → 1/500	_	<b>B</b> → 1/ <sub>500</sub>	-
	Press 40 2	<b>B</b> → 1/ <sub>30</sub>	-	_	_	_	-
	FP 26 PF 6 3	<b>B</b> → 1/15	_	_	_	_	-

 $\mathbf{z}$  or  $\mathbf{X} = \mathbf{Socket}$  for electronic flash and hot shoe.

 $\mathbf{Q}$  or  $\mathbf{M} = \mathbf{Socket}$  for flashbulb units.

			I g, III g		I f, II f, II	I f	from No. 36	0 001	up to No. 3	60 000
Type of flash				time red contact number		time black contact number		time contact number		
electronic <b>‡</b>		B red <b>\$</b> (= ½30) <b>\$</b> (= ½50)		$T, 1 \to 1/25$	20 0 2	$T, 1 \rightarrow 1/20$ B	2 2 6	$T, 1 \rightarrow 1/20$ B	0 4 6,5	
	AG 1 AG 3 cube M 2	ŧ	B red <b>⊉</b> (= 1/30	)	_		_		_	
	AG 1 AG 3 cube	8	_		1/15 1/25 1/50 1/75	2 9 8 3	1/15 - 1/20 1/30 1/40 1/60	8 11 8 5	1/20 1/30 1/40 1/60	10 12 8 5
	XM 1 PF 1	8	$\mathbf{B} \rightarrow 1/_{60} *$	-1).	1/15 1/25 1/50	2 5 10	1/15 - 1/20 1/30	9 3	1/20 1/30	14 13
Flash bulbs	PF 5	8	$\mathbf{B} \rightarrow 1/_{60} *$	\$ (beside 30 - 1).	1/15 1/25 1/50 1/75	2 14 11 5	1/15 <b>-</b> 1/30 1/40	16 11	1/20 - 1/30 1/40	14 11
FIS	GE 5	8	$B \rightarrow 1/_{500} *$	T, 1 - 1/15 Set high-speed button	1/15 1/25 1/50 1/75 1/100 1/200 1/500	2 14 11 6 4 2 1	1/ <sub>15</sub> - 1/ <sub>30</sub> 1/ <sub>40</sub> 1/ <sub>60</sub> 1/ <sub>100</sub> 1/ <sub>200</sub>	16 11 8 5,5 4	1/20 - 1/30 1/40 1/60 1/100	14 11 9 7
	M 3	8	$\mathbf{B} \rightarrow 1/_{125} *$	r T, 1 - 1/15 Se	1/15 1/25 1/50 1/75	2 7 10 6	1/15 - 1/20 1/30 1/40 1/60	9 15 11 8	1/20 1/30 1/40 1/60	14 13 12 10
	All	8	-	For	<b>B</b> , <b>T</b> $1 \to \frac{1}{10}$	2	<b>B</b> , <b>T</b> $1 \rightarrow \frac{1}{10}$	6	$\begin{array}{c} \mathbf{T}, 1 \rightarrow \frac{1}{8} \\ \mathbf{B} \end{array}$	6 9
			* except setting or black arrow respectievly							

## **Filter sizes**

### for LEICA M and C lenses and discontinued lenses with screw mount

Examples: A 36 = Slip-on filter, external lens mount diam. 36 mm E 39 = screw in filter thread, diameter 39 mm 7 = Series filter size 7

Lens		Filter size
21 mm	ELMARIT-M	E 60
21 mm	SUPER-ANGULON	E 48 or 7
21 mm	SUPER-ANGULON	E 39
28 mm	ELMARIT	E 48 or 7
28 mm	ELMARIT-M (from Serial No. 2977551)	E 49
28 mm	SUMMARON	A 36
28 mm	HEKTOR	A 36
35 mm	SUMMILUX	E 41
35 mm	SUMMILUX (from Serial No. 2166701)	7
35 mm	SUMMICPON f/2	E 39
35 mm	SUMMICRON (from Serial No. 2307451)	7
35 mm	SUMMICRON (from Serial No. 2483 504)	E 39 or 7
35 mm	SUMMICRON (from Serial No. 2974251)	E 39
35 mm	SUMMARON	E 39
35 mm	SUMMARON (screw-thread).       f/3.5         SUMMARON (screw-thread).       f/3.5         SUMMARON (screw-thread, from No. 1423 141).       f/3.5	A 36
35 mm	SUMMARON (screw-thread)	A 36
35 mm	SUMMARON (screw-thread, from No. 1423 141)	E 39
35 mm	SUMMARON (bayonet)	E 39
40 mm	SUMMICRON-Cf/2	5,5
50 mm	NOCTILUX	E 58
50 mm	NOCTILUX	E 60
50 mm	NOCTILUX	8
50 mm	SUMMILUX	E 43
50 mm	SUMMARIT <sup>®</sup>	E 41
50 mm	SUMMAR <sup>®</sup> f/2	A 36
50 mm	SUMMITAR	E 36.5
50 mm	SUMMICRON-M	E 39
50 mm	HEKTOR	A 36
50 mm	ELMAR	E 39
50 mm	ELMAR (screw thread)	A 36
50 mm	ELMAR (bayonet)	E 39
65 mm	ELMAR	E 41
65 mm	ELMAR (from Serial No. 2378901)	6
75 mm	SUMMILUX-M	E 60
85 mm	SUMMILUA-M	E 58
90 mm	SUMMICRON	E 48
90 mm	SUMMICRON         f/2           SUMMICRON-M (from Serial No. 2813 801)         f/2           SUMMICRON-M (from Serial No. 3177 201)         f/2	E 49
90 mm	SUMMICRON-M (from Serial No. $3177201$ )	E 55
90 mm	ELMARII	E 39
90 mm	TELE-ELMARIT	E 39
90 mm	ELMARIT-M	E 46
90 mm	ELMAR (screw thread)	A 36
90 mm	ELMAR (screw thread, from No. 1573001)	E 39
90 mm	ELMAR (bayonet)	E 39 5.5
90 mm	ELMAR-C	E 58
125 mm	HEKTOR	E 38 7
135 mm	ELMARIT	E 55
135 mm	ELMARII (Irom Serial No. 2788 927)	E 39
135 mm		E 39
135 mm	TELE-ELMAR	A 36
135 mm	ELMAR	A 36
135 mm	HEKTOR (screw thread)	E 39
135 mm	HEKTOR (screw inread, from No. 1410001) $\dots \dots \dots$	E 39
135 mm	HEKTOR (bayonet)	E 58
200 mm	TELYT	E 48
200 mm	TELYT f/4.8	E 58
280 mm	TELYT	8
280 mm	TELYT	E 85
400 mm	TELYT	7
400 mm 400 mm	TELYT	7 or 8
400 mm 560 mm	TELYT	, 510
560 mm	TELYT	7
500 mm	1EE11	6
Dimensions of	f the filter threads:	
		M 49 x 0.75
E 39 E 41	M 39 x 0.5 E 45	M 55 x 0.75
E 43	M 43 x 0.5 E 58	M 58 x 0.75
# Which LEICA WINDER for which LEICA M

Windon ton a		Camera type					
Winder type	LEICA M 6	LEICA M 4-P	LEICA M 4-2	4-2 LEICA MD-2			
LEICA WINDER M	yes	yes	yes	yes			
LEICA WINDER M 4-P	yes	yes	yes	yes			
LEICA WINDER M 4-2 from Serial No. 10 350	yes	yes	yes	yes			
LEICA WINDER M 4-2 up to Serial No. 10349	no	yes apart from Serial No. 1552500 * - 1552884 * and 1563000 - 1588536 (can be adapted by Technical Service)	yes	yes			

# Adaptation of lenses

# **Conversion of LEICAFLEX lenses**

# Conversion of LEICAFLEX lenses for use on LEICA R models

Existing LEICAFLEX lenses can be fitted with an additional cam for the full utilisation of the LEICA R exposure facilities.

**The use of modified lenses on all LEICAFLEX models remains unrestricted.** Modification by the Leica Service Centre or authorized workshops of Leica agencies.

### Conversion of LEICA R lenses to filter thread E 55:

60 mm MACRO-ELMARIT f/2.8	up to Serial No. 3013650
90 mm ELMARIT-R f/2.8	up to Serial No. 2809000
90 mm SUMMICRON-R f/2	up to Serial No. 2770950
100 mm MACRO-ELMAR f/4 (for Focusing Bellows R)	up to Serial No. 2933350
135 mm ELMARIT-R f/2.8	up to Serial No. 2772618

### Conversion of Leica R lenses to filter thread E 60:

180 mm APO-TELYT-R f/3.4	up to Serial No. 2947024
Modification by the Leica Service Centre or a	uthorized workshops of Leica agencies.

### Conversion of LEICA R lenses for additional use on LEICAFLEX models

From the stated serial numbers onwards, the following lenses fit on all LEICA R models but no longer on the LEICAFLEX models.

The Leica Service Centre or any authorized workshop can fit the control cams to permit the use of most of these lenses on LEICAFLEX cameras.

		Can be equipped for LEICAFLEX models
24 mm ELMARIT-R f/2.8	from 3 428 941	SL2 models
28 mm ELMARIT-R f/2.8	from 3 367 501	all
35 mm ELMARIT-R f/2.8	from 3 332 801	all
50 mm SUMMILUX-R f/1.4	from 3 291 801	all
60 mm MACRO-ELMAR-R f/2.8	from 3 335 501	SL/SL2 models
80 mm SUMMILUX R f/1.4	from 3 267 301	no
90 mm SUMMICRON-R f/2	from 3 381 677	all
90 mm ELMARIT-R f/2.8	from 3 384 201	all

12/89

# **CL** lenses for use on LEICA M cameras

Screw-thread LEICA lenses and lenses for the LEICA M models have a differential helical focusing movement, i. e. the rear focusing barrel bearing against the rangefinder coupling roller moves only in and out. For a more compact and lightweight design, the 40 mm SUMMICRON-C f/2 and 90 mm ELMAR-C f/4 for the LEICA CL have instead a direct rear focusing cam. These lenses can be mounted on the LEICA M, but do not provide precise coupling with the rangefinder. For this reason we do not recommend the use of the CL lenses on the LEICA M Cameras.

# Existing 28 mm lenses on the LEICA M 4-P and LEICA M 6

28 mm focal-length lenses from Serial No. 2411 001 bring the 28 mm frame into the viewfinder of the LEICA M4-P and the LEICA M 6. With lenses of earlier production correct fading-in is not guaranteed. Here we recommend the use of the 28 mm brilliant finder (Code No. 12009). Conversion of the lens is not possible.

# Existing M lenses on the LEICA M 6

All M lenses can be used. However, exposure measurement cannot be carried out with the following: 15 mm HOLOGON f/8, 21 mm SUPER-ANGULON-M f/4 and the 28 mm ELMARIT-M f/2.8 below Serial No. 2314921.

When changing the 50 mm SUMMICRON f/2 with near-focusing device, it must be set at infinity.

# Interchangeable LEICA M lenses on the LEICA CL

The bayonet lens mount of the LEICA CL is identical with that of the LEICA M models. Hence numerous LEICA M lenses are usable on the LEICA CL.

The LEICA CL finder incorporates bright-line frames for the 40 mm, 50 mm and 90 mm fields of view.

The entire visible field is approximately that for 35 mm lenses. 28 mm lenses require the brilliant finder Code No. 12009.

### **Exceptions:**

1. The following lenses, when used on the LEICA CL, require removal of their lens hoods for focusing, particularly at close distances:

f/2
f/1.4
f/1.4
f/1.2
f/2.8

When used on the LEICA CL, the high-speed SUMMILUX f/1.4 and NOCTILUX f/1.2 50 mm lenses should be stopped down to at least f/2. The 50 mm NOCTILUX f/1 cannot be used.

2. Lenses with extended focusing range:

The LEICA CL rangefinder covers a focusing range from infinity down to 0.8 m (32"). Some LEICA M lenses focus on still closer distances:

- 28 mm ELMARIT
   f/2.8

   35 mm SUMMICRON
   f/2

   50 mm SUMMICRON
   f/2

   (Code No. 11817)
- 50 mm SUMMICRON f/2 with dual range

Here distances shorter than 0.8 m (32") cannot be focused in the view-finder of the LEICA CL.

3. Collapsible lenses need protective tape to limit the retraction of the lens barrel. This is available internationally in various widths from DYMO.

The tape should surround the lens barrel, leaving a gap of about 1 mm. To cut the right length first make a paper pattern.

### **Collapsible lenses:**

50 mm ELMAR	f/3.5	
50 mm ELMAR	f/2.8	
50 mm SUMMAR	f/2	Required tape width 9.5 mm (3/8 in)
50 mm SUMMITAR	f/2	Required tape width 9.5 mm (98 m)
50 mm SUMMICRON	f/2	
90 mm ELMAR	f/4	
50 mm HEKTOR	f/2.5	Required tape width 12.7 mm (1/2 in)

- 4. The following lenses of the LEICA M range cannot be used on the LEICA CL: a) Lenses whose rear mount enters too far into the camera body, such as the 28 mm
  - ELMARIT f/2.8 (Serial No. below 2 314 921) and the 21 mm SUPER-ANGULON.
    b) Lenses with a finder attachment such as the 35 mm wide-angle lenses for the LEICA M 3 and the 135 mm ELMARIT f/2.8.
  - c) The 90 mm SUMMICRON f/2 and the 135 mm TELE-ELMAR f/4.

# Existing interchangeable lenses on the LEICA M 5

All lenses with LEICA bayonet mount, and, with a suitable bayonet adapter, the earlier, screw-thread versions of LEICA lenses can be used on the LEICA M 5. With minor exceptions or restrictions they can also be fully utilized for selective light metering through the lens.

### **Exceptions:**

1. When a lens is **collapsible**, collapsibility must be limited to the permissible amount by means of a protective tape. **The lens need not be returned to the factory.** The protective tape is available internationally in various widths from DYMO.

The tape should surround the lens mount leaving a gap of 1 mm. To obtain the right length, a paper pattern should first be cut.

### **Collapsible lenses:**

50 mm ELMAR	f/3.5	
50 mm ELMAR	f/2.8	
50 mm SUMMAR	f/2	Description of available of the other
50 mm SUMMITAR	f/2	Required width of type 9.5 mm
50 mm SUMMICRON	f/2	
90 mm ELMAR	f/4	
50 mm HEKTOR	f/2.5	Required width of tape 12.7 mm

- 2. Lenses to be returned to the Leitz Technical Service Centre, National Agency, or authorized workshop for adaptation:
  - a) 21 mm and 28 mm wide-angle lenses, parts of whose mounts enter too deeply into the camera body.

A recess in the lens bayonet prevents the swinging-in of the photo resistor. The lenses can be subsequently attached – but exposure measurement through the lens is not possible.

21 mm SUPER-ANGULON	f/4	with screw thread.
		The bayonet adapter
		has to be modified.
		(Code No. 14097)
		Please state: for 21 mm
21 mm SUPER-ANGULON	f/4	with bayonet mount
21 mm SUPER-ANGULON	f/3.4	with bayonet mount
		(below Serial No. 2473251)
28 mm ELMARIT	f/2.8	with bayonet mount
		(below Serial No. 2314921)

b) lenses whose detachable viewfinder attachments foul the cover plate of the LEICA M 5.

Lens bayonet and viewfinder attachment must be re-machined.

35 mm SUMMARON	f/3.5	with detachable viewfinder
50 mm SUMMICRON	f/2	attachment with <b>near-focusing range</b>

In addition the VISOFLEX 1 and 3 and the Universal Focusing Bellows can be used with the LEICA M 5. With these accessories, selective light metering is also possible with photography from the tripod. The measured value is read in the measuring view-finder of the camera when the mirror is swung out.

The VISOFLEX 2 cannot be used.

Please use only the body cover supplied with the M 5.

### Attention:

In the LEICA M 5 only films in cassettes with standardized spools (to DIN 4535 or ISO 1057 standards) can be used. These spools have drive lugs on both ends. The rewind key of the LEICA M 5 engages in the drive lugs facing the camera baseplate.

# Small combination bag R

	Code No.
Small combination bag for LEICA R models 6)         Small Safari bag R	14 805 14 841
Combination bag for LEICA R 3 models (not available any more)	14 829



The following combinations can be accommodated:

### **Compartment 1:**

for LEICA R models **without** Motor-Winder / Motor-Drive with one of the following lenses: 3.5/15<sup>2</sup>), 2.8/16, 2.8/19<sup>2</sup>), 4/21<sup>2</sup>), 2.8/24<sup>2</sup>), 2.8/28<sup>2</sup>), PC 2.8/28<sup>1</sup>), 4/35<sup>2</sup>), 2.8/35, 2/35, 1.4/35, 3.5/35 - 70, 2/50, 1.4/50, 2.8/60<sup>3</sup>), 1.4/80, 2.8/90, 2/90, 4/100, 2.8/135, 4/ 180 or Extender R with 3.5/35 - 70, 2/50, 2.8/60, 2.8/60, 2.8/90, 2/90

### **Compartment 2:**

for one of the following lenses:

2.8/16, 4/21 <sup>1</sup>), all lenses from 24 to 180 mm (including the zoom lenses), 2.8/60 <sup>3</sup>), PC 2.8/28 <sup>1</sup>), 4/100 <sup>3</sup>), 4/250 to No. 3 050 600 or Extender R with 3.5/35 - 70, 2/50, 2.8/60 <sup>3</sup>), 2.8/ 90, 2/90, 4/100, 2.8/135, 4/180, or 2.8/100 with Elpro 1:2 - 1:1

### **Compartment 2:**

with added coupling ring 14836 for two of the following lenses:

2.8/16	all lenses from 21 to 90 mm <sup>4</sup> )
4/21 1)	2.8/16, 2.8/24 <sup>1</sup> ), 2.8/28 <sup>1</sup> ), PC 2.8/28 <sup>1</sup> ), 4/35 <sup>1</sup> ), 2.8/35, 2/35, all
	lenses from 50 to 135 mm
2.8/24	2.8/16, 4/21 <sup>1</sup> ) all lenses from 28 to 90 mm as "4/21"
2.8/28	2.8/16, 4/21 1), 2.8/24 1), PC 2.8/28 1), all lenses from 35 to 90 mm
	as "4/21"
PC 2.8/28 <sup>1</sup> )	4/21 1), 2.8/24, 2.8/28, 4/35 1), 2.8/35, 2/35, 1.4/50, 2/50, 2.8/90
4/351)	2.8/16, all lenses from 21 to 90 mm (PC 2.8/28 <sup>1</sup> )
2.8/35	as "4/35"
2/35	as "4/35"
1.4/35	$2.8/16$ , all lenses from $21 - 60 \text{ mm}^4$ ( $4/35^1$ )
3.5/35 - 70	as "1,4/35"

2.8/16, all lenses from 21 to 100 mm<sup>5</sup>) 2/50 2/50 with Extender R 2.8/16, 4/21 1), 2.8/24 1), 2.8/28, 4/35 1), 2.8/35, 2/35, 3.5/35 - 70, 2.8/60, 1.4/80, 2/90 1.4/50 as "4/35" 2.8/60 as "4/35" 2.8/60 with Extender R 2.8/35, 2/50 2.8/16 all lenses from 21 to 60 mm<sup>4</sup>) (4/35<sup>1</sup>) 1.4/80as "1.4/80" 2.8/90 as "1,4/80" 2/902/90 with Extender R 2.8/35, 2/50 2/50 4/100

### **Compartment 3:**

for films, filters, etc. or one of the following lenses: 4/21<sup>1</sup>), 2.8/24<sup>1</sup>), 2.8/28, 4/35<sup>1</sup>), 2.8/35, 2/35, 2/50, 1.4/50, 2.8/60, 2.8/90, Extender R

### **Compartment 4:**

Front pocket for lens hoods, films, filters etc.

 $^{3}$ ) = also with adapter

 $<sup>^{1}</sup>$ ) = without lens hood

 $<sup>^{2}</sup>$ ) = no additional lens fits in the compartment below the camera

 $<sup>^{4}</sup>$ ) = except PC 2.8/28

 $<sup>^{5}) = \</sup>text{except } 2.8/100$ 

<sup>&</sup>lt;sup>6</sup>) = not for LEICA R 3

# Large combination bag R

Code No.

]	Large combination	on bag for	LEICA R	models <sup>6</sup> )	with	Motor	Winder /	
]	Motor Drive and	handgrip	attached					
	Large Safari hag							

14833	
14837	



The following combinations can be accommodated:

### **Compartment 1:**

for LEICA R models<sup>4</sup>)(also with Data-Back) with Motor-Winder/Motor-Drive attached and handgrip and one of the following lenses:

3.5/15<sup>2</sup>), 2.8/16, 2.8/19<sup>2</sup>), 4/21<sup>2</sup>), 2.8/24<sup>2</sup>), 2.8/28<sup>2</sup>), PC 2.8/28<sup>1</sup>) (setting screw facing up), 4/35<sup>2</sup>), 2.8/35, 2/35, 1.4/35, 3.5/35 – 70, all lenses from 50 to 135 mm (2.8/60<sup>3</sup>), 4/180, 2.8/180 from No. 2 939 701 or Extender with 3.5/35 – 70, 2/50, 2.8/60<sup>3</sup>), 2.8/90, 2/90, 4/100, 2.8/135

### **Compartment 2:**

for one of the following lenses:

2.8/16, 4/21 <sup>1</sup>), all lenses from 24 to 180 mm (including the zoom lenses), PC 2.8/28 <sup>1</sup>), 2.8/60 <sup>3</sup>), 4/100 <sup>3</sup>), 4/250 to No. 3 050 600 or Extender R with 3.5/35 – 70, 2/50, 2.8/60 <sup>3</sup>), 2.8/ 90, 2/90, 4/100 <sup>3</sup>), 2.8/135, 4/180, 3.4/180, 2.8/180 from No. 2 939 701 or 2.8/100 with Elpro 1: 2 – 1: 1

### **Compartment 2:**

with added coupl	ing ring 14836 for two of the following lenses:
2.8/16	all lenses from 21 to 135 mm <sup>4</sup> ) <sup>5</sup> ) (2,8/60 <sup>3</sup> )
4/21 1)	2.8/16, 2.8/24 <sup>1</sup> ), 2.8/28 <sup>1</sup> ), PC 2.8/28 <sup>1</sup> ), 4/35 <sup>1</sup> ), 2.8/35, 2/35, all
	lenses from 50 to 135 mm <sup>5</sup> ) (2.8/60 <sup>3</sup> ), 4/180
2.8/24	2.8/16, 4/21 <sup>1</sup> ) all lenses from 28 to 135 mm as "4/21"
2.8/28	2.8/16, 4/21 <sup>1</sup> ), 2.8/24 <sup>1</sup> ), all lenses from 28 to 135 mm
	as "4/21"
PC 2.8/28 <sup>1</sup> )	4/21 1), 2.8/24, 2.8/28, 4/35 1), 2.8/35, 2/35, 2/50, 1,4/50, 2.8/60
4/35 1)	2.8/16, all lenses from 21 to 135 mm <sup>5</sup> ) (PC 2.8/28 <sup>1</sup> ), (2.8/60 <sup>3</sup> ),
4/180	
2.8/35	as "4/35"
2/35	as "4/35"
1.4/35	$2.8/16$ , all lenses from $21 - 60 \text{ mm}^4$ ( $4/35^1$ )
3,5/35 - 70	as "1,4/35"
· · · · · · · · · · · · · · · · · · ·	

2/50 as "4/35" 2/50 with Extender R 2.8/16, 4/21<sup>1</sup>), 2.8/24<sup>1</sup>), 2.8/28, 4/35<sup>1</sup>), 2.8/35, 2/35, 3.5/35 - 70, all lenses from 60 to 90 mm 1.4/50 as "4/35" as "4/35" 2.8/60 2.8/60 with Extender R 4/211), 2.8/241), 2.8/281), 4/351), 2.8/35, 2/35, 2/50, 1.4/50 2.8/16 all lenses from 21 to 60 mm<sup>4</sup>) (4/35<sup>1</sup>) 1.4/80as "1.4/80" 2.8/90 2.8/90 with Extender R 2.8/35, 2/35, 2/50, 1.4/50 2/90 2.8/16, all lenses from 21 to 80 mm<sup>4</sup>), 4/100 2/90 with Extender R 2.8/16, 4/21 1), 2.8/24 1), 2.8/28 1), 4/35 1), 2.8/35, 2/35, 2/50, 1.4/504/1002.8/16, all lenses from  $21^{1}$  to  $50 \text{ mm}^{4}$ as "4/100" 2.8/135 4/211), 4/351), 2.8/35, 2/35, 2/50, 1.4/50 4/180

### Compartment 3:

for film, filters etc. or one of the following lenses: 4/21<sup>1</sup>), 2.8/24, 2.8/28, 4/35<sup>1</sup>), 2.8/35, 2/35, 2/50, 1.4/50, 2.8/60<sup>3</sup>), 2.8/90, 4/100, 2.8/135, 4/180, Extender R, or Extender R with 2/50, 2.8/60, 2.8/90

### **Compartment 4:**

Front pocket for lens hoods, films, filters etc.

 $<sup>^{1}</sup>$ ) = without lens hood

 $<sup>^{2})</sup>$  = no other lens fits in the compartment below the camera

 $<sup>^{3}</sup>$ ) = also with adapter

<sup>4) =</sup> except PC 2.8/28

 <sup>&</sup>lt;sup>5</sup>) = except 2.8/100
 <sup>6</sup>) = not for LEICA R 3

# Hold-all R

Hold-all for LEICA R <sup>6</sup> ) models	Code No. 14834
Hold-all for LEICA R 3 models	14 835



The following combinations can be accommodated:

### **Compartment 1:**

for LEICA R models (also with Data-Back) or LEICA R 3 models with the Motor-Winder/Motor-Drive attached and handgrip with one of the following lenses: 3.5/15, 2.8/16, 2.8/19<sup>2</sup>), all lenses from 21 to 135 mm<sup>5</sup>) (PC 2.8/28 setting screw facing up, (2.8/60<sup>3</sup>), 4/180, or Extender R mit 2/50, 2.8/60, 2/90

### **Compartment 1a:**

for LEICA R without Motor-Winder / Motor-Drive with one of the following lenses: 2.8/35, 2/50

### **Compartment 2:**

**Compartment 2a:** 

for one of the following lenses each: PC 2.8/28<sup>1</sup>), 1.4/35, 3.5/35 - 70, 2.8/60<sup>3</sup>), 1.4/80, 2.8/90, 4/100<sup>3</sup>), 2.8/100, 2.8/135, 4/180, 3.4/180, 2.8/180, 4/250 to No. 3 050 600, 4/70 - 210 or Extender R with 2/50, 2.8/60<sup>3</sup>), all lenses from 90 to 180 mm<sup>5</sup>) (4/100<sup>3</sup>), 4/70 - 210 or 2.8/100 with Elpro 1: 2 - 1: 1 Smaller langes (chorter feed length) can be sensured from the depth of the sense of

Smaller lenses (shorter focal length) can be removed from the depth of the compartment only with great difficulty.

### **Compartment 2:**

**Compartment 2a:** 

with added coupling ring 14836 for two each of the following lenses:

the date of the second	ang thig those for the full of the following feliges.
2.8/16	$4/21^{1}$ , all lenses from 24 to 135 mm (PC 2.8/28 <sup>1</sup> ), (2.8/60 <sup>3</sup> ), 4/180
4/21 1)	2.8/16, all lenses from 24 to 135 mm (PC 2.8/28 <sup>1</sup> ), (2.8/60 <sup>3</sup> ),
	(4/100 <sup>3</sup> ), 4/180, 2.8/180 to No. 2939701
2.8/24	$2.8/16, 4/21^{1}$ , all lenses from 28 to 135 mm (PC $2.8/28^{1}$ ), ( $2.8/60^{3}$ ),
	4/180
2.8/28	2.8/16, 4/21 <sup>1</sup> ), 2.8/24, all lenses from 35 to 135 mm (PC 2.8/28 <sup>1</sup> ),
	$(2.8/60^3), 4/180$
PC 2.8/28 <sup>-1</sup> )	$2.8/16$ , all lenses from $21^{1}$ ) to 90 mm
4/35	2.8/16, all lenses from 21 <sup>1</sup> ) to 135 mm (PC 2.8/28 <sup>1</sup> ), (2.8/60 <sup>3</sup> ),
	4/180
2.8/35	2.8/16, all lenses from 21 <sup>1</sup> ) to 135 mm (PC 2.8/28 <sup>1</sup> ), (2.8/60 <sup>3</sup> ),
	(4/100 <sup>3</sup> ), 4/180, 2.8/180 to No. 2939701
2/35	as "2.8/35"
1.4/35	2.8/16, all lenses from 21 <sup>1</sup> ) to 135 mm <sup>5</sup> ) (PC 2.8/28 <sup>1</sup> ), (2.8/60 <sup>3</sup> ),
	4/180
3.5/35 - 70	as "1.4/35", 2.8/100

2/50 as 2.8/35 2/50 with Extender R 2.8/16, all lenses from 21<sup>1</sup>) to 135 mm<sup>5</sup>) (PC 2.8/28<sup>1</sup>), (2.8/60<sup>3</sup>), 4/180as "2.8/35" 1.4/502.8/16, all lenses from 211) to 135 mm (PC 2.8/281), 4/180 2.8/60 2.8/60 with Extender R 2.8/16, all lenses from 211) to 90 mm4) 2.8/16, all lenses from 211) to 135 mm<sup>5</sup>) (PC 2.8/281), (2.8/603), 1.4/804/180as "1.4/80" 2.8/90 2.8/90 with Extender R 2.8/16, all lenses from 211) to 80 mm (PC 2.8/281) 2/90 as "1.4/80" 2/90 with Extender R as "2.8/90 with Extender R" 2.8/16, all lenses from  $21^{1}$  to  $90 \text{ mm}^{4}$ ) 4/100 4/100 with Extender R 2.8/16, all lenses from 21<sup>1</sup>) to 50 mm<sup>4</sup>) 2.8/16, all lenses from  $4/21^{1}$ ) to 60 mm<sup>4</sup>) 2.8/1002.8/135 as "4/100" 2.8/135 with Extender R as "4/100 with Extender R" as "4/100" 4/1804/180 with Extender R 2.8/35.2/50 2.8/180 (to No. 2939701) 4/211), 2.8/241), 2.8/281), 4/351), 2.8/35, 2/35, 2/50, 1.4/50

### **Compartment 3:**

for films, filters, etc. or one of the following lenses: 2.8/28 1), 2.8/35, 2/35, 2/50, 1.4/50, Extender R, Extender R with 2/50

### **Compartment 4:**

Front pocket for lens hoods, films, filters etc.

#### **Compartment 5:**

für Motor-Winder / Motor-Drive, RC LEICA R Control Unit, etc.

 $<sup>^{1}) =</sup>$  without lens hood

 $<sup>^{2}</sup>$ ) = no other lens fits in the compartment below the camera

 $<sup>^{3}</sup>$ ) = also with adapter

<sup>4) =</sup> except PC 2.8/28

 $<sup>^{5}) = \</sup>text{except } 2.8/100$ 

<sup>&</sup>lt;sup>6</sup>) = not for LEICA R 3



The flap in the camera compartment (1) can be folded in two ways:

Fig. a: A space is created below the lens locked into the camera.

- Fig. b: A compartment accommodating a second camera body without lens is created.
- Fig. c: The entire space (3) is available, for instance to accept a large lens locked into the camera with lens hood.

The following combinations can be accommodated:

### **Compartment 1:**

for LEICA M 6 without Leica Winder (Fig. a) with one of the following lenses: 2.8/21, 2.8/28, 1.4/35, 2/35, 1/50, 1.4/50, 2/50, 1.4/75, 2/90, 2.8/90

### **Compartment 1:**

for LEICA M 6 without Leica Winder when a second camera body is to be accommodated (Fig. b) with one of the following lenses: 1.4/35, 2/35, 1.4/50, 2/50\*

# **Compartment 2:**

for one of the following lenses:: 2.8/21, 2.8/28, 1.4/35, 2/35, 1.4/50, 2/50, 1.4/75, 2/90, 2.8/90, 4/135

### **Compartment 2:**

with added coupling ring 14838 for two each of the following lenses:

1.4/35	1.4/50, 2/50, 1.4/75, 2/90, 2.8/90
2/35	1.4/50, 2/50, 1.4/75, 2/90, 2.8/90
1.4/50*	1.4/35, 2/35, 1.4/75, 2/90, 2.8/90
2/50*	1.4/35, 2/35, 1.4/75, 2/90, 2.8/90
1.4/75	1.4/35, 2/35, 1.4/50*, 2/50*
2/90	1.4/35, 2/35, 1.4/50*, 2/50*
2.8/90	1.4/35, 2/35, 1.4/50*, 2/50*

### **Compartment 3:**

for lens hoods, films, filters etc.

### **Compartment 4:**

front pocket for lens hoods, films, filters etc.

<sup>\*</sup> with lens hood attached back to front.

# Large combination bag M

Large combination bag M for the LEICA M 6 .....

Code No.
14 842 \_\_\_\_



There are two coupling rings (Code No. 14838) in the bag. With each of these, two lenses can be locked together, as well as two push-in holders for four film cartridges each (5). One film cartridge holder protects slim lenses in compartment 3. The other provides a firm support for the LEICA M without Winder in compartment 1.

### **Compartment 1:**

Camera with or without Winder (if the camera is not equipped with Winder, the film cartridge holder is pushed into compartment 1 in such a way that the protruding side edge protects the camera to the front: see diagram. One of the following lenses can be looked onto the camera:

2.8/21, 2.8/28, 1.4/35, 1/50 1), 1.4/50, 2/50, 2.8/90

### **Compartment 2:**

for one of the following lenses: 2/90, 2.8/90, 4/135

It is difficult to remove smaller lenses (shorter focal lengths) out of the depth of the compartment.

### **Compartment 2:**

with added coupling ring 14838 for two of the following lenses (the first-mentioned lens is pushed downwards into the compartment):

2.8/21 1)	1.4/501), 2/50, 1.4/75, 2/90, 2.8/90
2.8/28	1.4/50 1), 2/50, 2.8/90
1.4/35	1.4/50 1), 2/50, 2/90, 2.8/90
2/35	1.4/501), 2/50, 2/90, 2.8/90
$1.4/50^{-1}$	2.8/21 1), 2.8/28, 1.4/35, 2/35, 2/50, 2/90, 2.8/90
2/50	2.8/21 1), 2.8/28, 1.4/35, 2/35, 1.4/50, 2/90, 2.8/90
2/90	2.8/21, 2.8/28, 1.4/35, 2/35, 1.4/50, 2/50, 2.8/90
2.8/90	2.8/21, 2.8/28, 1.4/35, 2/35, 1.4/50, 2/50, 2/90
or the diagona	Ilv inserted Winder.

### **Compartment 3:**

for one of the following lenses without film cartridge holder (5): 2.8/21, 1/50, 1.4/50, 1.4/75, 2.8/135 or for one of the following lenses with film cartridge holder (5): 2.8/21 <sup>1</sup>), 2.8/28, 1.4/35, 2/35, 1.4/50 <sup>1</sup>), 2/50, 2/90, 2.8/90, 4/135

### **Compartment 3:**

with added coupling ring 14838 for two of the following lenses with film cartridge holder (5) (the first-mentioned lens is pushed downwards into the compartment:

2.8/21 1)	1/50, 1.4/50, 2/50, 1.4/75, 2/90, 2.8/90	
2.8/28	1/50, 1.4/50, 2/50, 2.8/90	
1.4/35	1/50, 1.4/50, 2/50, 1.4/75, 2/90, 2.8/90	
2/35	1/50, 1.4/50, 2/50, 1.4/75, 2/90, 2.8/90	
$1/50^{2}$	2.8/21, 2.8/28, 1.4/35, 2/35, 1.4/50, 2/50	
1.4/501)	2.8/21, 2.8/28, 1.4/35, 2/35, 1/50, 2/50, 1.4/75, 2/90, 2.8/90	
2/50	2.8/21, 2.8/28, 1.4/35, 2/35, 1/50, 1.4/50, 1.4/75, 2/90, 2.8/90	
$1.4/75^{2}$	2.8/21, 1.4/35, 2/35, 1/50 <sup>1</sup> ), 1.4/50, 2/50	
2/90	2.8/21, 2.8/28, 1.4/35, 2/35, 1/50 1), 1.4/50, 2/50, 2.8/90	
2.8/90	2.8/21, 2.8/28, 1.4/35, 2/35, 1/50 1), 1.4/50, 2/50	

### **Compartment 4:**

(with open flap) for one of the following:  $1.4/35^{1}$ ,  $2/35^{1}$ )

### **Compartment 5:**

push-in film cartridge holder giving the camera without Winder firm support and protecting slim lenses in compartment 3:

for four film cartridges, of which two are pushed in from above and two from below.

### **Compartment 6:**

Front pocket for lens hoods, films, filters etc.

 $<sup>^{1}</sup>$ ) = without lens hood

<sup>2) =</sup> without loose part 5 in compartment 3

# Hold-all M

Hold-all for LEICA M models (except M 5) .....

Code No. 14 827



The following combinations can be accommodated:

### **Compartment 1:**

for LEICA M cameras with the LEICAMETER in place (except LEICA M 5), with or without winder, with one of the following lenses: 2.8/21, 2.8/28, 2/35, 1.4/35, 2/50, 1.4/50, 1/50, 1.4/75, 2.8/90, 2/90<sup>+</sup>)

### **Compartment 2:**

for one of the following lenses: 2.8/21, 2.8/28, 2/35, 1.4/35, 2/50, 1.4/50, 1/50, 1.4/75, 2.8/90, 2/90, 4/135, 2.8/135

### **Compartment 2:**

with added coupl	ing ring 14838 for two of the following lenses:
	0 0
2/35	2/50, 1.4/50, 1/50, 1.4/75, 2.8/90, 2/90, 4/135
1.4/35	2/50, 1.4/50, 1/50, 1.4/75, 2.8/90, 2/90, 4/135
2/50	2/35, 1.4/35, 1/50, 1.4/75, 2.8/90, 2/90, 4/135 <sup>2</sup> )
1.4/50	2/35, 1.4/35, 1.4/75, 2.8/90, 2/901)
1/50	2/35, 1.4/35
1/502)	1.4/75, 2.8/90, 2/90
1.4/75	2/35, 1.4/35, 2/50, 1.4/50, 1/50 <sup>2</sup> )
2.8/90	2/35, 1.4/35, 2/50, 1.4/50, 1/50 <sup>2</sup> )
2/90	2/35, 1.4/35, 2/50
2/901)	1.4/50, 1/50 <sup>2</sup> )
4/135	$2/35, 1.4/35, 2/50^{2}$
2.8/135	2/35 <sup>2</sup> ), 1.4/35 <sup>2</sup> )

### **Compartment 3:**

for films, filters, etc. or one of the following lenses: 2.8/21<sup>2</sup>), 2.8/28, 2/35, 1.4/35, 2/50, 1.4/50, 1/50<sup>2</sup>), 1.4/75, 2.8/90, 4/135

### **Compartment 3:**

with added	coupling ring 14838 for two of the following lenses:
2/35	2/50, 1.4/50 <sup>2</sup> ), 1/50 <sup>2</sup> ), 2.8/90, 2/90 <sup>1</sup> ), 4/135
1.4/35	2/50, 1.4/50 <sup>2</sup> ), 1/50 <sup>2</sup> ), 2.8/90, 2/90 <sup>1</sup> ), 4/135
2/50	2/35, 1.4/35, 1/50 <sup>2</sup> ), 2.8/90, 2/90 <sup>1</sup> ), 4/135
$1.4/50^{2}$	2/35, 1.4/35, 2.8/90, 2/901), 4/135
$1/50^{2}$ )	2/35, 1.4/35, 2/50, 2.8/90
2.8/90	$2/35$ , $1.4/35$ , $2/50$ , $1.4/50^2$ ), $1/50^2$ )
$2/90^{1}$	$2/35$ , $1.4/35$ , $2/50$ , $1.4/50^{2}$ )
4/135	2/35, 1.4/35, 2/50, 1.4/502)

1 1 0 0 0 0

### **Compartment 4:**

of variable size through partition wall with Velcro lock, for winder and general accessories such as filters, lens hood etc.

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### **Compartment 5:**

Front pocket for lens hood, filters, films, etc.

For Visoflex equipment:

### **Compartment 1:**

LEIĈA M camera (except LEICA M 5) with VISOFLEX 3 or 2 attached without magnifier with 3.5/65.

### **Compartment 2:**

VISOFLEX 3 or 2 with magnifier or VISOFLEX lenses of up to 200 mm focal length.

<sup>&</sup>lt;sup>1</sup>) = from No. 2997 001 onward

<sup>(2)</sup> = without lens hood

# Projection

# Lamps

Base	Code No. Techn. Service	Watt	Volt		PRADOVIT COLOR 2 LEICA P 2000	LEICA P/PRADOVIT 253/253 DU LEICA P/PRADOVIT 253 IR	LEICA P/PRADOVIT 153/153 DU LEICA P/PRADOVIT 153 IR	PRADOVIT R/RA 152 Pradovit ca 2502	PRADOVIT C / CA 2500 PRADOVIT S / SAF	PRADOVIT R 150/ RA 150 PRADOVIT C / CA 1500	PRADOVIT TA / RC PRADOVIT COLOR 110	PRADOVIT COLOR 150 + AF PRADOVIT COLOR 250 + AF	PRADOLUX Pradovit color f	PRADOVIT n24 PRADIX	PRADOVIT 1/f PRADOVIT n12	PRADO 250/500/66 PRADO UNIVERSAL	PRADO S/SM PRADO 150	Projectors
G 6, 35 - 15 G 6, 35 - 15	038-101.093-000 038-101.098-000	150 250	24 24	H H	00		00	0	00	00	0	00	0	0		0		
GY 6, 35 - 33 GZ 6, 35	038-101.092-000 038-101.128-000	100 75	12 12	H H							0		0		0			
P 28 P 28	038-127.003-013 039-127.003-002	150 150	220 110														00	
P 28 P 28	038-127.004-013 038-127.004-002	250 250	220 110												00	00	00	Pro
P 28 P 28	038-127.005-013 038-127.005-002	300 300	220 110												00	00	00	Projector lamps
P 28 P 28	038-127.003-002 038-127.007-013 038-127.007-002	500 500	220 110												00	00		or la
G 17 q G 17 q	038-127.007-002 038-127.009-013 038-127.009-002	150 150	220 110											00				mps
G 17 q G 17 q G 17 q	038-127.006-013 038-127.006-002	300 300	220 110										00		00			
G 17 q G 17 q G 17 q	038-127.008-002 038-127.008-013 038-127.008-002	500 500	220 110						1				00		00			1
Ba 15 s GY 179	038-101.090-000	100	110 12 24										0	00	0			
Ba 9 s	038-101.091-000 302-053.018.001	4 4	12 12 12								0	00	0					
Ba 9 s Ba 9 s	302-053.018.011 038-101.129.000	0,45 A	3		-				00	0	0		-					Light pointer lamps
Ba 9 s Ba 9 s	038-101.133-000 038-101.134-000	400 mA 3	12			-	-	0	00	0	-	-						ht poii lamps
Ba 9 s Ba 9 s	038-101.142-000 038-101-073-000	5	24 6		00	0	0	0										nter
Striplight	031-049.076-011	3	12		00		-	0	00	0								
Striplight	031-201-004-022	3	24		-	00	00	0		0	-	-		-				AF- lamp

				DIASCRIPTOR OP 200 DIASCRIPTOR OP 2500	EPISKOP LE 19 S DIASCRIPTOR 4	EPISKOP Vz 3 EPISKOP LE 19	EPISKOP III LH EPISKOP Vz 2	EPISKOP Vh 2/III L2	Projectors
Base	Code No. Techn. Service	Watt	Volt				_		
				1.0					
Fc 2 R 7 s 15	038-101.127-000 038-127.023-000	1000 650	220 118		0				
R 7 s 15 GY 9,5	038-127.020-014 038-127.025-014	800 800	220 220		0	0			
GY 9,5 GY 9,5	038-127.025-019 038-127.024-014	800 500	115 230		0	0			Р
GY 9,5 GY 16	038-127.024-019 038-127.027-013	500 2000	115 220			0			Projector lamps
GX 9,5 GX 9,5	038-127.026-013 038-127.026-019	1000 1000	220 115				0		or lam
G 6,35 P 28	038-101.098-000 038-127.012-002	250 500	24 110	00			0	0	sdi
P 28 P 28	038-127.012-013 038-127.017-002	500 1000	220 110				0	0	
P 28	038-127.017-013	1000	220					0	

Spare parts obtainable from the Leica Service Centre or national Leica agency.

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# Tables of projection distances and screen image sizes

# 35 mm format

Projection distances and screen image sizes for the 35 mm format.

A square screen is necessary when both upright and horizontal slides are to be projected; the table below contains the lengths of the screens in m.

For the projection of 40 x 40 mm slides the given values must be increased by about 10%.

		Focal lengths in mm										
		35	50	60	90	120	150	200	250	300		
	1 2 3	0.95 1.95 2.95	1.30 1.95	1.15 1.75	1.10							
	4 5 6	3.95	2.65 3.30 4.00	2.30 2.90 3.50	1.50 1.85 2.25	1.10 1.40 1.70	1.10 1.35					
in m	7 8 9			4.00	2.65 3.05 3.45	1.95 2.25 2.55	1.55 1.80 2.05	1.35 1.50				
Projection distances in m	10 11 12				3.80	2.85 3.15 3.45	2.25 2.50 2.75	1.70 1.85 2.05	1.35 1.45 1.60			
Projection	13 14 15		20			3.70 4.00	2.95 3.20 3.45	2.20 2.40 2.55	1.75 1.90 2.05	1.45 1.55 1.70		
	16 17 18						3.65 3.90 4.15	2.75 2.90 3.10	2.15 2.30 2.45	1.80 1.90 2.05		
	19 20 21							3.25 3.45 3.60	2.60 2.75 2.85	2.15 2.25 2.40		
	22 25 30 35							3.80 4.30	3.00 3.45 4.15	2.50 2.85 3.45 4.00		

# 6 x 6 cm Format

Projection distance and screen image size for the  $6 \times 6 \text{ cm} (2\frac{1}{4} \times 2\frac{1}{4} \text{ in})$  and  $7 \times 7 (2\frac{3}{4} \times 2\frac{3}{4} \text{ in})$  format (transparency size 54 x 54 mm).

		Focal length in mm					Focal length in mm								
			150		200		250		300			150	200	250	300
	10' 12' 15'	3' 4' 5'	3" 1"	2' 3'	11" 8"	2'	11"				3 4 5	0.95 1.35 1.70	0.95 1.25	0.95	
	20' 25' 30'	6' 1 8' 10'	10" 8" 5"	5' 6' 7'	1" 5" 9"	4' 5' 6'	2"	3' 4' 5'	3" 2" 1"		6 7 8	2.05 2.40 2.75	1.50 1.80 2.05	1.20 1.40 1.60	0.95 1.15 1.35
ance in ft	35' 40' 45'	12' 14'	3" 1"	9' 10' 11'	1" 5" 10"	7' 8' 9'	2" 3" 4"	-	11" 10"	nce in m	9 10 11	3.15 3.50 3.85	2.30 2.60 2.85	1.85 2.05 2.25	1.50 1.70 1.85
Projection distance in	50' 55' 60'			13' 14'	2" 6"	10' 11' 12'	5" 6" 7"	8' 9' 10'	8" 7" 5"	Projection distance	12 13 14	4.20	3.15 3.40 3.65	2.50 2.70 2.90	2.05 2.25 2.40
Proj	65' 70' 75'					13'	8"	11' 12' 13'	4" 3" 2"	Proje	15 16 17		3.95 4.20	3.15 3.35 3.55	2.60 2.75 2.95
	80' 85'							14' 14'	1" 11"		18 19 20			3.80 4.00 4.20	3.15 3.30 3.50
									*		22 24 25				3.65 3.85 4.40

### Micro attachments A + B

Screen image dia.	Magni and re	Eyepiece and projection distances in feet, and m							et,		
	4/0.12	10/0.25	25/0.50	5 x	4 x	3.2 x	2.5 x	2 x	1.6 x	1.25 x	1 x
60 cm 24"	110:1	275:1	680:1				2.7 8'.4"	3.4 11' 4"	4.2 14'	5.5 18' 4"	6.8 22' 8"
85 cm 34"	155:1	400:1	1000:1			3.0 10'	3.9 13'	4.8 16'	6.0 20'	7.8 26'	
125 cm 50"	230:1	570:1	1400 : 1	2.8 8'8"	3.6 12'	4.4 14' 8"	5.7 19'	7.1 23'8"	8.8 29' 4"		

Example: With the 2.5 x eyepiece at a projection distance of 2.7 m(9 ft)) a screen image of 60 cm (24 in) diameter is obtained. The reproduction scales obtainable with the objectives listed are 110:1, 275:1, and 680:1 respectively.

### **Projection attachment**

	Projection distance	Screen image size in m, ft	Reproduction ratio
ELMARON f/2.8/50 mm	2.00 m 6'8" 3.00 m 10' 4.00 m 13'4" 6.00 m 20'	1.90 m6' 4"2.85 m9' 6"3.80 m12' 8"5.70 m19'	39:1 59:1 79:1 119:1
COLORPLAN f/2.5/90 mm	2.00 m 6'8" 3.00 m 10' 4.00 m 13'4" 6.00 m 20'	1.00 m 3' 4" 1.55 m 5' 2" 2.10 m 7' 3.20 m 10' 8"	21 : 1 32 : 1 43 : 1 66 : 1

### Episcopy

# Projection distances and screen image sizes Episcope LEITZ LE 19 and LE 19 S



Projection distances between 2.5 and 6 m at screen image sizes between 80 cm and 2.5 m can be obtained.

# The versatile possibilities of combination in the projector range in fade projection

Projectors, equipped with 250 W halogen lamps:



### Projectors, equipped with 150 W halogen lamps:



Two projectors and a DU-24 P or DU-24 M Control Unit form one projection unit. Projectors which are fitted with a 14-pin socket (10 pins in use) and built-in triac for lamp control can be coupled as required. In the interest of convenient operation, models with autofocus devices are preferable.

All modified projectors, i. e. with the 14-pin socket (10 pins in use) and built-in triac, can be used as usual for single-slide projection without additional dummy plug.

# Connection of the DU-24 P dissolve control unit to a tape recorder (TB) or cassette recorder (CR)



Projector	Dis- solve control unit	Connection	Sound recorder
2 projectors of identical lamp brightness with built-in Triac and 10-pin socket. e.g. two PRADOVIT CA 2502 projectors (from Serial No. 145 758) COLOR 2, LEICA P 2000, PRADOVIT 153 DU, LEICA P 153 DU, PRADOVIT 253 DU, Or one PRADOVIT CA 2502 projector (from	DU-24 P	6-pin connecting cable 031-049.159	ASC (TB) UHER 1000 (CR) ITT 740 AV (CR) **, Philips 2209 AV (CR) **, Philips 12235 (CR) **, Philips 2229 AV (CR) **, Philips 6200 AV (CR) **, All Philips tape units of the current range can be subsequently fitted with a pulse head. Metz Mecasound **, Studio 4920 (CR), ** Uher 240 AV (CR), ** Uher 160 AV, ** Grundig TD 925 (TB) **, Grundig TS 945 (TB) **,
Serial No. 145 758) COLOR 2, LEICA P 2000 and one		6-pin* connecting cable 031-049.159 with junction piece 1***	Grundig TK 222 **, 242 **, 246 **, 248 **, 600 **, 745 **, 747 **, 845 **, 847 **, 850 **, CN 1000 **, TS 1000 **
PRADOVIT 253 DU Leica p 253 du		6-pin* connecting cable 031-049.159 and junction piece 2***	Uher 560 and 561 Royal with head carrier Z 346 AV **
		Connecting cable phone plug 3.5 mm - 6-pin plug (available in radio shops).	ITT SL 537 A (CR), COLOR 2, LEICA P 2000, AVE 152 S (CR), RTW Telex C 130 (CR), Wollensak 2551 AV (CR)

This list does not claim to be complete.

\* Part of the DU-24 P outfit.

\*\* No longer part of the product range. \*\*\* Available from Leica Technical Service.

Projector	Dis- solve control unit	Connection	Sound recorder		
2 projectors of identical lamp brightness with built-in Triac and 10-pin socket. e.g. two PRADOVIT CA 2502	DU-24 P	Connect the 6-pin lead 031-049.159* with a 5-pin plug (that goes into tape recorder): 6-pin plug to 5-pin plug pin 6 to pin 2 pin 3 to pin 3	Revox B 77 FH (TB)		
projectors (from Serial No. 145 758) COLOR 2, LEICA P 2000, PRADOVIT 153 DU,		Connecting cable Cinch plug - 5-pin stereo plug (available in radio shops)	TASCAM 133 (CR) TASCAM 234 L-AV (CR)		
LEICA P 153 DU, PRADOVIT 253 DU, LEICA P 253 DU, or one PRADOVIT CA 2502 projector (from Serial No. 145 758) COLOR 2, LEICA P 2000, and one PRADOVIT 253 DU LEICA P 253 DU	Connecting cable 5-pin plug to Cinch plug and 6.3 mm (¼") phone plug (available in radio shops)		All units with 3 and more tracks which can record separately. FOSTEX x 15 (CR) FOSTEX x 26 (CR) FOSTEX x 30 (CR) FOSTEX 160 (CR) FOSTEX 260 (CR) TASCAM PORTA 05 (CR) TASCAM PORTA 0NE (CR) TASCAM PORTA TWO (CR) YAMAHA M 100 (CR) YAMAHA M 100 (CR)		

This list does not claim to be complete. \* Part of the DU-24 P outfit. \*\* No longer part of the product range. \*\*\* Available from Leica Technical Service.

# List of the LEICA models

# **Composition of the LEICA models**



# LEICA I (non-interchangeable lens)

First basic LEICA model, black enamelled, **non-interchangeable 50 mm ELMAR f/3.5 lens**, with locking spring for the infinity position, slip-on rangefinder, focal plane shutter  $\frac{1}{20}$  to  $\frac{1}{500}$  sec. and time exposure. Available from 1925.



# **Compur LEICA**

Black enamelled, non-interchangeable 50 mm ELMAR f/3.5 lens. Compur shutter, speeds from  $1 - \frac{1}{300}$  sec. Separate shutter wind and film transport. Available from 1926.



# LEICA I

(with changing mount)

Camera with screw mount for interchangeable lenses. Lens flange and lens screw mount not yet standardized. Available from 1930 onwards. Lens flange and lens mount standardized in models from serial nº 60 500 onward. Available from 1931.



# **Standard LEICA**

Black enamelled or chromium finished, screw mount for interchangeable lenses, slipon rangefinder, focal plane shutter 1/20 to 1/500 sec., pull-out rewind knob. Serial nº from 100 000. Available from 1932.



# LEICA II

Black enamelled or chromium finished, with built-in coupled rangefinder, focal plane shutter  $\frac{1}{20}$  to  $\frac{1}{500}$  sec. and time exposure. Serial nº from 71 500. Available from 1932.



# LEICA III

As model II, but with extended range of shutter speeds from 1 to  $\frac{1}{500}$  sec., rangefinder with focusing telescope (1.5 x), eyelets at sides for carrying strap. Serial n<sup>o</sup> from 109 000. Available from 1933.

# LEICA III a

As model III, but with additional shutter speed  $\frac{1}{1000}$  sec. Serial n<sup>o</sup> from 156 201. Available from 1935.



LEICA III b

As model III a, but with eye lenses for viewfinder and rangefindder close together. The lever for adjusting the rangefinder telescope is next to the rewind knob. Serial n<sup>o</sup> from 240017. Available from 1938.

# LEICA 250

With enlarged cassette spaces (cassettes for 10 m (33ft) film) for reporters, otherwise as III a.

# LEICA I c

Shutter speeds from  $\frac{1}{300}$  to  $\frac{1}{500}$  sec. and time exposure, slip-on brilliant finder and rangefinder, screw mount for interchangeable lenses. Serial nº from 455 000. Available from 1949.

# LEICA II c

As model I c, but with built-in coupled range finder, shutter speeds from  $\frac{1}{30}$  to  $\frac{1}{500}$  sec. and time exposure. Serial n<sup>o</sup> from 440 000. Available from 1948.



# LEICA I f

# (black synchronizing dial)

As model I c, but fully synchronized, film indicator built into the film winding knob. Serial n<sup>o</sup> from 562 000. Available from 1952.

# LEICA I f

### (red synchronizing dial)

As above, but international shutter speeds  $\frac{1}{25}$ ,  $\frac{1}{50}$  sec. etc. Serial nº from 536 001. Available from 1952.



# LEICA II f

# (black synchronizing dial)

As model II c, but with built-in full flash synchronization, film indicator built into the film winding knob. Serial nº from 451 000. Available from 1951.

# LEICA II f

# (red synchronizing dial)

As above, but with international shutter speeds  $\frac{1}{25}$ ,  $\frac{1}{50}$  to  $\frac{1}{1000}$  sec. and time exposure. Serial n<sup>o</sup> from 574 401. Available from 1952.

# LEICA III c

As model II c, but with extended range of shutter speeds from 1 to 1/1000 sec. and time exposure. Serial n<sup>o</sup> from 360 000. Available from 1940.



# LEICA III f

### (black synchronizing dial without self-timer)

As model III c, but with built-in full flash synchronization and film indicator built into film winding knob. Serial nº from 525 000. Available from 1950.

# LEICA III f

(red synchronizing dial, without self-timer)

As above, but international shutter speeds. Serial nº from 615 000. Available from 1952.



LEICA III f

(with self-timer)

As model III f with red synchronizing dial, but with self-timer of approximately 12 seconds delay. Serial nº from 685 000. Available from 1954.



# LEICA III g

The LEICA III g differs from the LEICA III f in the following technical features:

1. Large bright-line viewfinder with automatic parallax compensation.

2. Shutter speeds graduated in geometric progression.

3. Fully automatic synchronization (without contact numbers).

4. Film indicator in the back of the camera body.

Serial nº from 825 001.

Available from 1957.



# LEICA I g

basically the same design as that of the LEICA III g. Has no rangefinder and self-timer. Serial n<sup>o</sup> from 887 001. Available from 1957.



# LEICA M 3

Bright-line measuring viewfinder with automatic parallax compensation, automatically superimposed image frames for 50, 90 and 135 mm focal length (35 mm frame obtained by use of 35 mm lens with finder attachment).

Bayonet mount for rapid lens change. Shutter speed knob engages at each setting from 1 to  $\frac{1}{1000}$  sec. and B.

Attachable exposure meter with direct shutter coupling. Automatic frame counter under magnifier. Hinged back. From 1956 with field-of-view selector.

Serial nº from 700 001. Available from 1954.





# LEICA M 2

As LEICA M3, with the following differences: Automatically superimposed image frames for 35, 50 and 90 mm focal lengths. Film counter must be returned to 0 by hand. From 1959 with self-timer. Serial nº from 926 001. Available from 1958.



# LEICA M1

Without rangefinder. Fields of view for 35 and 50 mm lenses are shown parallax-free and permanently superimposed into bright-line finder. Otherwise as M2. Serial n<sup>o</sup> from 950 001. Available from 1959.



LEICA MD

As LEICA M 1, but without viewfinder, equipped for the use of the marking device. Serial n<sup>o</sup> from 1 102 501. Available from 1965.



# LEICAFLEX

Single-lens-reflex camera, focusing screen with micro-prism measuring field, built-in CdS exposure meter, lens bayonet mount, focal plane shutter 1 to 1/2000 sec. and B, electronic flash 1/100 sec., automatic frame counter under magnifier. Serial nº from 1080 114. Available from 1965.



# LEICA M 4

Bright-line measuring viewfinder with automatic parallax compensation. Automatically superimposed image frames for 35, 50, 90 and 135 mm focal length. Bayonet mount for rapid lens change. Shutter speed knob from 1 to 1/1000 sec. and B. Attachable exposure meter coupled directly with the shutter knob. Rapid film loading system for all standard 35 mm films and LEICA cassettes. Automatic film counter under magnifier. Hinged back. Serial nº from 1 175 001. Available from 1967.



# LEICA MD a

as LEICA M 4, but without viewfinder. Designed for the use of the marking device. Serial n<sup>o</sup> from 1 159 001. Available from 1967.



# LEICAFLEX SL

Single-lens-reflex camera with selective through-the-lens light metering. Focusing screen with finest-ground micro-prisms for the assessment of sharpness throughout the entire viewfinder field. Central measuring field with 4-sided microprisms for positive focusing. Bayonet mount for rapid lens change.

Bayonet mount for rapid lens change. Focal-plane shutter 1 to ½2000 sec. and B. Electronic flash up to ½100 sec. Automatic frame counter. Rapid film change. Serial n<sup>o</sup> from 1 173 005. Available from 1968.



# LEICA M 5

as LEICA M4, but with built-in CdS exposure meter for selective light metering through the lens. Focal-plane shutter ½ to ½1000 sec. and B. Exposure measurement up to 30 sec. coupled with the shutter speed dial. Additional accessory-shoe contact for electronic-flash units. Novel onesided camera suspension. Removable rapid-loading spool. Rewind crank in the detachable baseplate. Serial n<sup>o</sup> from 1 287 001. Available from 1971.



# LEICA CL

Compact measuring-viewfinder camera. Brightline measuring viewfinder with automatic parallax compensation. Automatically superimposed image frames for 40 and 50 as well as 90 mm focal length. Quick-changing lens bayonet as in LEICA-M models. Built-in CdS exposure meter for selective light metering through the lens. Vertically traveling focal-plane shutter from 1 to 1/1000 sec. and B. Accessory-shoe contact for electronic flash units. One-sided camera suspension.

Entire camera back can be pulled off for convenient film insertion. Rapid film change. Serial nº from 1 300 001.

Available from 1973.



# **LEICAFLEX SL 2**

As LEICAFLEX SL but with additional split-image rangefinder for positive focusing. Combined shutter speed and lens stop indication in the viewfinder. Sensitivity of exposure meter increased by 3 steps. Illuminated measuring read-out for poor lighting conditions. Additional accessory-shoe contact.

• Serial nº from 1 385 001. Available from 1974.



# LEICA R3

Single-lens reflex camera with electronically-controlled metal-blade focal-plane shutter. Alternative averaging or selective light metering through the lens. Automatic shutter speed determination can be switched over to manual control. Shutter speeds from 4 to 1/1000 sec., B, X = 1/90 sec. (electronic-flash synchronization). Focusing screen with finest-grain micro-prisms for sharpness assessmentthroughout the viewfinder field. Central micro-prisms ring with additional split-image rangefinder and film wind control. Film cartridge window, rapid film change.

Serial nº from 1 446 001. Available from 1976.



# LEICA M 4-2

As LEICA M4, but with connection for motor winder M4–2. Additional accessoryshoe contact for electronic flash unit. Without self-timer. Serial nº from 1468 001. Available from 1977.



# LEICA MD-2

As LEICA M 4-2 but without viewfinder. Suitable for the use of recording strips. Serial nº from 1 468 723. Available from 1977.



# LEICA R 3-MOT

As LEICA R 3, but with connection for motor winder R 3. Display of the selective or averaging measuring mode in the viewfinder above the shutter speed scale. From serial nº 1492 251. Available from 1978.



# LEICA R4

S.l.r. camera with electronically-controlled metal-blade focal-plane shutter. Two exposure measuring methods (Leitz selective measurement and Leitz largefield averaging measurement) coupled with the following operating modes: aperture priority, shutter speed priority, automatic mode and manual setting. In addition, automatic switchover to "X" with system-compatible electronic flash units. Electronically-controlled shutter speeds from 1/1000 to about 8 sec. X = 1/100 sec. for electronic-flash synchronisation. Interchangeable focusing screens. Detachable camera back. Automatic frame counter and film transport check. Film cartridge window. Rapid film change. Rapid lens bayonet changer. Was initially supplied under the name "LEICA R 4-MOT ELECTRONIC".

From serial nº 1 533 351. Supplied from 1981.



# LEICA M 4-P

As LEICA M 4–2, but with automatically superimposed field of view frames for six focal lengths: 28, 35, 50, 75, 90 and 135 mm lens. From serial nº 1 532 377. Supplied from 1980.


#### LEICA R4s

As LEICA R 4, but with shutter speed priority and manual operating modes combined with the two exposure measuring methods (Leitz selective measurement and Leitz largefield averaging measurement).

From serial nº 1632551. Available from 1983.



#### LEICA M 6

As LEICA M 4-P, but with selective exposure measurement through the lens (TTL). Exposure meter dislay as light balance in the viewfinder. From serial nº 1657 251. Available from 1984.



#### LEICA R4s MOD. 2

As LEICA R4s, but with override for single-hand operation and optimised mode selection switch. From serial nº 1655485. Available from 1986.



#### LEICA R 5

Single-lens reflex camera with electronically controlled metal-blade focal-plane shutter. Two exposure measuring methods (selective and averaging) combined with aperture-priority, shutter-priority, variable automatic program and manual modes. TTL flash exposure measurement and automatic switching to "X" when using system-compatible flash units. Electronically-controlled shutter speeds from 1/2000 sec. to 15 sec. "X" = 1/100 sec. for electronic flash synchronisation. Interchangeable focusing screens. Removable camera back and connection for cable-free Data Back. Automatic-frame counter. Film cartridge window.

From serial nº 1696451. Available from 1987.



#### LEICA R 6

Compact single-lens reflex camera with mechanically controlled metal-blade focalplane shutter. Through-the-lens exposure metering. Instant changeover between selective and integral wide-field exposure-meter mode. Manual shutter and aperture control. Shutter range 1/1000 s to 1 s, X, B. TTL flash-exposure control with dedicated flash unit and SCA 351 or SCA 551 adapter. Interchangeable focusing screens. Camera back interchangeable with cable-free data back. Automatic exposure counter. Filmcartridge window.

From serial nº 1728451. Available from 1988.

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# Accessories for LEICA R 4 models

#### LEICA R lenses

see page 2-1 onwards.

#### **DB2** LEICA R Data back

#### Angle viewfinder R

with 1 x and 2 x magnification for viewing from above, or for inconspicuous photography "round the corner" or over the heads of a crowd.

90° angle viewfinder with laterally and vertically correct image, focusing	
eyelens switch, for 1 x or 2 x magnification	14 300

#### Flash socket over

for LEICA R4 models	14 314
---------------------	--------

#### **Near-focusing devices**

see page 3-1 onwards.

#### All other accessories

see page 1-6.

## Accessories for LEICA R 3 models

#### LEICA R lenses

see from page 2 - 1.

#### Tripod holder R 3

for the use of the LEICA R3-MOT combination of long focal length on a camera tripod. Sturdy design with two conveniently located threaded fixtures for the tripod threads of the motor-winder.

	Code No.
<b>Tripod holder</b> with A 1/4 DIN 4503 (1/4 in) thread for camera tripod	14 276

#### Holder for the MW-R housing for ordinary or rechargeable batteries

Socket marked "+" and "-" for the battery changer, 50 mA, for instance VARTA AG, UNI 1 charger, for recharging the six nickel cadmium batteries, for instance VARTA AG, 501 RS in the MR-R battery housing.

Holder for the MW-R housing for ordinary and rechargeable batteries .... 14279\_

#### Adapter for external supply MW-R

for connection to external power sources; with 1 m appliance cable and screw plug<sup>1</sup>). (The adapter for external supply MW-R is pushed into the Winder in place of the battery housing).

#### **Possibilities of connection:**

Battery housing (with the holder 14 279), if at low temperatures batteries have to be kept at body heat and therefore housed externally. Mains units up to 8.5 v d. c.

Adapter for external supply MW-R	14 278
Extension cable 5 m for external supply MW-R	14 293

#### Housing for ordinary or rechargeable batteries MW-R

for MOTOR-WINDER R 3, as replacement.

During heavy-duty work (continuous use, low temperatures, expeditions) a second housing containing fresh ordinary batteries or recharged batteries, offers additional reliability. It is exchanged within seconds with a single action.

Housing for ordinary or rechargeable batteries MW-R..... 14 280

<sup>1)</sup> The following are suitable: Coupling socket 302-013, 154-011, or 2-pin socket 042-813, 155-008 for building-in, available from Leica Service Centre.

#### Electronic Control Unit RC LEICA R

RC LEICA K	
Electronic control unit for remote release.	
Built-in pulse generator for automatic releases.	
Seven integrated circuits in C-MOS technology. Digital display of the exposure through feedback from the camera.	
Appliance cable, length 2 m.	
Exclusively for the LEICA R with motorised film transport.	
Detailed description page $1 - 35$ .	
	Code No.
Remote-Control LEICA R (RC LEICA R)	14 277
Electric Cable Release R	
for remote release, with 5 m cable and screw plug. In conjunction with 25 m	
extension cable (14274) for electric remote release up to 100 m.	
Electric cable release	14 238
Electric cable release	
25 m extension cable	
(for electric remote release)	
with screw plug.	
Extension cable	14 274
Reporter's bag	
External dimensions: about $35 \times 15 \times 32$ cm	
Nappa leather	
without partitions with two additional front pockets	14 830
Coupling Ring, as replacement for all combination bags	14 836
Angle viewfinder	
0	or above
with 1x and 2x magnification, for candid photography "round the corner" the heads of a crowd.	
the heads of a clowd.	
for LEICA R 3 models	
Angle viewfinder 90° producing a right-way-round, upright image, with	14 300
focusing eyelens, switch for 1x and 2x magnification	14 300

#### **Correction lenses R**

with adapter, lock in position *) for LEICA R 3 models	
(Spherical)	Code No.
$\begin{array}{c} + \ 0.5 \\ + \ 1.0 \\ + \ 1.5 \\ + \ 2.0 \\ + \ 3.0 \\ - \ 0.5 \\ - \ 1.0 \\ - \ 1.5 \end{array}$	14 330         14 331         14 332         14 333         14 334         14 335         14 336         14 337
-2.0	14338
Attachment with eyecup 14 215 possible.	14 557
Eyecup R, locks in position *) for LEICA R3 models	
Eyecup can also be used in conjunction with correction lenses	14 215

#### **Replacement parts for cameras**

Camera body cover, R-bayonet for all R cameras	14 103
Carrying strap with non-slip pad	14 253

#### **Near-focusing devices**

see page 3 - 1.

#### **Recommended accessories**

see page 1 - 10.

#### Adapter

Adapter for the use of VISOFLEX 2/3 lenses on:	
all LEICAFLEX and LEICA R models (at working aperture)	14 167
an Eleferni Elerri and Elererri remodens (ar working apertare)	1410/

#### Modification of LEICAFLEX lenses for use on LEICA R models

Existing LEICAFLEX lenses can be fitted with a cam for the full utilisation of the LEICA R exposure facilities.

#### Modified lenses continue to be fully functional in all LEICAFLEX models.

Cost and time for conversion on request from the National Leica Agency or from Leica Technical Service

Code No.

<sup>\*)</sup> The Leica Service Centre can fit a catch for locking the eyecup in position on the eyepiece mount of any LEICA R 3 camera, but modification of the eyepiece mount is not essential for the use of correction lenses and eyecup R.

# Accessories for LEICAFLEX SL / SL 2 models

#### LEICA R lenses

see page 2 - 1.

#### **Correction lenses**

with adapter 1) for LEICAFLEX SL 2 models (Spherical)

(Spherical)	Code No.
+ 0.5	14 330
+ 1.0	
+ 1.5	14 332
+ 2.0	14 333
+ 3.0	14 334
- 0.5	14 335
- 1.0	
- 1.5	14 337
- 2.0	14 338
- 3.0	14 339

Attachment with eyecup 14 215 possible

#### Eyecup R, locks in position 2)

for LEICAFLEX SL 2 models

Eyecup	14 215
can be used in conjunction with correction lenses.	

#### Angle viewfinder

with 1x and 2x magnification for candid photography "round the corner" or above the heads of a crowd.

#### for LEICAFLEX SL-/SL2 models

Angle viewfinder 90°, producing right-way-round, upright image, wi	th
focusing eyelens, switch for 1x and 2x magnification	

14 300 \_\_\_\_

The Leica Service Center can supply a mount, code 042-655.815-006, for using a correction lens on any LEI-CAFLEX/SL model. Any optician can make such a lens and fit it in the mount. Eyecup 008-027.200-060 is also available from the Leica Service Centre, for fitting to the correction-lens mount.

<sup>2)</sup> The Leica Service Center can fit a catch for locking the eyecup in position on the eyepiece mount of any LEICAFLEX SL2 camera, but modification of the eyepiece mount is not essential for the use of correction lenses and eyecup R.

Spare parts for cameras	Code No.
Camera body cover, R-bajonet for all cameras	14 103
Carrying strap with non-slip pad	14 253
Twin flash-socket cover	15 526

#### **Near-focusing devices**

see page 3 - 1.

#### **Recommended accessories**

see page **1** – 10.

#### **Near-focusing adapters**

for the 100 mm MACRO-ELMAR-R f/4 Near-focusing ring *)	14 262
Cover for 1:1 adapter and near-focusing ring: Rear cover	14 162
Adapter Adapter for the use of VISOFLEX 2/3 lenses on: LEICAFLEX SL/SL2, LEICA R	
(at working aperture)	14 167

<sup>\*)</sup> The 1:1-Adapter or the near-focusing ring can be attached and locked on only when the lens diaphragm is closed. This setting is indicated by an additional mark. A block prevents wrong attachment.

# Accessories for earlier LEICA R lenses

# **ELPRO** near-focusing attachments for earlier LEICA R lenses

Lens	ELPRO Code No.	Distance scale at:	Distanc Object - film	ce in cm Object – front lens	Object- field in mm	Repro- duction scale
SUMMICRON-R	VI a	∞	50	41	184 x 276	1: 7.7
f/2/50 mm	16 531	0.5	31	21	91 x 137	1: 3.8
(M 44 x 0.75)	21)	∞	30	21	94 x 141	$1: 3.9 \\ 1: 2.6$
11 228	16542	0.5	24	14	62 x 93	
ELMARIT-R f/2.8/90 mm up to No. 2809 000 (M 54 x 0.75) 11 239	32) 16543	∞ 0.7	74 44	61 30	161 x 241 72 x 108	1: 6.7 1: 3.0
SUMMICRON-R f/2/90 mm up to No. 2 770 950 (M 54 x 0.75) 11 219	32) 16543	∞ 0.7	74 44	61 30	161 x 241 72 x 108	1: 6.7 1: 3.0
ELMARIT-R	3 <sup>2</sup> )	∞	76	61	107 x 160	1: 4.5
f/2.8/135 mm	16 543	1.5	58	42	66 x 99	1: 2.8
up to No. 2772618 (M 54 x 0.75) 11 211	42) 16544	∞ 1.5	150 84	135 68	237 x 355 106 x 159	1: 9.9 1: 4.4
VARIO-ELMAR-R	3	80 mm/∞	82	61	177 x 266	1: 7.4
f/4.5/80-200 mm	16 543	200 mm/1.8	66	45	50 x 75	1: 2.1
(M 55 x 0.75)	4	80 mm/∞	156	135	392 x 588	1:16.3
11 224	16 544	200 mm/1.8	96	74	83 x 125	1:3.5
VARIO-ELMAR-R	3	75 mm/∞	82	61	187 x 281	$1: 7.8 \\ 1: 1.7$
f/4.5/75-200 mm	16 543	200 mm/1.2	60	38	41 x 62	
(E 55)	4	75 mm/∞	156	135	414 x 621	1:17.3
	16 544	200 mm/1.2	80	58	62 x 93	1: 2.6

All values rounded off.

Code No. **14 553**.

Leather case for one near-focusing attachment.....

Series 7 filters continue to be suitable for use with the aid of the Adapter No. 14225, available as an accessory.

 $<sup>^{1}</sup>$ ) = Lens hood cannot be attached.

 $<sup>^{2}</sup>$ ) = ELPRO 3 and ELPRO 4 can be used only after the lenses have been modified for the filter thread M 55 x 0.75.

Modification by Leica Technical Service Centre.

R-lens:	Internal lens thread	Dia- meter in mm	Lens hood	Lens cap	Rear cover	Filter- size <sup>2</sup> )	Adapter for Series filters	ELPRO <sup>3</sup> ) near focusing attachm.
SUPER- ANGULON-R 3.4/21 11803	M 67 x 0.75	70	4)	14 144	4)	Series 8	Lens hood	-
SUMMICRON-R 2/35 11 227 up to No. 2 791 416	M 48 x 0.75	51	12 509 1)	14 172	14 162	Series 7	Lens hood	-
ELMARIT-R 2.8/35 11101 up to No. 2517850	M 44 x 0.75	47	4)	-	14 162	Series 6	14 160	-
up to No. 2928900	M 48 x 0.75	51	12 509	14 172	14 162	Series 7	Lens hood	-
SUMMILUX-R 1.4/50 11875 up to No. 2806 500	M 48 x 0.75	51	4)	14 172	14162	Series 7	Lens hood	-
SUMMICRON-R 2/50 11228 up to No. 2777650	M 44 x 0.75	47	4)	-	14 162	Series 6	14 160	16 531 16 542
MACRO-ELMARIT-R 2.8/60 11203 up to No. 3013650	M 60 x 0.75	63.7	12514	14 290	14 162	Series 8	Lens hood	-
SUMMICRON-R 2/90 11219 up to No. 2770950	M 54 x 0.75	70	built- in	14 144	14 162	Series 7	14 161	3)
up to No. 3381676	M 55 x 0.75	70	built- in	14 289	14 162	E 55	14 225	3)
ELMARIT-R 2.8/90 11239 up to No. 2809 000	M 54 x 0.75	65	built- in	14 089	14 162	Series 7	14 161	3)
up to No. 3 260 100	M 55 x 0.75	65	built- in	14 289	14 162	Series 7	14 225	16543
MACRO-ELMAR 4/100 11 230 up to No. 2 933 350	M 54 x 0.75	65	built- in	14 089	14162	Series 7	14 161	_
ELMARIT-R 2.8/135 11 211 up to No. 2772 618	M 54 x 0.75	65	built- in	14 089	14 162	Series 7	14 161	3)
ELMARIT-R 2.8/180 11919 up to No. 2939700	M 72 x 0.75	78	built- in	14 152	14 162	Series 8	4)	-
APO-TELYT-R 3.4/180 11 240 up to No. 2947 023	M 59 x 0.75	65	built- in	14 089	14 162	Series 7.5	4)	-
TELYT-R 4/250 11920 up to No. 3050600	M 72 x 0.75	78	built- in	14 152	14 162	Series 8	4)	-
TELYT-lens unit 5.6/400 (TELEVIT-R)	-	98	built- in	14 295	4)	Series 7	Filter- slot	-
TELYT-lens unit 5.6/560 (TELEVIT-R)	-	120	built- in	4)	4)	Series 7	Filter- slot	_
VARIO-ELMAR-R 3.5/35-70 to No. 3 393 300	M 60 x 0.75	69	built- in	14 290	14 162	E 60	14263 for Series 7.5	-
VARIO-ELMAR-R 4.5/80-200 11 224	M 55 x 0.75	72	built- in	14 261	14 162	E 55	14 225 for Series 7	16543 16544
VARIO-ELMAR-R 4.5/75-200 11 226	M 55 x 0.75	70	built- in	14 289	14 162	E 55	14 225 for Series 7	16543 16544

1) = Leather case for same: 14621
 2) = Filter see page 2-37
 3) = see page 11-9
 4) = Replacement may be obtainable from the Leica Service Centre: please enquire.

Filter E 54 Pol.

Code No. 13 359 \_\_\_\_

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#### **12 –** 10

12/89

#### 400 mm TELYT-V f/6.8

for VISOFLEX 3



Follow-focus lens of long focal length Built-on telescopic lens hood Rotatable swivelling device for upright Angle of view: 6° and horizontal format Number of elements: 2 (1 component) Lens can be dismantled for convenient Filter size: Series 7 (in filter slot) transport Internal thread: M 72 x 0.75 LEICA-M rapid objective changer Clickstops (between f/8 and f/16. Slot with cover for Series 7 filters also half values) Black finish Smallest aperture: f/32 Universal handgrip with shoulder stock Focusing range:  $\infty$  to 3.60 m (12 ft) detachable, can be used as mini From Serial No. 3 066 826 can be camera support and table tripod focused beyond ∞ Tripod thread A 1/4 and A 3/8 DIN 4503 Follow-focus device (adjustable front (1/4 in and 3/8 in) part of lens with parallel guide, Leather pouch push-button to release the Lens cap diameter: 78 mm focusing mechanism) Length from bayonet flange: 365 mm Smallest object field: 158 x 236 mm Diameter: 78 mm (6.2 x 9.3 in) (about 1:6.5) Weight: 1.830 kg

	Code No.
400 mm TELYT-V f/6.8, consisting of:	
400 mm TELYT f/6.8 unit	11 903
Lens tube	11 905
Universal handgrip with shoulder stock	14 239
Leather pouch	14 582
<b>400 mm TELYT-V f/6.8,</b> complete, with lens hood, lens cap and rear cover	11 954
<b>Recommended accessories:</b> Extension tube (60 mm) for the 400 mm TELYT-V f/6.8 lens to extend the operation range (near focusing) with one intermediate tube: nearest focusing range 353 – 226 cm (11 ft 7 in – 7 ft 5 in) Smallest object field 9 x 12 cm (3.1 x 4.7 in)	14 182
Carrying strap for heavy equipment	14 130

#### 560 mm TELYT-V f/6.8

for VISOFLEX 3



Long-focal length follow-focus lens	Built-on telescopic lens hood
Angle of view: $4.3^{\circ}$ Number of elements: 2 (1 component) Filter size: Series 7 (in filter slot) Clickstops (between f/8 and f/16 also half values) Smallest aperture: f/32 Focusing range: $\infty$ - 6.40 m (21 ft) From Serial No. 2976 426 can be focused beyond $\infty$	Rotable swivelling device for upright and horizontal format, with clickstops Lens can be dismantled for easy transport LEICA-M rapid bayonet changer Black finish Slot with cover for Series 7 filters Tripod thread A <sup>1</sup> / <sub>4</sub> and A <sup>3</sup> / <sub>8</sub> DIN 4503 ( <sup>1</sup> / <sub>4</sub> and <sup>3</sup> / <sub>8</sub> in) Universal handgrip with shoulder stock,
Follow-focus device (adjustable front part of lens with parallel guide, push-button to release the focusing mechanism) Smallest object field: 224 x 336 mm (8.8 x 13.2 in) (about 1:9)	detachable, can be used as mini tripod Leather pouch Lens cap diameter: 98 mm Length from bayonet flange: 510 mm Weight: 2.3 kg

	Code No.
560 mm TELYT-V f/6.8, consisting of:560 mm TELYT f/6.8 lens unitLens tubeUniversal handgrip with shoulder stockLeather pouch	11 907         11 905         14 239         14 581
<b>560 mm TELYT-V f/6.8</b> , complete with lens hood and lens cap and rear cover	11 854
Recommended accessories: Extension tube (60 mm) for the 560 mm TELYT-V f/6.8 lens to extend the operating range (near focusing) With one intermediate tube: nearest focusing range 641 – 396, (21 – 13 ft.) Smallest object field 11.2 x 16.8 cm (4.4 x 6.6 in)	14 182
Carrying strap for heavy equipment	14 130

#### 800 mm TELYT-S f/6.3



Extreme telephoto lens with Leitz special glasses for optimum optical performance

Angle of view: 3°

Number of elements: 3 (1 component) Filter size: Series 7 (in filter slot)

Clickstops (between f/6.3 and 22

also half values)

Preset diaphragm Smallest aperture: f/32

Focusing range:  $\infty$  to 12,50 m (41 ft)

Snallest object field: 320 x 480 mm (1 ft 0.6 in – 1 ft 7 in) (about 1 : 13)

Rapid focusing by means of an easy-grip rotary knob and parallel guide

Lens can be dismantled into 5 parts for transport in a special metal case assembly and dismantling by means of bayonet and marked locking rings with levers

Sturdy carrying handle for assembled lens Lining-up device in the shape of a sports finder with rear and front sight and field-of-view orientating device for

upright and horizontal format, protected against damage by

integration with the carrying handle Detachable and lockable lens hood Slot with cover for Series 7 filters

Thread A <sup>1</sup>/<sub>4</sub> and A <sup>3</sup>/<sub>8</sub>, DIN 4503 (<sup>1</sup>/<sub>4</sub> and <sup>3</sup>/<sub>8</sub> in) for sturdy tripods

Support ring, rotatable with tripod thread A <sup>1</sup>/<sub>4</sub> DIN 4503 (<sup>1</sup>/<sub>4</sub> in)

for additional monopod

Black finish LEICA R rapid bayonet changer

Rotatable swivelling device for upright and horizontal format, with clickstops

Lens cap diameter: 152 mm Length from bayonet flange: 768 mm Diameter: 152 mm Weight: 6.860 kg

Code No.

**800 mm TELYT-S f/6.3**, complete, with special metal transport case.....

..... on request \_

# Accessories for earlier camera bodies and lenses

#### LEICA M lenses

see page 5 - 1.

#### LEICA WINDER M

see page 4 - 4.

#### **Battery housing**

Dattery nousing	Code No.
for LEICA WINDER M 4-2	14 227

#### **Correction lenses M**

for LEICA M models (spherical), rubber reinforced

+ 0.5	14350
+ 1.0	14351
+ 1.5	14352
+ 2.0	14353
+ 3.0	14354
- 0.5	14355
- 1.0	14356
- 1.5	14357
- 2.0	14358
- 3.0	14 359

For astigmatism we supply correction lens mounts through our Technical Service Department (Item No. 042-253-008). Making and mounting the lens by an ophthalmic optician.

#### Spare parts for cameras

Camera body cover M bayonet for all M cameras	14 195
Camera body cover for cameras with screw thread	14 055
Flash contact cover for M4, MDa, M4-2, MD-2, M5	15 526

#### **Recommended accessories**

see page 4 - 7.

#### **Brilliant Finder**

see page 5 - 16.

#### Accessories for earlier LEICA M and CL lenses

Accessories in						
M-lens	Internal thread	Lens cap diameter in mm	Lens hood	Lens cap	Rear cover	Filter
ELMARIT-M f/2.8/21 up to No. 3 363 299	M 60 x 0.75	62	12537	14 290	14269	E 60
SUPER-ANGULON-M f/3.4/21 up to No. 2993 700	M 48 x 0.75	52.5	1)	1)	_	Series 7 with lens hood or E 48
ELMARIT-M f/2.8/28 up to No. 2977 550	M 48 x 0.75	52.5	1)	1)	-	Series 7 with lens hood or E 48
SUMMILUX-M f/1.4/35 up to No. 2166700	M 41 x 0.5	46.5	-	1)	14269	E 41
SUMMICRON-M						
f/2/35 up to No. 2307450	M 39 x 0.5	42	1)	14 268	14 269	E 39
up to No. 2483 503	-	42	12 504	14 268	14 269	Series 7 in lens hood
up to No. 2974250	M 39 x 0.5	42	12 504	14 268	14 269	E 39 or Series 7
SUMMARON-M f/2.8/35	M 39 x 0.5	42	12 538	14 268	14 269	E 39
SUMMICRON-C f/2/40	M 39 x 0.75	41.5	1)	1)	14 269	Series 5.5 with lens hood
NOCTILUX-M f/1/50 up to No. 2919656	M 58 x 0.75	61	1)	1)	14 269	E 58
up to No. 3 220 708	M 60 x 0.75	62	12 5 39	14 290	14 269	E 60
NOCTILUX-M f/1.2/50	-	52.5	1)	• 1)	14 269	Series 8 in lens hood
SUMMICRON-M f/2/50 up to No. 2915 800	M 39 x 0.5	42	12 538	14 268	14 269	E 39
ELMAR-M f/2.8/50	M 39 x 0.5	42	12 538	14 268	14 269	E 39
SUMMILUX-M f/1.4/75 up to No. 3 223 300	M 60 x 0.75	62	12 539	14 290	14 269	E 60
SUMMICRON-M f/2/90 up to No. 2997 000	M 48 x 0.75	63.7	built-in	1)	14 269	E 48
SUMMICRON-M f/2/90 from No. 2813 801 to No. 2813 900 from No. 2997 001 to No. 3 177 200	M 49 x 0.75	63.7	built-in	1)	14 269	E 49
ELMARIT-M f/2.8/90	M 39 x 0.5	42	12 575	14 268	14 269	E 39
TELE-ELMARIT-M f/2.8/90	M 39 x 0.5	42	11250	14 268	14 269	E 39
ELMAR-C f/4/90	M 39 x 0.75	42	1)	1)	14 269	Series 5.5 with lens hood
ELMAR-M f/4/90	M 39 x 0.5	42	12575	14 268	14 269	E 39

1) Replacement may be obtainable from the Leica Service Centre; please enquire.

#### Accessories for earlier LEICA M and CL lenses

M-lens	Internal thread	Lens cap diameter in mm	Lens hood	Lens cap	Rear cover	Filter
ELMARIT-M f/2.8/135 up to No. 2788926	M 54 x 0.75	63.7	built-in	1)	14 269	Series 7 with Adapter 14 161
ELMAR-M f/4/135	M 39 x 0.5	42	12 575	14 268	14 269	E 39
HEKTOR-M f/4.5/135	M 39 x 0.5	42	12 575	14 268	14269	E 39

#### Accessories for VISOFLEX lenses

M-lens	Internal thread	Lens cap diameter	Lens hood	Lens cap	Rear cover	Filter size
ELMAR-M f/3.5/65 up to No. 2378900	M 41 x 0.5	56	built-in	14 153	_	E 41
from No. 2378901	M 44 x 0.75	56	built-in	14 153	14074	Series 6 with Adapter 14 160
TELYT-M f/4/200	M 58 x 0.75	72	built-in	14261	14050	E 58
TELYT-M f/4.8/280 up to No. 2340952	M 58 x 0.75	76	built-in	1)	14269	E 58
from No. 2340953	M 66 x 0.75	76	built-in	14079	14 269	Series 8 with Adapter 14 169
TELYT-M f/5.6/400	-	98	built-in	14 295	14 269	Series 7 in filter slot
TELYT-M f/6.8/400	M 72 x 0.75	78	built-in	14 152 1)	14 269	Series 7 in filter slot
TELYT-M f/5.6/560	-	120	built-in	1)	14 269	Series 7 in filter slot
TELYT-M f/6.8/560	-	98	built-in	14 295 <sup>2</sup> )	14 269	Series 7 in filter slot
TELYT-S f/6.3/800	-	152	built-in	1)	14 269	Series 7 in filter slot

1) Replacement may be obtainable from the Leica Service Centre; please enquire.

	Code No.
Rear covers for screw thread lenses	14 050

#### **Filters**

Filter		Screw-in filter				
	E 39	E 41	E 43	E 48	E 49	E 56
UVa	13 13 1	_	13 206	13 330	13 328	13 373
Yellow	-	13 160	-	_	-	-
Yellowgreen	-	-	_	_	—	13 391
Orange	_	_	-	_		13 312
Polarizing filter	13 352 A 42	—	_	—	_	_

	Screw-in filters		Series filters		
	E 58	E 60	6	7	8
UVa	13 270	13 381	13 012	13 009	13 018
Yellow	-	_	13 013	-	-
Yellowgreen	_	13 392	13 014	13 007	13 021
Orange	_	13 383	13 011	13 008	-

# Accessories for the REPROVIT<sup>®</sup> IIa

#### Accessories for LEICA MD-2

Recording device consisting of:	Code No.
Special baseplate for the LEICA MD-2 (including 10 recording strips)	14 142
Packet of 100 recording strips	14 170

## Accessories for the FOCOMAT Ic

Film guides	
also suitable for the VALOY <sup>®</sup> II, FOCOMAT Ia	
8 x 11 mm	17 514

# Accessories for the PRADOVIT A

#### **Projector lenses and accessories**

see page 8 - 4.

#### Micro / macro attachments

	Code No.
Microscope carrier	32 823
Mirror housing with support rods	32 824
Projection eyepiece 2 x	37 300
Macro attachment	32 825
Interchangeable condenser	37 200
Film guide	37 868

Code No

# Accessories for the PRADOVIT-COLOR

Extension cable remote control	l, 5 m	37 931
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#### **Projector lenses and lens sleeves**

see page 8 - 4.

#### Micro / macro attachments

	32 823
	32 824
Projection eyepiece 2 x	37 300
Macro attachment	32 825
	37 200
	37 868

The fitting of projector lenses of 42.5 mm dia. to older PRADOVIT projectors requires the sleeve 37 119 (exceptions: PRADOVIT I, f, n, n 12, n 24, to which they **cannot** be fitted).

# Accessories for the PRADOVIT C / CA 1500 C / CA 2500, CA 2502

#### Hood and case

see page 8 – 4.

#### **Projector lenses and accessories**

see page 8-4.

#### Micro / makro attachments

Microscope carrier	32 823
Mirror housing with support rods	32 824
Projection eyepiece 2 x	37 300
Macro attachment	32 825
Interchangeable condenser, 85 mm to 120 mm	
Film guide	37 868

#### **Replacement parts**

Mains cable	37 644
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Code No.

# Accessories for the PRADOVIT R / RA 152

	Code No.
Extension cable for remote control, 5 m	37 931

#### **Projector lenses and accessories**

see page 9-11.

#### Micro / macro attachments

Microscope carrier	32 823
Mirror housing with support rods	32 824
Projection eyepiece 2 x	37 300
Macro attachment	32 825
Interchangeable condenser, 85 mm to 120 mm	37 200
Film guide	37 868

#### Magazines

see page 9 - 12.

# Accessories for the DIASCRIPTOR OP 2500

Foil roller device consisting of:	
25 sheets of foil	33 464

# Accessories for TRINOVID binoculars

	Code No.
Spare cuff-type rubber eyecubs, black, for TRINOVID 8 x 20 C and 10 x 22 C	42 136
Spare cuff-type rubber eyecups, black, for all TRINOVID B and BA binoculars except 7 x 42	42 133
Spare cuff-type rubber eyecups, green, for all TRINOVID B and BA binoculars except 7 x 42	42 138
Spare cuff-type rubber eyecups, black, for TRINOVID 7 x 42 B and BA	42 141
Spare cuff-type rubber eyecups, green, for TRINOVID 7 x 42 BA	42 139
Rubber rain guard for TRINOVID B and BA black	42 101
Rubber rain guard for TRINOVID BA, green	42 137
Spare carrying strap, black, Perlon fabric, for TRINOVID B and BA binoculars Non-slip pad for carrying strap, black, code 707 115 705 000, obtainable from Leica Service Centre or local Leica agency.	42 149
Leather pouch, with carrying strap, box calf, for TRINOVID 7 x 42 B and BA, 8 x 40 B and BA	42 173
Leather pouch, with carrying strap, box calf for TRINOVID 8 x 32 B and BA, 10 x 40 B and BA, 7 x 35 B and BA	42 177
Nappa leather case, for TRINOVID 7 x 42 B and BA	42 189
Nappa leather case, for TRINOVID 8 x 32 B and BA	42 181
Nappa leather case, for TRINOVID 8 x 40 B and BA, 10 x 40 B and BA, 7 x 35 B and BA	42 179





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