

CLOSE-UP PHOTOGRAPHY

Photographing small objects at close range is one of the most fascinating branches of photography. With your Leica you can record a rare document or copy an entire book; you can capture the intricate design of an insect's wing or the intriguing precision of a small industrial part. The detailed beauty in the close-up of a flower can only be described photographically. Also, you will find that photography through a microscope is as thrilling as it is useful.

The Leica system of photography is completed by its accessories for close-up and photomicrography. As in other branches in which the Leica excels, you will find not one, but a whole group of accessories from which you can choose.

The equipment for close-up photography (with one exception) is built around those models of the Leica that have screw-mounting interchangeable lenses. As we go to press, the Leica M 3 is too new for close-up accessories to have been designed for it. However, you can get the Visoflex housing with bayonet-mounting to use on the M 3 with the Bellows attachment and accessories (except the Focaslide).

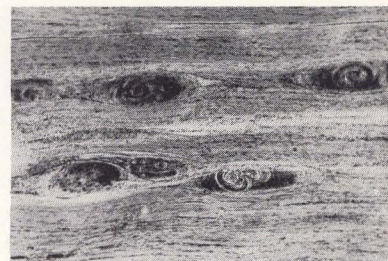
Close-Up photography falls into three classifications:



Gross photography.—Photography at distances between the minimum focusing range of the lens and natural size (image size = object size).



Macrophotography.—Photography at magnifications on the negative (larger than natural size) without the aid of a microscope.



Photomicrography.—Photography at high magnifications using a microscope. The Leica lens is not used, but is replaced by the optical system of the microscope.

You can do close-up photography by either of two methods—optical or increased extension (lens-to-film distance):

Optical.—This method calls for supplementary front lenses which you put in front of the Leica lens. Front lenses cost little but are limited in scope. To focus and frame your subject, you must refer to tables.

Increased extension.—Increased extension just means moving the lens farther from the film. You do it by using extension tubes of fixed lengths, focusing mounts of variable length or an adjustable bellows. The ground-glass focusing screens of the Visoflex and Focaslide let you focus the image sharply and frame your subject precisely. Macrophotographs are always made by increasing the distance between the lens and focal plane.

Close-up equipment which increases extension can be further divided into two groups—fixed focus and variable focus. The fixed units have limited applications. They are designed for portability. But those with variable extension are universal in use. The Bellows Focusing Device and the Focaslide with its accessories are of this type. The Reproduction units also work on the principle of increasing extension.

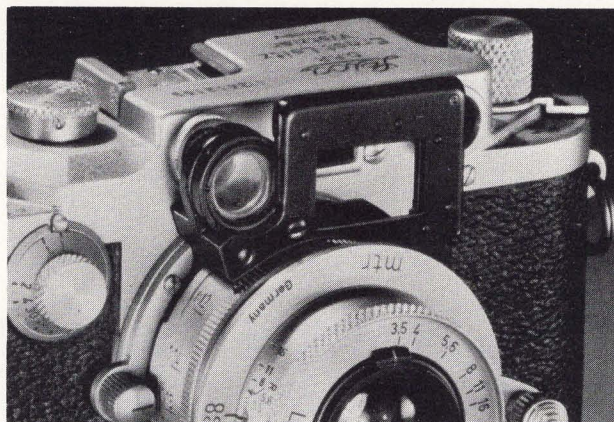
Photomicrography falls into a different category since you do not use the camera lens. The primary function of the camera is to transport the film. Here, again, you will find several different set-ups and accessories from which you can choose to best meet your individual requirements.

Close-ups and photomicrography with the Leica are simple and uncomplicated. What's more, while they are essential to industry and research, they are also gaining popularity as a hobby.

OPTICAL CLOSE FOCUSING DEVICES

The Optical Close Focusing Devices, although they increase extension between lens and focal plane, are classed as optical units. They make use of the camera's coupled rangefinder and built-in viewfinder. A moving optical wedge adapts the rangefinder for close distances and a mask in front of the viewfinder automatically compensates for parallax and reduced field of view.

The unit screws into the lens flange of any Leica which has a coupled rangefinder (except the model M 3) and focuses to any distance between $3\frac{1}{2}$ feet and $16\frac{1}{2}$ inches. Ratios of reproduction from 1:17.5 to 1:6.5 are engraved on the focusing mount and areas from $1\frac{1}{5}$ " x $2\frac{1}{1}$ " to $6\frac{1}{8}$ " x $9\frac{3}{16}$ " can be covered.



Close Focusing Device NOOKY

<i>Catalog Number</i>	<i>Code Word</i>	<i>Item</i>	<i>Retail Price</i>
16,500	NOOKY	Close Focusing Device for 50mm Elmar f/3.5 lens.	\$ 31.50
16,502	SOOKY	Close Focusing Device for 50mm Summicron f/2 lens.	33.00
16,505	NOOKY- HESUM	Close Focusing Device for 50mm Summar or Summitar f/2 lens.	31.50

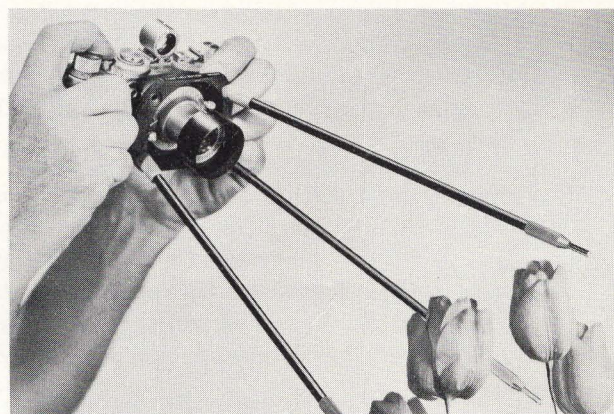
SUPPLEMENTARY LENSES

The Front Lenses screw into the threaded flange of the 50mm Elmar f/3.5 screw-mounting Leica lens. You focus by measuring from the back of the camera to the object. Lens settings, working distances and areas covered are obtained from the tables supplied with each supplementary lens.

16,530	ELPRO	Front Lens I. Covers areas from $16\frac{9}{16}$ " x $24\frac{13}{16}$ " to $8\frac{9}{16}$ " x $12\frac{7}{8}$ "	\$ 6.00
16,535	ELPIK	Front Lens II. Covers areas from $8\frac{7}{16}$ " x $12\frac{5}{8}$ " to $5\frac{5}{8}$ " x $8\frac{1}{2}$ "	6.60
16,540	ELPET	Front Lens III. Covers areas from $4\frac{1}{4}$ " x $6\frac{5}{16}$ " to $3\frac{3}{8}$ " x 5"	8.40
16,550	VMCOO	Front Lens Adapter for using Elmar front lenses on 50mm Summar f/2 Leica lens.	1.05

FIXED FOCUS UNITS

The Auxiliary Reproduction Units are fixed focus devices for copying and the photography of small objects. Their small size makes them ideal for use in libraries and when traveling. You can use them on any Leica that has the interchangeable lens feature (except the model M 3). Correct focusing distance and area covered are established by legs which you place against the object being photographed. Extension tubes or rings of fixed length are placed between the camera and its lens.

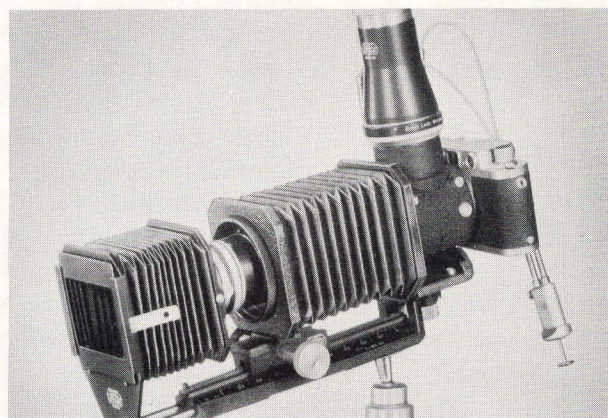


Auxiliary Reproduction Unit BOOWU

<i>Catalog Number</i>	<i>Code Word</i>	<i>Item</i>	<i>Retail Price</i>
16,510	BELUN	Auxiliary Reproduction Unit (1:1) for 50mm Elmar f/3.5 lens. Covers an area of 1" x 1½".....	\$ 12.00
16,515	BELUN-HESUM	Auxiliary Reproduction Unit (1:1) for 50mm Summar f/2 lens. Covers an area of 1" x 1½".....	12.00
16,520	BEHOO	Auxiliary Reproduction Unit (1:1.5-1:2-1:3) for 50mm Elmar f/3.5 or Summar f/2 lens. Covers areas of 1⅜" x 2⅛", 1⅞" x 2⅞" and 2⅞" x 4⅜".....	15.00
16,525	BOOWU	Auxiliary Reproduction Unit (1:4-1:6-1:9) for all 50mm screw-mounting Leica lenses. Covers areas of 4⅛" x 5¾", 5¾" x 8¼" and 8¼" x 11⅝".....	24.00

BELLOWS EQUIPMENT

The Bellows Focusing Device (used with the Visoflex or Focaslide) is a versatile accessory for close-up photography. It provides variable extension between the lens and focal plane of your Leica and adjusts by rack and pinion. You can use any Leica lens with this device, within certain focusing ranges. However, it is designed for most efficient use with the Visoflex and lens unit of the 135mm Hektor or with the Focaslide and 50mm Elmar, Summar or Summicron lens. Two direct-reading scales on the bed of the Bellows Attachment show the ratio of reproduction and exposure factor at any setting for 50mm and 135mm lenses.



Bellows Focusing Device with Bellows Sunshade

The Visoflex used with the Bellows is the same model you use with short-mounted Leica lenses. Combined with the Bellows and 135mm Hektor lens it gives you continuous focus from infinity to 1:1 (natural size). You view the image on the ground-glass of the Visoflex up to the instant of exposure.

When using the Focaslide with the Bellows and 50mm lens, you obtain continuous focus from a ratio of 1:17 (16 x 24 inches) to a magnification of 2.5 times ($\frac{3}{8} \times \frac{5}{16}$ inches). After focusing the image on the ground-glass of the Focaslide, you slide your Leica into position behind the lens and make the exposure. The Focaslide is suitable for use with the Bellows when photographing inanimate objects. But due to the time delay between focusing and exposing, we recommend the Visoflex for pictures of subjects that are likely to move.

The various lens adapters which you can get for the Bellows are interchangeable, screwing into the front of the assembly. Those for the 50mm lenses hold the lens in collapsed position by a bayonet catch. Two-piece adapters for the 135mm Hektor and 90mm Elmar lenses serve two purposes. First they adapt the front of the Bellows Focusing Device to accept a Leica lens screw thread. And a tubular section provides the proper lens extension for infinity-to-1:1 focusing with the Bellows Device. Removing the tubular section exposes a Leica thread into which you can put screw-mounting Leica lenses or longer extension tubes.

The Bellows Focusing Device has a bushing for mounting it on a tripod or, with an adapter, on carrying arms which fit the uprights of Leitz enlargers. For critical focusing when you work at predetermined ratios, you can screw the Rack and Pinion Fine Adjustment (with adapter plate) into the tripod bushing and mount the entire unit on a tripod or carrying arm.

Catalog Number	Code Word	Item	Retail Price
16,555	UXOORHE	Bellows Focusing Device with adapter for 135mm Hektor lens..... <i>135mm Hektor lenses with serial numbers below 241,000 cannot be used with the Bellows Focusing Device.</i>	\$ 58.50
11,055	OZYXO	Visoflex , screw-mounting; with 5X wide-field magnifier and double cable release.....	102.00
16,710	OZUPO	Visoflex , screw-mounting; without magnifier but with double cable release.....	81.00
11,155	OZYXO-M	Visoflex , bayonet-mounting; with 5X wide-field magnifier and double cable release.....	105.00
16,712	OZUPO-M	Visoflex , bayonet-mounting; without magnifier but with double cable release.....	84.00
14,085	OZWTO	Double Cable Release for Visoflex and any Leica (except Leica M 3) ..	7.50
14,083	OZWTO-M	Double Cable Release for Visoflex and Leica M 3.....	7.50
14,086	OZXVO	Release Coupling for Visoflex and any Leica (except Leica M 3). Single-button hand or cable release operation.....	9.00
14,088	OZTNO	Release Adapter. Adapts Visoflex Double Release OZWTO and camera Cable Releases FINOT, OPKOM, and FIDRI to Leica M 3..	.60
14,087	OZXVO-M	Release Coupling for Visoflex and Leica M 3. Single-button hand or cable release operation (NOT YET AVAILABLE).....	9.60
16,625	LVFOO	Wide-Field Magnifier (5X) for Visoflex.....	21.00
16,725	PEGOO	Wide-Field 45° Magnifier (4X) for Visoflex. The image is erect and laterally correct.....	45.00
16,560	UXOOREL	Bellows Focusing Device with adapter for 50mm Elmar lens.....	58.50
16,605	OOZAB	Focaslide for use with Leica cameras (except model M 3).....	36.00
16,565	UZEEO	Bellows Lens Hood (with removable mask) for 50 and 90mm Elmar and 135mm Hektor screw-mounting lenses only.....	16.50
16,567	UZEEO-M	Bellows Lens Hood (with removable mask) for bayonet mounting 135mm Hektor lens.....	16.50
16,570	UOOST	Divisible Adapter fitting 135mm Hektor lens unit to bellows. (Lenses having serial numbers 245,000 to 245,800 or lower than 241,000 must be sent to Service Department for fitting).....	4.80
16,572	UOOXI	Adapter fitting 125mm Hektor lens to bellows.....	2.70

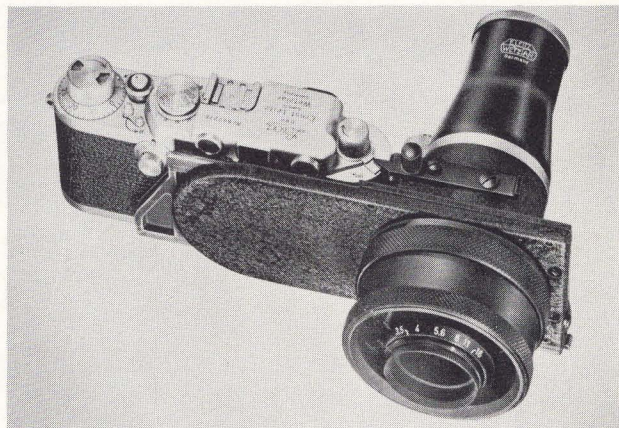
<i>Catalog Number</i>	<i>Code Word</i>	<i>Item</i>	<i>Retail Price</i>
16,575	UOOTG	Divisible Adapter fitting any rigid 90mm Elmar lens unit to bellows.	4.80
16,595	UYCOO	Bayonet Adapter fitting 50mm screw-mounting Elmar lens to bellows.	4.80
16,596	UOOND	Bayonet Adapter fitting 50mm bayonet-mounting Elmar or Summicron lens to bellows.	6.90
16,597	USOOR	Bayonet Adapter fitting 50mm Summitar lens to bellows.	4.80
16,590	UOOWV	Adapter Ring fitting Leica lenses or extension tubes to bellows.	3.45
16,580	UOOVH	Special Extension Tube fitting 135mm Hektor lens unit to bellows adapter ring. (Lenses having serial numbers 245,000 to 245,800 or lower than 241,000 must be sent to Service Department for fitting) ..	1.35
16,585	UOOWV	Special Extension Tube fitting 90mm Elmar lens unit to bellows adapter ring.	1.35
16,620	VALOO	Diaphragm Adjusting Ring for screw-mounting 50mm Elmar lens. Settings are indicated by click stops and are visible from the side.	6.60
16,600	UWYOO	Adapter Plate fitting bellows to carrying arms for use on enlarger up-rights, Rack and Pinion Fine Adjustment or Valoy II Enlarger carrying arm with adapter UWOOS (page D 8).	2.10
16,700	YROOF	Rack and Pinion Fine Adjustment for Bellows Focusing Device or Focaslide.	25.50
14,650	UYOOQ	Fiber Case fitted for Bellows, Visoflex, Focaslide, Leica and accessories. .	12.00

FOCASLIDE EQUIPMENT

The Focaslide is the most versatile accessory made for close-up and macrophotography. You can even adapt it for photomicrography! It is the basis of all Reproduction Units (described later) except the Repovit II, and even this uses a focusing stage similar to the Focaslide.

The Leica (held on the sliding upper plate of the Focaslide), has its film in the same plane as the ground-glass focusing screen. The lens with its auxiliary focusing mount and extension tubes screws into the lens flange of the lower plate. You focus sharply on the ground-glass and slide the camera into position. Two tripod bushings permit you to mount the Focaslide on a tripod, the Bellows Attachment or carrying arms which fit the enlargers.

Any screw-mounting Leica lens fits the Focaslide, but the 50mm Elmar f/3.5 lens is generally recommended. Mounts are available for it as well as the 50mm Summar and Summitar, 90mm Elmar and 135mm Hektor in short mount and 50mm Focotar.



Focaslide with Leica IIIIf

RATIOS OF REPRODUCTION AND AREAS COVERED	LENS	FOCASLIDE WITH	RATIOS	AREAS	
				LARGEST	SMALLEST
	50mm Elmar	Helical Mount	1:17 to 1:2	16" x 24"	1 ²⁹ / ₃₂ " x 2 ¹³ / ₁₆ "
	50mm Elmar	Helical Mount + Repro Tube	1:2 to 1:1	1 ²⁹ / ₃₂ " x 2 ¹³ / ₁₆ "	1" x 1 ¹ / ₂ "
	50mm Summar or Summaritar	Intermediate Mount + tubes B, F and G	1:14.5 to 1:1	14" x 21"	1" x 1 ¹ / ₂ "
	90mm Elmar	Short Mount	∞ to 1:10(3 ¹ / ₂ ')	∞	9 ¹ / ₂ " x 14 ¹ / ₄ "
	135mm Hektor short mounted	50mm Tube	∞ to 1:9(5')	∞	8 ³ / ₄ " x 13"

FOCASLIDE

Catalog Number	Code Word	Item	Retail Price
16,605	OOZAB	Focaslide for close-up and macrophotography.....	\$ 36.00

AUXILIARY MOUNTS

16,610	ZOOXY	Helical Focusing Mount for 50mm Elmar lens. Adjustable through a range of 22.5mm.....	12.00
16,611	ZOOWL	Helical Focusing Mount for 50mm Focotar f/4.5 lens. Similar to ZOOXY but with Leica lens thread.....	14.40
16,613	ZOOVX	Adapter fitting 50mm Focotar f/4.5 lens to Helical Focusing Mount ZOOXY.....	2.40
16,660	ZOONT	Special Helical Focusing Mount for certain 50mm Elmar lenses of older design with No. 2 or 3 or no number whatever under the infinity lock....	12.00
16,655	ZOOSI-HESUM	Intermediate Focusing Mount with Extension Tubes B, F and G for 50mm Summar or Summaritar lens.....	15.30
16,650	ZWTOO-HESUM	Intermediate Focusing Mount for 50mm Summar or Summaritar lens as supplied with ZOOSI-HESUM. Adjustable through a range of 8mm	9.90
16,665	ZOOMF	Special Extension Tube (50mm) for short mounted 135mm Hektor lens..	2.70
16,670	COOED	Short Focusing Mount for 90mm Elmar lens.....	16.50

EXTENSION TUBES

You can put extension tubes (individually or in combination) between the Focaslide and focusing mount to get the ratio of reproduction you want. You can also use them with the Bellows, Visoflex or Reproduction Units.

16,635	BOOXZ	Extension Tube B (7mm) as supplied with ZOOSI-HESUM.....	\$ 1.20
16,640	FVOOQ	Extension Tube F (15mm) as supplied with ZOOSI-HESUM.....	1.50
16,615	ROOYH	Repro Extension Tube (26mm) for Helical Focusing Mount.....	2.70