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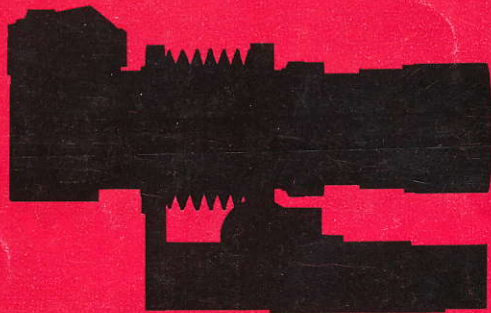
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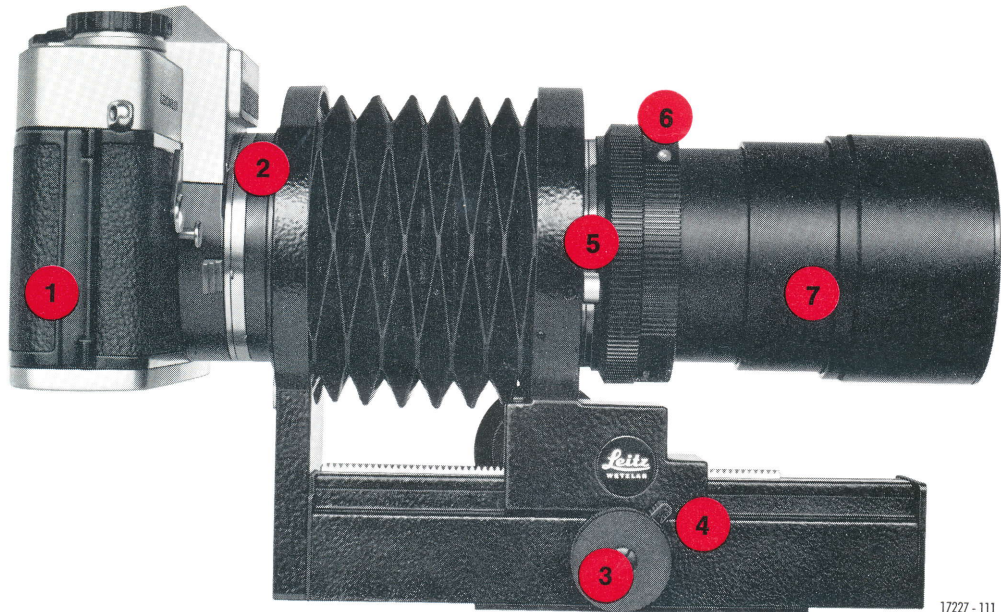
# INSTRUCTIONS



Focusing Bellows-R



111-82a/Engl.

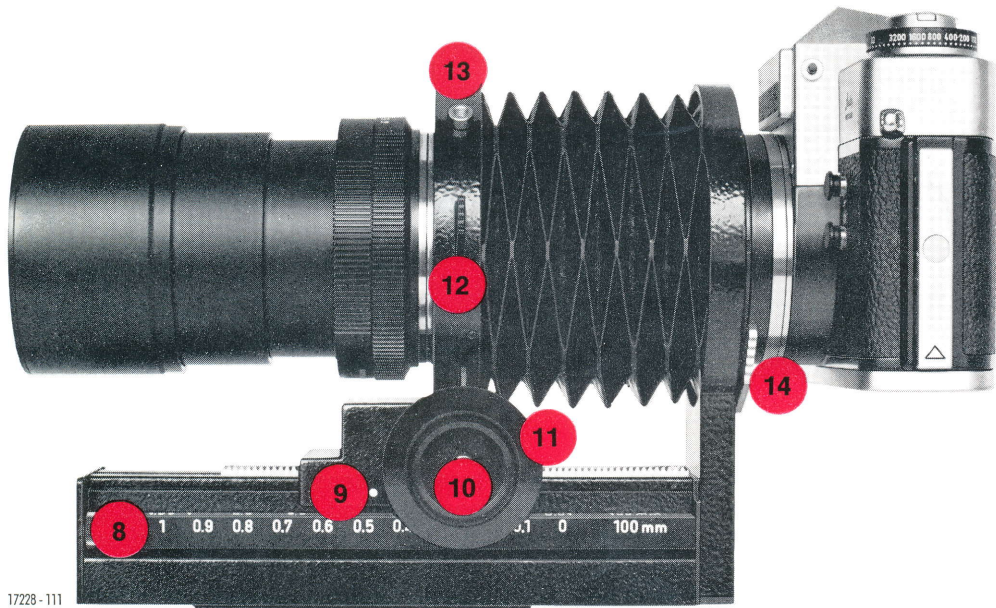


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- 1 LEICAFLEX body
- 2 Red-dot marking on the bayonet mount for the camera body
- 3 Focusing knob for preselected reproduction ratio

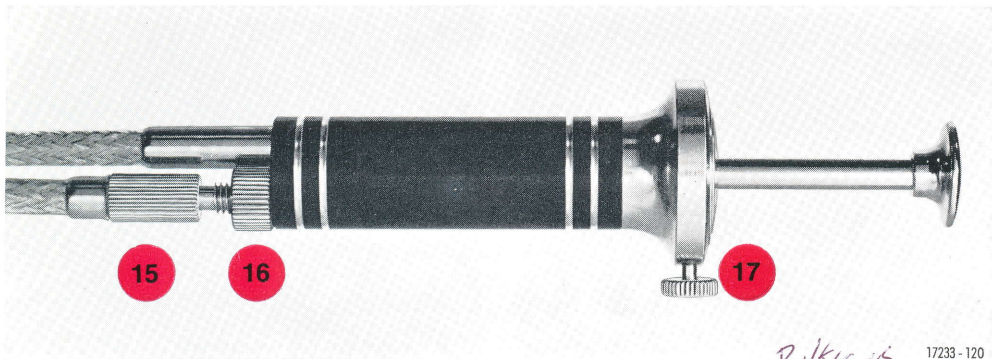
- 4 Arresting lever for knob (3)
- 5 Locking catch for the camera lens
- 6 Aperture preselection ring of the lens
- 7 Interchangeable 100mm MACRO-ELMAR f/4 with LEICAFLEX bayonet

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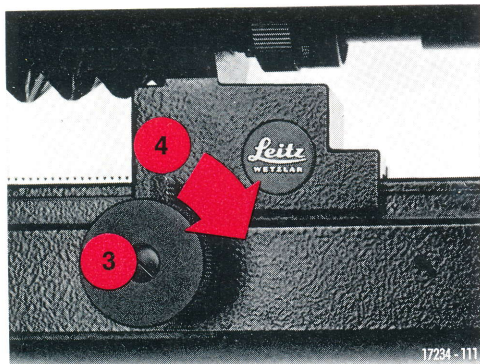
- 8** Rotating scale with reproduction scales for the 90, 100, and 135mm lenses and a mm scale
- 9** Setting mark
- 10** Extension adjustment knob
- 11** Sliding ring for opening the lens diaphragm
- 12** Lever for adjusting the diaphragm in the open position
- 13** Bush for twin cable release
- 14** Lever catch for upright and horizontal position



### Twin cable release (Code No. 16 494)

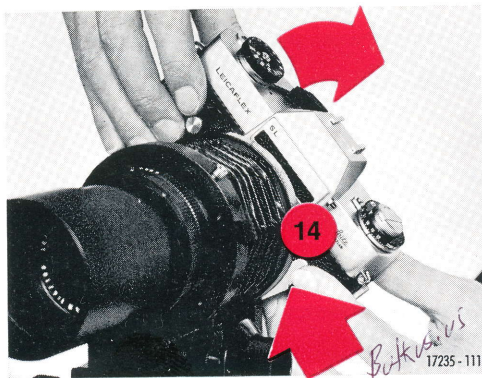
Screw the part of the twin cable release whose pin appears first when the release is pressed into the lens panel (13), the other into the cable release bush in the camera body, so that the lens diaphragm is closed to the preselected value before the camera shutter is released when the twin cable release is operated. The two parts of the twin release are also easily distinguished in that one is not adjustable; the other, for the camera shutter, can be adjusted for the length of the cable. [www.butkus.us](http://www.butkus.us)  
After release of the counter nut (16) the

length of the cable can be adjusted with the adjustment screw (15) so that during the operation of the twin cable release the sequence and time interval between the closing of the lens diaphragm and the release of the shutter are correctly adjusted to each other. For long time exposures the twin cable release can be arrested by means of the clamping screw (17).



### Preselected reproduction scale

If a certain reproduction scale has been laid down for work from a tripod, extend the bellows to the relevant scale value (8), and focus only with knob (3). The setting can be arrested with the lever (4).



### Change from horizontal to upright picture

For the change-over between horizontal and upright pictures the lever catch (14) is pressed and the camera rotated to the left or right.

# Measure the exposure

## **LEICAFLEX SL with through-the-lens measurement**

In the through-the-lens measurement of the LEICAFLEX SL the extension factor is allowed for. The measurement is obtained through the working aperture provided the illumination of the object is bright enough. The two pointers in the viewfinder are made to coincide by adjustment of the lens diaphragm and/or of the shutter speed dial of the camera. Adjustment of the lens diaphragm acts on the measuring pointer, that of the shutter speed dial on the follow pointer in the camera viewfinder.

If the light is not bright enough the exposure is measured at full aperture, and the shutter speed adjusted to the working aperture.

15 14 13 12 11 1 0,9 0,8 0,7 0,6 0,5 90mm  
7x 6,5x 6x 5,5x 5x 4,5x 4x 3,5x 3x 2,5x

1 0,9 0,8 0,7 0,6 0,5 0,4 0,3 0,2 0,1 0 100mm  
3,5x 3x 2,5x 2x 1,5x

1,05 1 0,9 0,8 0,7 0,6 0,5 0,4 0,31 135mm  
7x 6,5x 6x 5,5x 5x 4,5x 4x 3,5x 3x 2,5x

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### LEICAFLEX with external measurement

The exposure meter of the LEICAFLEX with external measurement cannot be used in combination with the focusing bellows, because the window of the measuring cell is obstructed by the lens panel of the focusing bellows.

The value determined without focusing bellows must be multiplied by an extension factor according to the table below.

The strips have the same dimensions as the scale on the focusing bellows; they can be cut out of the Instruction Manual and glued on to the scales (8).



# Depth-of-field range at reproduction scales from 1:20 to 10:1

The round values are based on a circle of confusion of 1/30mm.

Reproduction scale	Magnification	Extension factor with Exit: entry pupil ratio 1:1	Depth of field in mm				
			f/4	f/5.6	f/8	f/11	f/16
1:20	0.05	1.1 x	110	154	220	308	440
1:15	0.067	1.1 x	65	90	130	180	260
1:10	0.1	1.2 x	30	40	60	80	120
1:5	0.2	1.4 x	8	10	15	20	30
1:4	0.25	1.6 x	5.5	7.5	11	15	22
1:3	0.33	1.8 x	3	4.5	6	9	12
1:2	0.5	2.3 x	1.5	2	3	4	6
1:1.5	0.67	2.8 x	1	1.4	2	2.7	4
1:1	1	4 x	0.5	0.7	1	1.4	2
1.5:1	1.5	6.3 x	0.3	0.4	0.6	0.8	1
2:1	2	9 x	0.2	0.3	0.4	0.6	0.8
3:1	3	16 x	0.1	0.2	0.25	0.35	0.5
4:1	4	25 x	0.08	0.12	0.16	0.23	0.32
5:1	5	36 x	0.06	0.09	0.13	0.18	0.26
6:1	6	49 x	0.05	0.07	0.10	0.14	0.20
7:1	7	64 x	0.04	0.06	0.09	0.12	0.17
8:1	8	81 x	0.04	0.05	0.08	0.10	0.15
9:1	9	100 x	0.03	0.05	0.07	0.09	0.13
10:1	10	121 x	0.03	0.04	0.06	0.08	0.12

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## Reproduction scales obtainable and object sizes

of the focusing bellows-R with the various interchangeable LEICAFLEX® lenses  
 Further possibilities are opened by the use of the ELPRO close-up attachments and 1:1 ring combination (see lists 111-78 and 111-68).

Lens	Distance scale in m	Reproduction scale (decimal)	Object-film distance in mm	Object size in mm	Extension factor for LEICAFLEX with external measurement
SUMMICRON®-R 1:2/50mm Exit: entry pupil ratio: 1.12:1	∞	0,81	204	29,6 x 44,4	3,0
	∞	2,74	259	8,8 x 13,1	11,9
	0,5	2,87	265	8,4 x 12,5	12,7
ELMARIT®-R 1:2.8/90mm Exit: entry pupil ratio: 0.91:1	∞	0,47	398	51,1 x 76,6	2,3
	∞	0,50	388	48,0 x 72,0	2,4
	∞	1,50	358	16,0 x 24,0	7,0
	∞	1,58	362	15,2 x 22,8	7,5
	0,7	1,75	372	13,7 x 20,6	8,6
MACRO-ELMAR® 1:4/100mm Exit: entry pupil ratio: 1.06:1	∞	-	∞	∞	-
	∞	1,00	403	24,0 x 36,0	3,8
ELMARIT-R 1:2,8/135mm Exit: entry pupil ratio: 0.63:1	∞	0,31	767	77,4 x 116,1	2,2
	∞	0,35	723	68,6 x 102,9	2,4
	∞	1,05	560	22,9 x 34,3	7,1
	1,5	1,16	563	20,7 x 31,0	8,0
ELMARIT-R 1:2,8/180mm Exit: entry pupil ratio: 0.52:1	∞	0,23	1192	104,3 x 156,5	2,1
	∞	0,79	750	30,4 x 45,6	6,4
	1,8	0,92	741	26,1 x 39,1	7,8