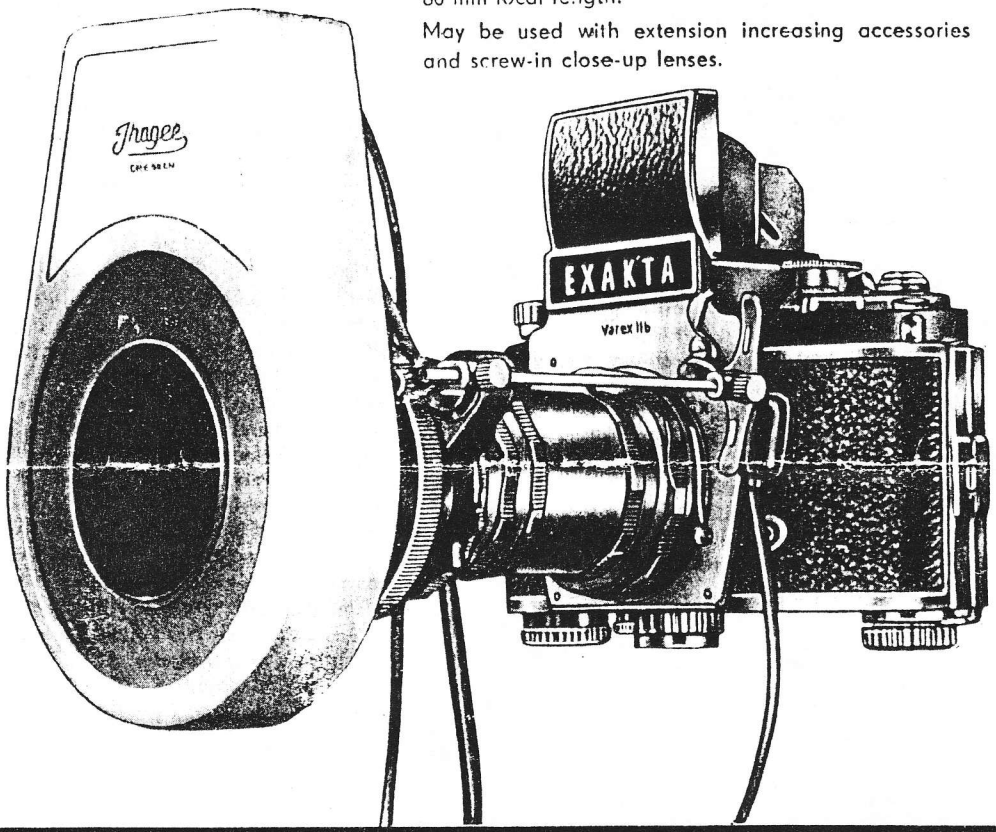
For 24 mm x 36 mm miniature cameras with standard lenses of 50 mm focal length and special lenses of 80 mm focal length.

May be used with extension increasing accessories and screw-in close-up lenses.



Ihagee-

RB 2 Ring-Flash Unit

Ring-Flash provides one of the most convenient methods for illuminating subjects in close-up photography. This modern close-up flash technique was introduced to the EXAKTA-System with the Ihagee RB 1 Ring-Flash Unit. However, the RB 1 is limited in that it necessitates the use of lenses of approximately 100 mm to 135 mm focal lengths. The Ihagee RB 2 Ring-Flash Unit can be used with the standard 50 mm lens of miniature cameras, although this does not exclude the use of the next longer focal length (80 mm).

The RB 2 Unit also gives constantly uniform frontal illumination, provides a high light output and is virtually shadowless. With moving subjects in particular (e. g. small animals, insects, machinery, etc.,) the brief flash duration of the shutter-synchronized electronic flash tube ensures the highest possible definition. The RB 2 Ring-Flash is fitted with its own triggering device and can be connected to all electronic flash units having operating voltages of 500 V. The cable with which it is supplied is, therefore, not fitted with a plug connector, and a suitable connector, must be obtained (the positive pole is indicated in colour on the cable). A neon indicator shows the readiness of the unit, and a release button allows the flash to be discharged independently of the camera shutter.

The RB 2 Ring-Flash Unit can be used with the three miniature reflex cameras of the EXAKTA-System (EXAKTA Varex and the two EXA models), and also with other cameras having a lens thread of M 49 x 0.75; lens threads other than this can be connected with the aid of adapter rings. For close-ups, the well-known extension increasing accessories are used (bayonet rings and tubes, large bellows attachment). The miniature bellows attachment can not be used. However, it is possible to work with screw-in close-up lenses.

The large ring-diameter of the flash-tube, which makes it possible to use the standard lenses without resulting in vignetting, even makes it possible to produce stereo pictures with the small stereo attachment. However, with the flash-unit set up in this way, the possibility of photographing the interiors of cavities is lost. (Work of this kind remains reserved for the RB 1 Ring-Flash Unit). Consequently, the RB 2 Ring-Flash Unit is not fitted with a pilot light, since this simplified version of the flash-unit is intended for general close-up photography, within the sphere of the amateur (e. g. photographs of insects, flowers, coins, jewellery, etc.).

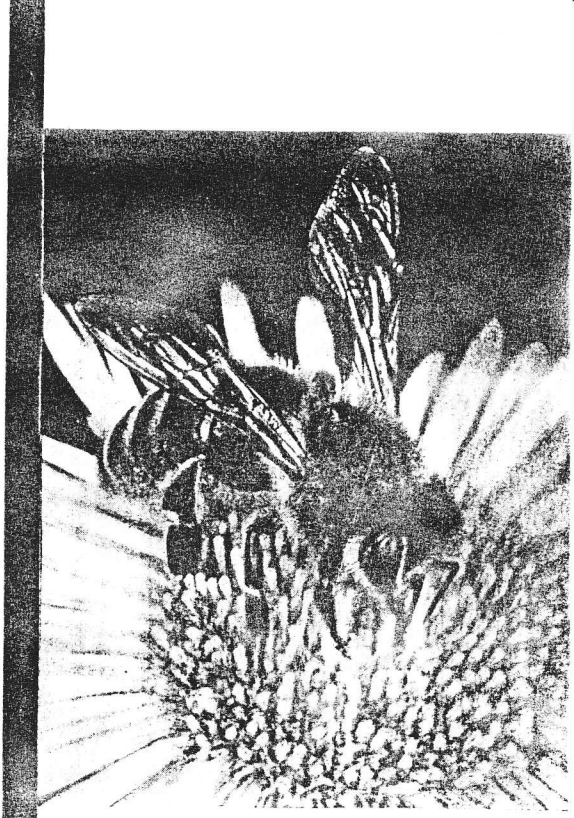
The light distribution remains uniform even when the distance between subject and camera is greater than the generally accepted distance for close-up photography (e. g. 1 m (39 inches) or longer), so that the operating range of the RB 2 Ring-Flash Unit can be considerably extended, according to requirements. However, at large subject distances, a slight amount of vignetting is possible, the extent of which depends on the type and focal length of the lens in use. In close-up photography with extension accessories the subject must be approximately 50 mm from the front of the RB 2, so that the area may be uniformly illuminated. The following scales of reproduction should therefore not be exceeded:

f = 50 mm approximately 1.0
f = 80 mm approximately 4.0

Since the illumination distance of a Ring-Flash Unit is always tied to the lens-subject distance, the correct illumination must be obtained by choice of aperture number, and, if necessary, the use of film with relatively small sensitivity. The Ihagee Ring-Flash Unit has supplied, as an accessory, a filter holder, in order that the light entering the lens may be easily controlled to conform to the exposure data without changing the film-type in use. This permits ordinary commer-

cial neutral density filters (screw-in size M 58 x 0.75) to be inserted into the path of the light entering the lens. Alternatively, ring shaped neutral density filters can be used to decrease the effective light output of the flash-tube, as desired. The density of these filters (E = 0.6) has been so chosen that one thickness is equal to closing the aperture by two stops (larger aperture number). Two thicknesses would correspond to an increased aperture number of four stops, etc... A guide to achieve correct exposure is provided in the table on the back of this leaflet. Nevertheless we recommend making test exposures with the Ring-Flash Unit and the lens in use.

Variations of the exposure can be controlled by the setting of different aperture numbers, and if necessary, by the already mentioned use of filters. The filter holder will also accept ring-shaped infra-red filters, so that it is possible to make flash exposures in the dark on infra-red film.

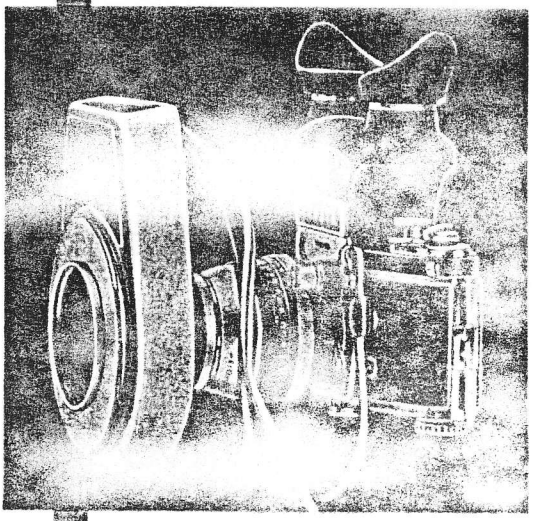


Order Nos.

Ihagee RB 2 Ring-Flash Unit 197

Filter holder for the Ihagee RB 2 Ring-Flash Unit with 2 ring-shaped neutral density filters (E = 0.6) 197-0.30.00

Ring-shaped neutral density filters (E = 0.6) separate 197-030.04



The Ihagee RB 2 Ring Flash Unit with filter holder, set up for stereo photography

Details of the operating range of the RB 2 Ring-Flash Unit and recommendations for its use will be found in the following table for black-and-white films, extension increasing accessories, standard fine-grain development, and is based on the use of an electronic flash unit having an operating voltage of approximately 500 V and a discharge energy of 100–150 joules.

Lens f = 50 mm

Image scale (β')	0.2	0.4	0.6	1.0
For films 32–40 ASA				
Aperture Number:	22	22	16	22
Neutral density filter:	—	1 x 0.6	2 x 0.6	2 x 0.6

Lens f = 80 mm*)

Image scale (β')	0.5	1.0	2.0	4.0
For films 32–40 ASA				
Aperture Number:	11/16	16/22	16/22	22
Neutral density filter:	1 x 0.6	1 x 0.6	1 x 0.6	—

*) At larger image scales, slight corner vignetting

When using colour film of the same nominal speed rating, increase the lens aperture by two f/stops, or use one neutral density filter less (assuming normal processing in the case of negative colour film).

Servicing is only carried out at
VEB (K) Elgawa, 99 Plauen, Schloßstraße 30

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