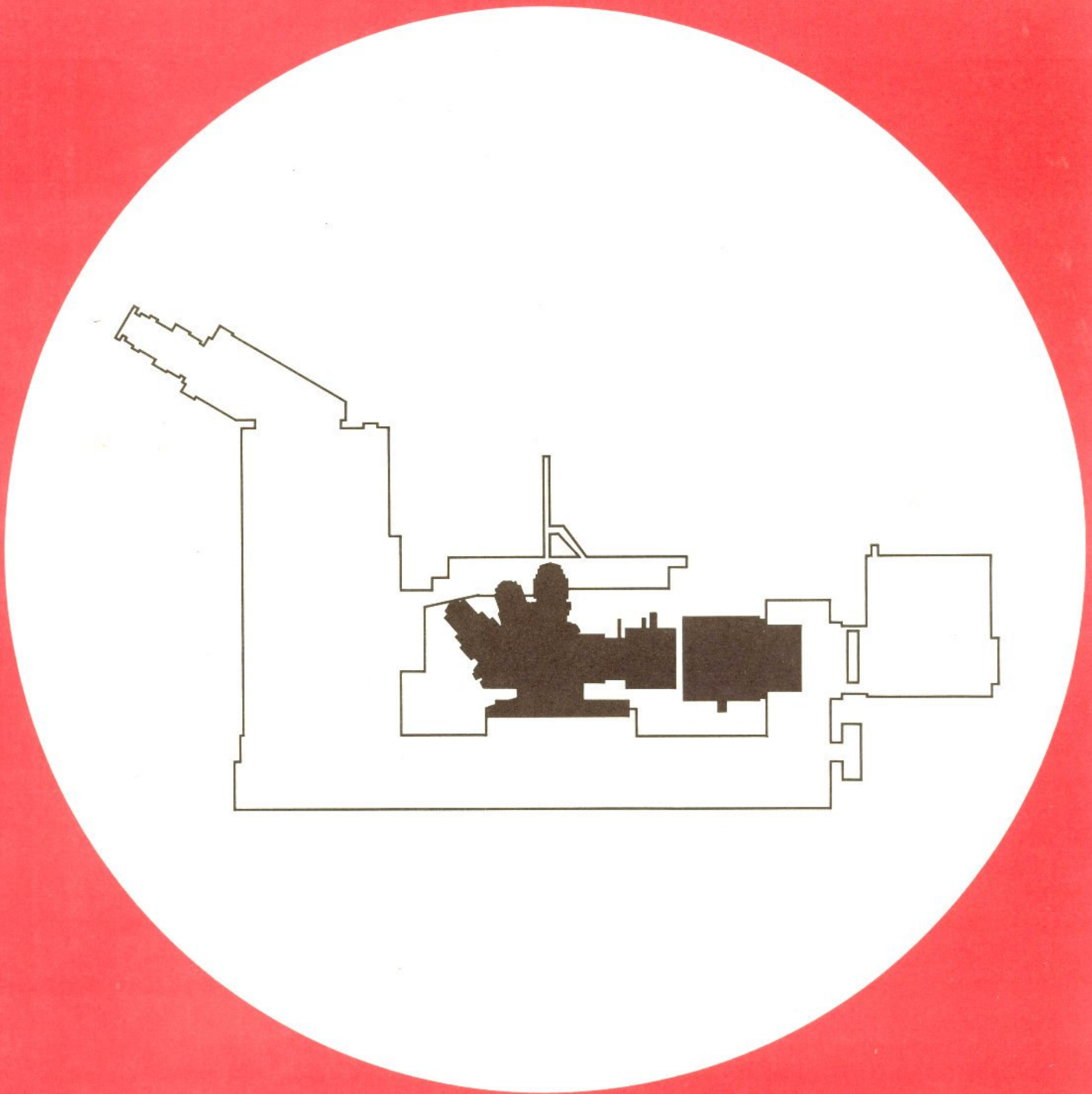


Incident-light interference contrast R



Instructions



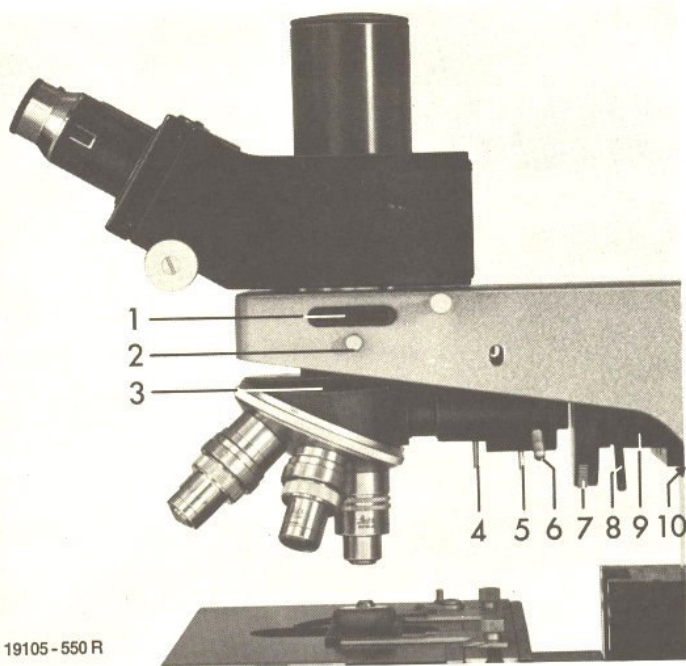


Fig. 1 Interference contrast device R for the METALLOPLAN[®] / (ORTHOPLAN[®] / POL) METALLUX 2[®] / (ORTHOLUX 2[®] / POL)
 1 slot for the filter slide, 2 clamping screw for the vertical illuminator, 3 vertical illuminator, 4 field diaphragm, 5 aperture diaphragm, 6 lever for setting glancing illumination, 7 knurled screw for turning in the λ -plate

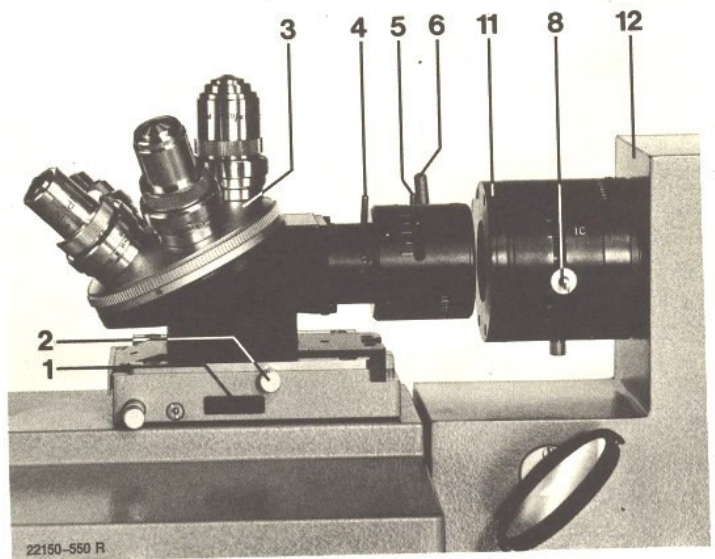


Fig. 2 Interference contrast device R for the EPIVERT * / DIAVERT + (object stage removed)
 8 lever for the polarizer adjustment, 9 polarizer for interference, 10 clamping screws for the polarizer housing (only with METALLOPLAN/ORTHOPLAN), 11 supplementary λ -plate, 12 fitting for the Lamp Housing 50

The interference contrast device R consists of:

Vertical illuminator with 1x tube lens, the permanently orientated objectives

NPl	5x/0.09 P	NPl	50x/0.85 P
NPl	10x/0.20 P	NPl	100x/0.90 P
NPl	20x/0.40 P		125x/1.30 Oil P

and adapters with Wollaston prisms, polarizer for interference, analyser in a slide, pair of PERIPLAN GF 10x M eyepieces, 1 pair of sleeve adapters, Code No. 513 256, for GF eyepieces.

Assembly:

Lower the object stage with the coarse adjustment. Release clamping screw (2), and remove the revolving nosepiece or the vertical illuminator. Remove the diaphragm tube from the light exit aperture. Insert the polarizer with λ -plate (9) in the light exit aperture and fix it with the two clamping screws (10). Push the vertical illuminator (3) into the horizontal changing guide of the stand as far as it will go and arrest it with the clamping screw (2).

Insert the analyser into the slot for the filter slide (1) of the stand. In the METALLOPLAN and ORTHOPLAN replace the GW eyepieces with PERIPLAN GF 10x M with eyepiece sleeve adapter.

Preparing for operation

Place the object on the object stage.

Turn in objective NPl 10x/0.20 P. Close the field diaphragm (4) and open the aperture diaphragm (5). Focus the object (the field diaphragm will also be in focus).

Open the field diaphragm so that its edge just disappears beyond the field of view. Close the aperture diaphragm so that only 2/3 of the full objective aperture remains open. (The aperture diaphragm can be observed after removal of the eyepiece).

Rotate the polarizer with lever (8) until the object appears at the desired contrast (relief-like image).

For observation in colour contrast insert the λ -plate in the beam by rotating the knurled disc (7). (With the EPIVERT (11) supplementary λ -plate).

This basic adjustment is identical for all objectives. The 125x/1.30 Oil P objective must, of course, be immersed.

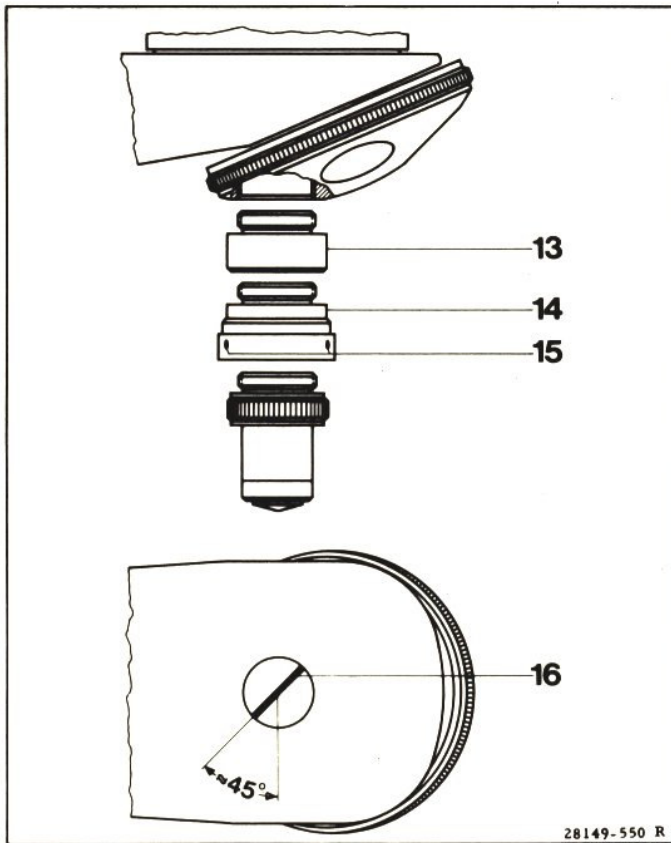


Fig. 3 Adjusting an objective

- 13 Adapter ring
- 14 Adapter with Wollaston prism
- 15 Grub screws
- 16 Compensating band

Adjusting the objectives

Objectives ordered for use with an existing interference contrast device R must be adjusted as follows:

1. Insert the polarizer (1.9) for interference in the beam
2. Insert the analyser in the slot for the filter slide (1)
3. Turn an empty nosepiece aperture in; place a well-reflecting object on the objective stage and orientate the polarizer (maximum extinction). The λ -plate (1.7 + 2.11) is disengaged.
4. Screw the objective into the adapter (3.14) with Wollaston prism. The Wollaston prisms can be rotated and are fixed in the adapters by means of 3 grub screws (3.15).

5. Screw in objective with adapter.
6. Release grub screws (3.15) and align the objective: a dark compensating band (3.16) will appear in the rear focal plane of the objective when seen in the observation tube (without eyepiece and without object on the stage). The objective must be turned into the "45° position" to orientate it (see Fig. 3.16).
7. Tighten the grub screws (3.15).

If the NPI 5x/0.09 objective is used, the adapter rings (3.13) 553 303 (4 off) must be screwed on to the other objectives to match their adjustment length with that of the 5x objective.

Adjustment procedure as described under 1 - 7.

NOTE:

- *) The EPIVERT[®] /DIAVERT⁺ microscopes are designed according to the Le Chatelier principle. Here, the optical systems are mounted below the object stage. Operation, however, is identical with that of conventional microscopes.
- †) For the use of the interference device on the DIAVERT[®] a lamp fitting, Code No. 520 378 and a Lamp Housing 50, Code No. 514 395, are necessary. The DIAVERT is thus converted into an EPIVERT.

No analyser is supplied for the ORTHOLUX 2 POL and ORTHOPLAN POL polarizing microscopes of which it is already part.

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