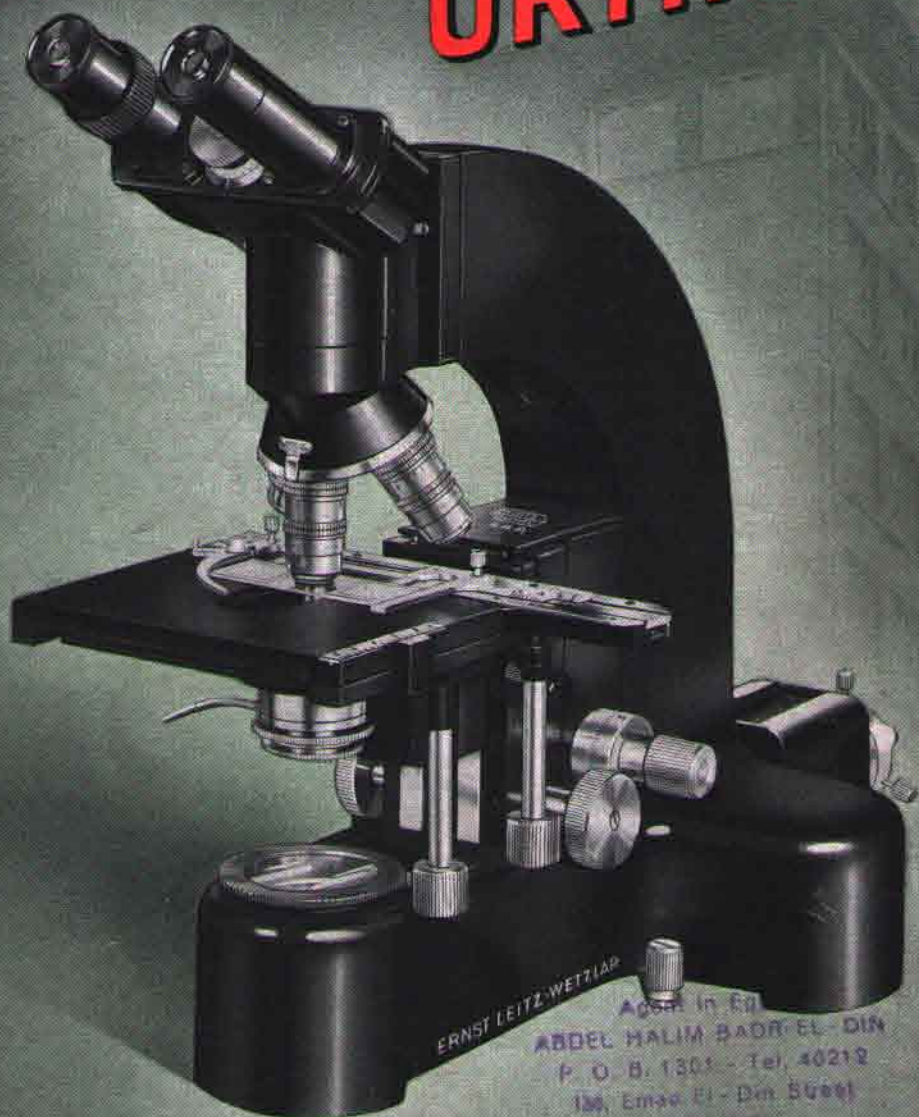


LEITZ

ORTHOLUX

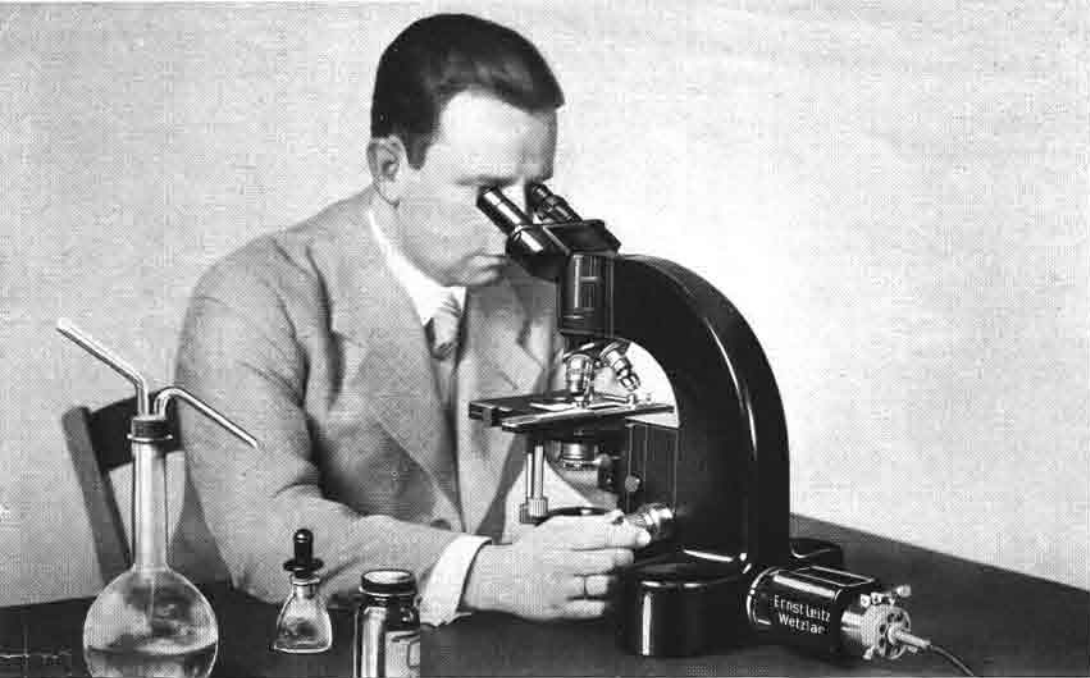


ERNST LEITZ-WETZLAR

AGENTS IN EGYPT
ABDEL HALIM BADER EL-DIN
P. O. B. 1301 - Tel. 40212
130, El-Masara El-Dokki Street
CAIRO

THE LARGE RESEARCH MICROSCOPE
WITH BUILT-IN ILLUMINATING SYSTEM

ERNST LEITZ - WETZLAR



THE "ORTHOLUX" RESEARCH MICROSCOPE

Features and Advantages.

Stand

Modern design — Large stable stand of light alloy, top portion and foot cast integrally, thus making the instrument easy to carry without straining the focusing motions.

STAND TURNED AWAY FROM THE OBSERVER WHEN IN USE.

Well arranged object stage perfectly free and easily accessible. Convenient orientation and focusing of the specimen. Easy and comfortable position of body and arm, eliminating fatigue.

Coarse and fine focusing motions on double ball bearings, ensuring consistently reliable and accurate working, unaffected by atmospheric influences.

Dual coarse focusing controls and micrometer screw with graduated drumhead (1 interval = 0.001 mm), set low, and not altering their level while the specimens are being focused.

Automatic protection of specimen and front lens.

Object Stage

Large built-in square mechanical stage for specimens up to 100×50 mm, traversing area 76×40 mm. Vernier readings and reorientation irrespective of the position of the stage clips. Low-set mechanical stage drives. Vertical adjustment on dovetail slide independent of the rack and pinion motion for the observation of thick objects in incident light.

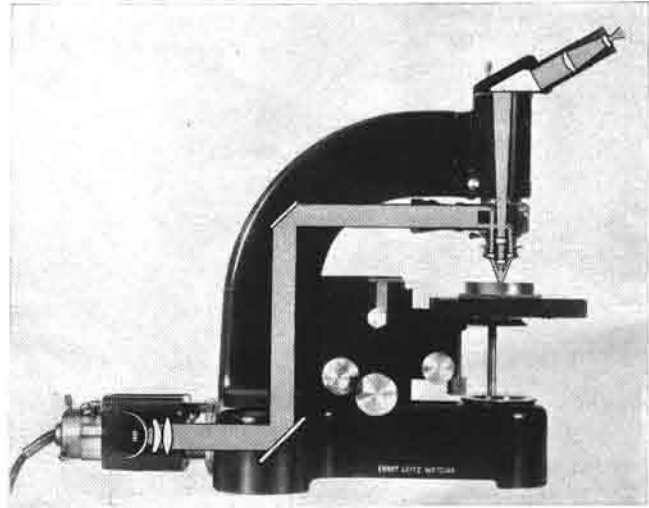
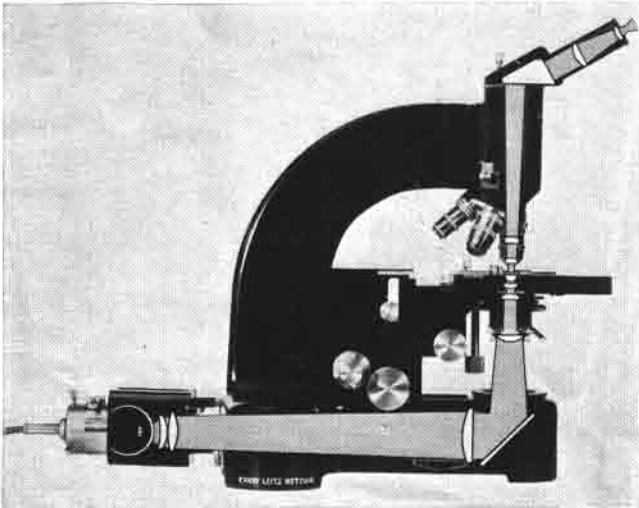
Illumination

Lamp and optical illuminating components incorporated in the foot of the microscope, where they are axially and permanently centred.

Holder for ground glass and daylight filter.

- Illumination** HIGH INTENSITY, adjustable for:
 Binocular and monocular observation in transmitted or incident light (ordinary or polarised),
 Dark-ground microscopy,
 Photomicrography,
 Drawing or demonstrations, by projection on to the work-table.
- Substage** New arrangement. Berek condenser with two iris diaphragms.
 Even and brilliant illumination of the entire field of view from the lowest-power objectives (large field) to the highest-power immersion objectives.
 Aperture iris diaphragm and field-of-view iris diaphragm.
 Practical arrangement of the diaphragms between the condenser lenses. Supplementary optical components of the illuminating system in the microscope stand.
 Diaphragms controlling the aperture react strictly at all magnifications.
 Exchanging or screwing apart of condenser components no longer necessary when changing over to the lowest magnifications. Swinging out the top lens of the condenser alters its focal length, ensuring perfect and uniform illumination of the larger fields covered by these low power objectives. The lower iris diaphragm, previously used as a field stop, now acts precisely as an aperture diaphragm.
 The centrality of the double-diaphragm condenser ensures the optimum conditions of illumination, even where already existing and unmatched objectives are used.
 The vertical rack motion serves only for focusing the interchangeable dark-ground condensers.
 See the Leitz publication: "The essential features of our new microscope substage". (Bulletin of the Leitz scientific Laboratories).

Below: Schematic illustration showing the path of rays in the ORTHOLUX Microscope for transmitted light (left) and incident light (right).





ORTHOLUX

The large Research Microscope with built-in illuminating system

Codeword RM.

A. ORTHOLUX Model I for transmitted light only.

- Constructional details as outlined above.
- Large built-in square mechanical stage.
- Quadruple nosepiece on detachable carrier.
- Berek condenser with two iris diaphragms, N. A. 0.95*, with centring device on changing slide.
- Detachable lamp housing with illuminating lenses in helical focusing mount, filter holders, ground glass and daylight filter, low-voltage filament lamp 6 volts 3—6 amps., including one spare bulb.
- Interchangeable binocular body with inclined eyepieces, with correction mount on one eyepiece-tube.

Research Microscope ORTHOLUX I, complete, equipped with binocular body with inclined eyepieces; in carrying case, without objectives or eyepieces	ORBIN	817.—
Research Microscope ORTHOLUX I, complete, but with monocular tube with inclined eyepiece; in carrying case, without objectives or eyepieces	ORMON	718.—
Prices of single accessories:		
Interchangeable binocular body with inclined eyepieces and correction mount for one eyepiece; without eyepieces	ORSEN	144.—
Case for same (advisable when several tubes are being purchased)	OEEPB	10.—
Interchangeable monocular tube with inclined eyepiece, but without eyepiece	OREEF	45.—
Case for same (advisable when several tubes are being purchased)	OEEFX	6.—
Interchangeable straight photographic tube without draw-tube, in case	ORFOT	28.—
The quadruple nosepiece on special changing slide, including compensating optical components	ORFIR	42.—
Case for storing same (advisable when procured subsequently)	OEEZG	8.—
The Berek condenser with two iris diaphragms, N. A. 0.95 in centring mount on changing slide	ORBER	100.—
Case for storing same (advisable when procured subsequently)	OGEEV	5.—

* A higher illuminating aperture than 1.0 is only attained when the surface of the condenser and the object slide are united by a film of oil. Similarly, Abbe illuminating apparatus with the usual condenser apertures of 1.20 or 1.40 only give aperture values above 1.0, when their upper lens is connected to the object slide by a layer of oil.

The resolving power is primarily a function of the numerical aperture of the microscope objective. Experience shows that, in the majority of cases, the optimum quality of image is attained with an illuminating aperture which is about two-thirds the aperture of the objective. The N.A. of 0.95 as a maximum thus enables the optimum illuminating aperture to be used for all objectives. For the rare cases in which it is desired, for special reasons, to increase the condenser aperture to the full objective aperture, we recommend the provision of the interchangeable Condenser Cap N.A. 1.40, which can only be used with oil.

Interchangeable Condenser Cap, N.A. 1.40 Codeword: Orapu RM 15.—



For Dark-ground Microscopy:

	Codeword	RM.
Dark-ground condenser D 0.80, on slide with centring mount; in case	OREBP	95.—
Dark-ground condenser D 1.20, on slide with centring mount; in case	ORNCI	69.—
Intermediate adapter with iris diaphragm, for dark-ground work, fitting all objectives	IRTIS	9.—

For the Drawing or Demonstration of Microscopic Specimens:

Drawing Mirror, capable of being swung in or out, for placing on the inclined monocular tube	PII GL	14.—
Case for same	OEEYT	4.—

(As regards the use of drawing heads and suitable drawing stages, see our Catalogue D 7679.)

For work in Polarised Light:

Small revolving object stage with stage clips, for placing on the large mechanical stage, in case	ORDRE	17.—
Polarising filter for slipping on to the lower lens of the condenser	ORPOL	15.—
Analyser-filter for inserting in the objective nosepiece of the microscope	ORNAL	15.—

Optical Outfits:

All microscope objectives may be used advantageously on the ORTHOLUX research microscope. A complete selection of the objectives we manufacture is contained in our general microscope catalogues.

A few outfits that can be recommended:

(a) Achromatic objectives 1K, 3, 6L, Oil Imm. $\frac{1}{12}$, N. A. 1.30 Huyghens eyepiece $\times 6$, periplanatic eyepieces $\times 8$ and $\times 10$			Binocular	OEELZ	188.—
			Monocular	OEEMN	159.—
(b) Achromatic objectives 3F, 4, Fluorite objectives 6a, Oil Imm. $\frac{1}{12}$ a, N. A. 1.32 Periplanatic eyepieces $\times 6$, $\times 8$, $\times 12$			Binocular	OEENA	303.—
			Monocular	OEEWS	268.—
(c) Apochromats 16 mm, 8 mm, 4 mm (with correction mount), Oil Imm. 2 mm, N. A. 1.32 Periplanatic eyepieces $\times 6$, $\times 8$, $\times 12$			Binocular	OFEEW	508.—
			Monocular	OFXEE	473.—

Specially suitable for bacteriological examinations:

Fluorite Oil Immersion Objective $\frac{1}{16}$ a, N. A. 1.32, initial magnification $\times 114$	FLUXU	140.—
---	-------	-------

The Model I ORTHOLUX is equipped for transmitted light microscopy only, and cannot subsequently be supplemented for working with incident light (except by using a separate light source.)

B. ORTHOLUX Model II for transmitted and incident light, change-over by sliding mirror incorporated in the microscope foot for diverting the illuminating rays. Otherwise as ORTHOLUX I.

Increase in price for ORTHOLUX II Additional Codeword:	ORAUF	60.—
--	-------	------

For the examination of unpolished objects by incident light (Biology, Chemistry, etc.):

Ultropak Illuminating Attachment on interchangeable angular carrier for ORTHOLUX II, including case . . .

The same auxiliary device, but with polarising arrangement for eliminating disturbing reflexes on the object . . .

In conjunction with the Ultropak the special UO-Objectives are used as listed in our Ultropak catalogues for the various modes of microscopy.

For bright and dark-ground examination of highly reflecting objects (polished metal sections, etc.) by incident light:

PANOPAK (Ultropak illumination and vertical illuminator on slide for rapid change), with Iris-Diaphragm, mounted on interchangeable angular carrier, for ORTHOLUX II, including case . . .

For particulars of suitable objectives for use with the Panopak, see our catalogue G 7695, page 22.

Mirror-arrangement, interchangeable with the microscope lamp, for using daylight . . .

The following items are necessary for the ORTHOLUX MICROSCOPES:

For use on A. C. supplies:

Regulating transformer with ammeter

Spare lamp for A. C.

For use on D. C. supplies:

Regulating resistance with ammeter (including extra charge for special lamp housing) Additional Codeword

Spare lamp for D. C.

Large transparent cover of Astralon, extremely light and rigid

When ordering this cover with the microscope a simple packing-case can be provided on request for dispatch, instead of the cabinet included in the prices of the microscope stands.

Reduction in price Additional codeword

All our camera attachments and our photomicrographic apparatus MA IV a and MA IV b are suitable for photomicrographic work with the ORTHOLUX microscope. It should be stated when ordering these instruments, that they are intended for use with the ORTHOLUX. Prices on application.

Monochromatic yellow-green glass filter for photomicrographic work

Codeword RM.

ORULT 62.—

ORUPO 102.—

ORPAN 290.—

ORTAG 38.—

REDYX 45.—

LINID 2.50

ORGLI 70.—

LAGLE 4.—

ORAST 40.—

INORT 25.—

ORFIL 11.—

Printed in Germany.

SCHARFDRUCK WETZLAR

March 1938 / I. A. X. RM.
List Micro A No. 7771

