

# PHOTOMICROGRAPHY

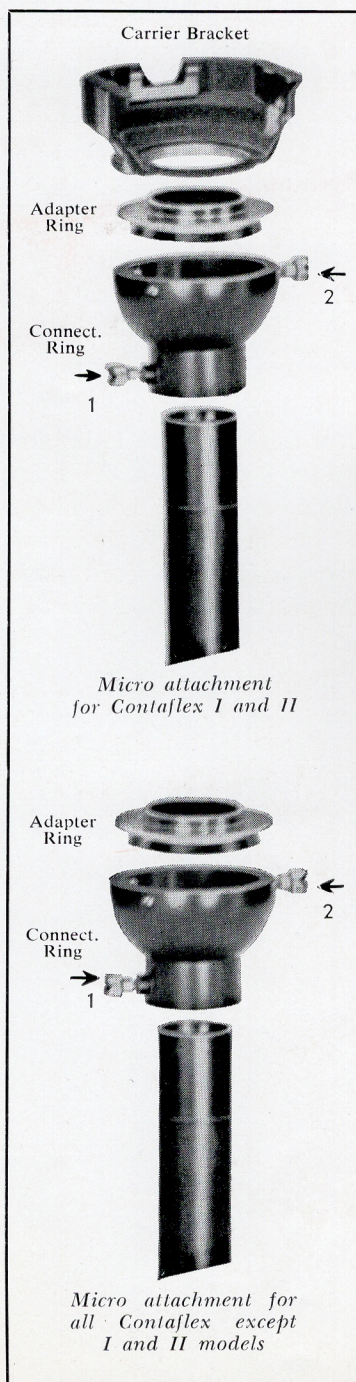
with the



## CONTAFLEX



The unique design of Contaflex cameras has provided great photographic versatility in various fields. In photomicrography, for example, two inexpensive connecting parts adapt the Contaflex to most standard microscopes in a few minutes. This is one of many interesting features of this single-lens reflex camera. The extra-bright viewfinder clearly indicates the framing of the picture, while the circular focusing screen is used for focusing the microscope.

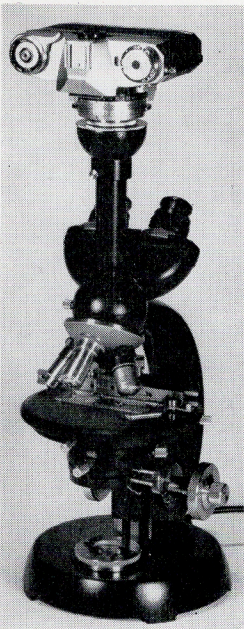


### CONNECTING PARTS:

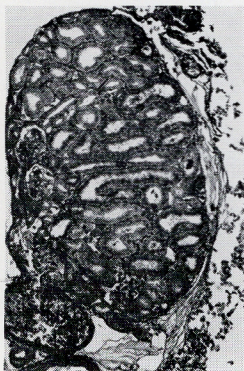
For all Contaflex cameras, *except* Contaflex I & II with f/2.8, 45mm Tessar lenses, use: #20.1616 Connecting Ring and #20.1620 Adapter Ring. For Contaflex I and II with f/2.8, 45mm Tessar lens use: #20.1616 Connecting Ring, #20.1615 Adapter Ring, and #20.0200 Carrier Bracket. The use of a straight monocular microscope tube is mandatory; inclined binocular tubes are not suitable.

### MOUNTING THE CONTAFLEX ON THE MICROSCOPE:

1. The camera lens is set at infinity focus and the aperture at its widest opening (f/2.8). If the aperture is reduced, image quality will be greatly impaired.
  - 2a. *All Contaflex except Models I and II:*  
Tightly screw the #20.1620 Adapter Ring into the filter mount of the front lens.
  - 2b. *Contaflex I and II:*  
Slide the Carrier Bracket #20.0200 into the grooves on both sides of the Contaflex lens board, making sure that the latches snap securely in place; the Adapter Ring #20.1615 is then screwed tightly into the Carrier Bracket.
- NOTE: The Adapter Ring #20.1615 is slightly different from the Adapter Ring #20.1620.
3. Remove the eyepiece from the sleeve of the monocular microscope tube. Slip the Connecting Ring #20.1615 over and tighten by means of knurled clamping screw "1". The eyepiece sleeve must have an outside diameter of 25mm and be free of obstruction for at least 1¼ in. Reset the eyepiece into the sleeve of the microscope tube.
  4. Focus the microscope in the conventional manner and select the area of the specimen to be photographed.
  5. Attach the Contaflex with either Carrier Bracket and Adapter Ring, or with Adapter Ring to the Connecting ring, and tighten this assembly by means of the clamping screw "2".
  6. Loosen clamping screw "1" and move the Connecting Ring with Contaflex assembly up and down on the eyepiece sleeve until the best possible image coverage is obtained in the view-finder. Then tighten clamping screw "1".



*Carl Zeiss Standard Microscope Model GFL-654-523 with Contaflex mounted for photomicrography.*



*Cross-section of salamander kidney, 100x, Zeiss microscope and Contaflex camera.*

In all cases where the image coverage is not sufficient, or poor definition is experienced with the types of eyepieces used, we recommend the Carl Zeiss Complan Eyepiece KPL 12.5x. This eyepiece has a high eyepoint, necessary for adequate field coverage, and also produces a flat image to ensure good definition of the picture. For complete field coverage, use Carl Zeiss Complan Wide-Angle Eyepiece KPL 12.5x (available 1960).

7. The microscopic image is now re-focused by manipulating the coarse and fine adjustments of the microscope. Bright images are focused on the circular focusing screen in the Contaflex view-finder, since the split-field rangefinder cannot be used under these circumstances. If the image is too dark to permit the use of the circular focusing screen, focus the microscope until the specimen and the fine circular lines in the view-finder are clearly seen.
8. In order to obtain color photomicrographs with excellent contrast and uniform brightness, the illumination of the microscope should be adjusted in accordance with the Koehler illumination principle. Otherwise undesirable reflections within the microscope tube or the camera lens may impair the image quality. The type of illuminator used largely depends on the model and make of the microscope. Modern Carl Zeiss microscopes are equipped with built-in low voltage illuminators.
9. The magnification of the image on the film is  $1/5$  of the total magnification of the microscope. For example: Total magnification of microscope is 100x; image magnification is 20x.
10. **COLOR PHOTOGRAPHY:**  
There are color films which are balanced for daylight, flash light, and tungsten light, and the selection of the film depends on the color temperature of the illuminator. Carl Zeiss illuminators with low voltage lamps give satisfactory results with Type A color film (Kodachrome Type A) and Wratten 82 A filter. Kodachrome Type F film is used with the Wratten 82 C filter. These recommendations are subject to individual tests.
11. **EXPOSURE TIMES:**  
The exposure time varies considerably, and it largely depends on the speed of the film, type of illuminator, density of the specimen, light transmission of the microscope, and other factors. Therefore, it is impossible to give exposure guides. A few trial "bracket" exposures at various shutter speeds are recommended.

*Refer to current price sheet for prices of  
Contaflex cameras and accessories.*

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