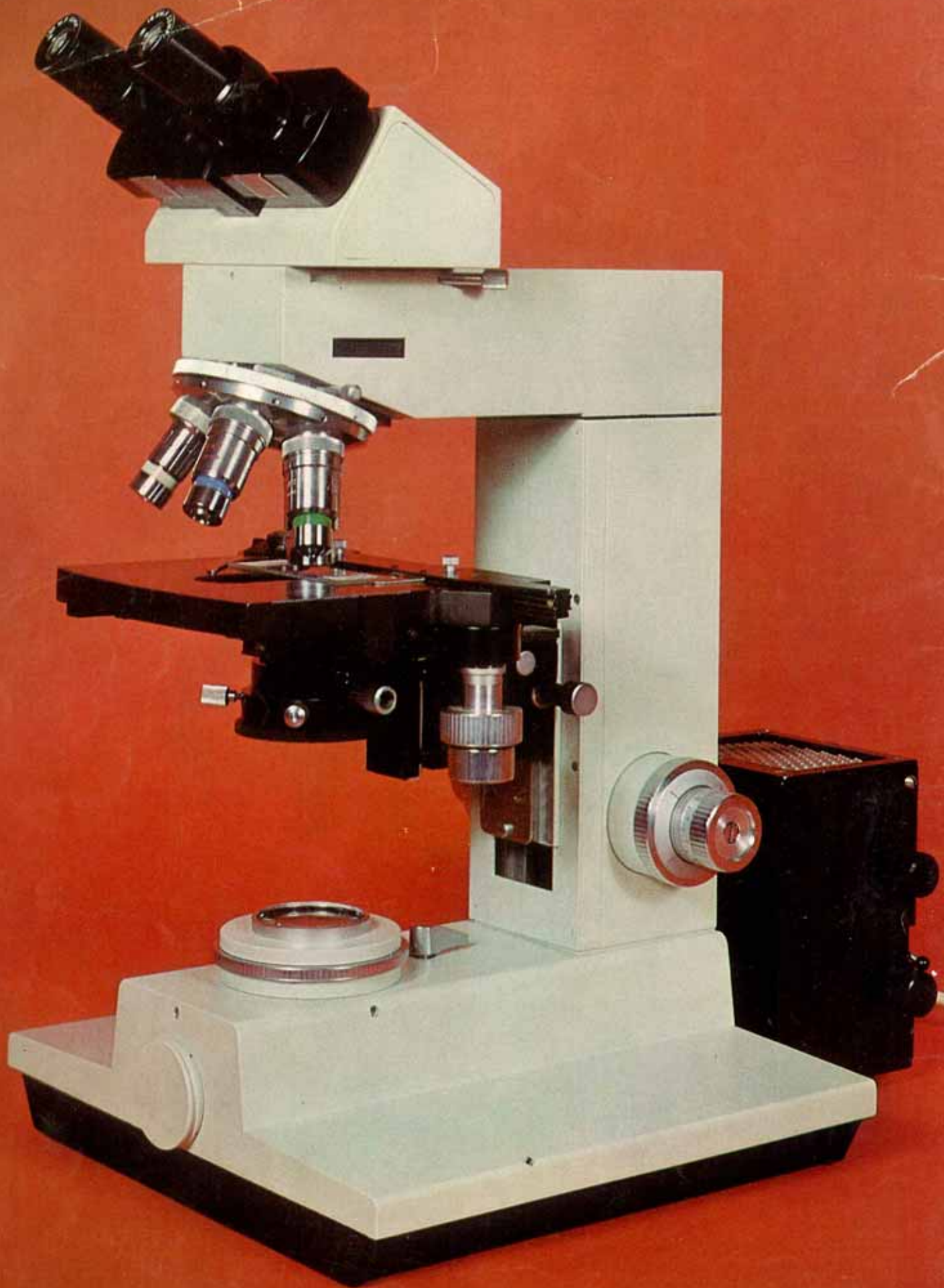


Vickers

M17

a new wide-field microscope





VICKERS

M17

*a new wide -
biology - medicine - metallurgy -*

Transmitted light 25 mm field

This microscope, with its extra wide 25 mm field, will be found invaluable in any laboratory where the screening of large numbers of specimens will be made simpler by the presentation of a large field. The instrument may be equipped for dark ground, phase contrast, and simple polarizing.

Transmitted light 20 mm field

The 20 mm field instrument has the capability of performing dark ground, phase contrast and simple polarizing, plus the fact that it can be equipped for differential interference contrast. This technique enables highly detailed examinations to be made on transparent unstained material by rendering small changes in refractive index in the specimen visible as apparent changes in height and depth.

Incident light 16 mm field

The incident illuminator with quintuple objective changer incorporates a field iris and aperture iris for setting Köhler illumination plus a sliding stop for use with dark ground objectives. Three such objective and condenser combinations are available, 10 \times , 20 \times , and 40 \times . The instrument may also be equipped for Nomarski interference contrast, surface finish interference, simple polarizing and micro-hardness testing using the Vickers micro-hardness tester.

Illumination

Full Köhler illumination is provided by either a 12 volt 100 watt tungsten halogen lamp or a 6 volt 30 watt illuminator. A 50 watt mercury vapour lamp will provide a ready source of ultra-violet/blue light where required.

The 20 mm field transmitted light microscope is also available with a semi-Köhler illuminator. This consists of a 6 volt 15 watt greyed bulb with a 3-lens condenser situated in the base, the illumination intensity being regulated by a variable control. The transformer for this system is housed within the instrument base.

e - field microscope

ergy - micro electronics - materials science - fibre technology

Cameras

The microscope will accommodate 35 mm, Polaroid and large format cameras. A sliding beam splitting prism in the viewing head allows all the light to be directed to the eyepieces or shared between the camera and the eyepieces (80%/20%). An automatic exposure unit, operating an electromagnetic shutter can be connected, through a photo-multiplier, to the camera reflector body, enabling the light from the specimen to be constantly monitored by the unit during photographic exposure.

Camera framing and focusing is through the viewing head and does not require the addition of a separate camera eyepiece.

Optics

The M17 incorporates a wide field system providing object fields corresponding to a 25 mm field of view index. A 0.8 × corrector lens is used to reduce the size of the images in the primary focal plane. The image is then viewed with a wide angle eyepiece.

In order to make good use of the effective 25 mm field, a series of highly corrected, flat field objectives has been designed.

Field illumination at powers as low as 2.5 × has been ensured with a new trip-out top lens condenser. The N.A. of the condenser used dry is 0.90, but the top lens may be interchanged with another giving the condenser an N.A. of 1.30 in oil immersion form.

The Vickers research phase contrast condenser and the Tiyoda immersion dark ground condenser may also be fitted to the instrument.

Eyepieces for use with the M17 are wide field compensating, and are available in magnifications 6.3 ×, 10 ×, 12.5 ×, 16 × and 20 ×.

All objectives and eyepieces on the M17 have been designed to D.I.N. specifications.

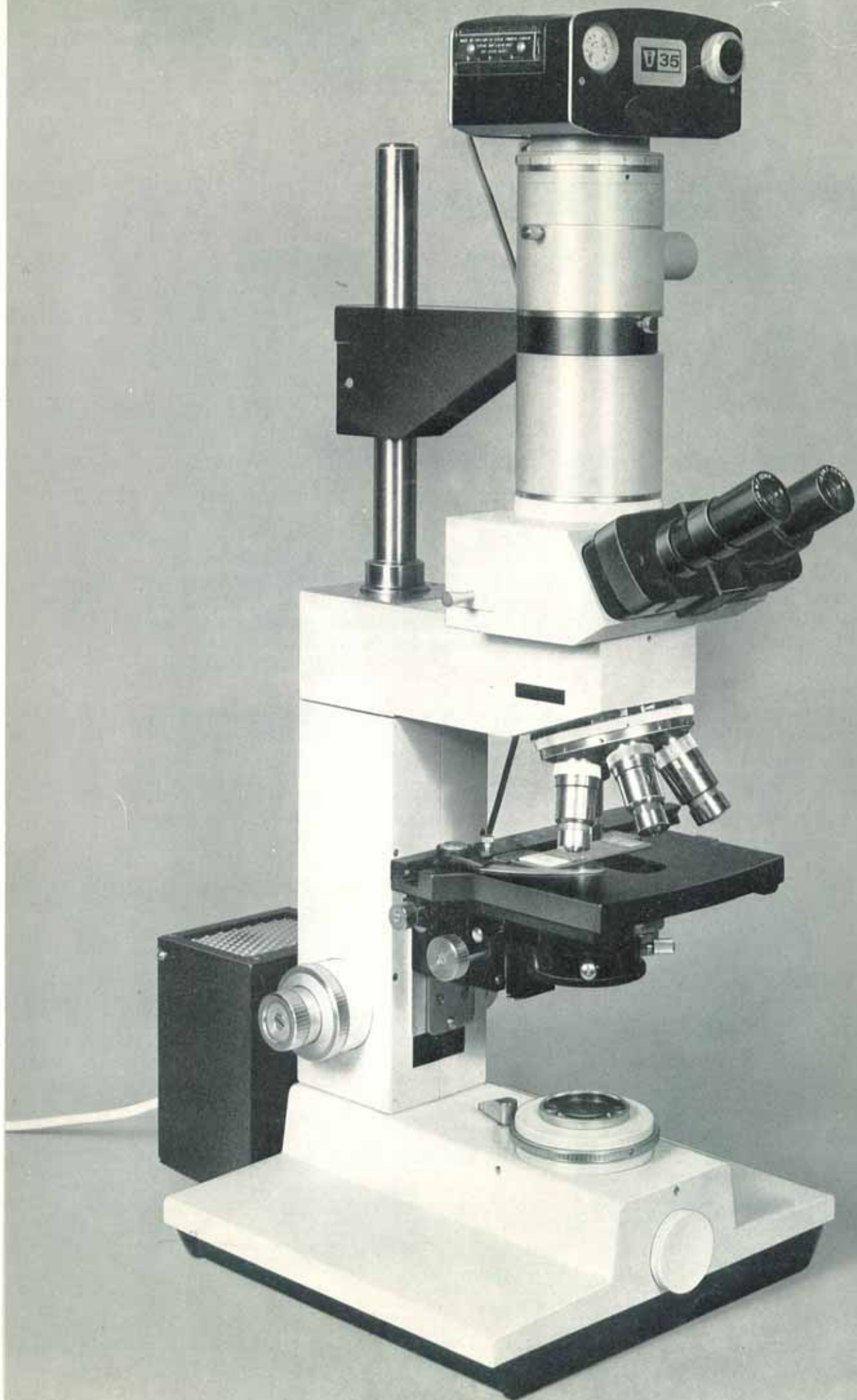
Versatility

At present accessories are available for use with the microscope for the following techniques.

TRANSMITTED LIGHT. Phase contrast, dark ground, simple polarizing, differential interference contrast.

INCIDENT LIGHT. Dark ground, Nomarski interference contrast, surface finish interference, and simple polarizing.

In the future we have plans to expand the range to include research polarizing, autoradiography, and fluorescence.



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Objectives for use with transmitted light

Type	Magnification	N.A.	Working distance in mm
Microplan	2.5 ×	0.08	12.7
Microplan	4 ×	0.12	12.3
Microplan	10 ×	0.25	5.08
Fluoplan	10 ×	0.25	5.51
Microplan	20 ×	0.50	0.40
Microplan	40 ×	0.65	0.48
Microplan	100 × oil	1.25	0.15

Microplan objectives 10 x, 40 x and 100 x also available in a positive phase version.

Objectives for use with incident light

Type	Magnification	N.A.	Working distance in mm
Microplan	2.5 ×	0.08	12.7
Microplan	4 ×	0.12	12.3
Microplan	10 ×	0.25	5.25
Fluoplan	10 ×	0.25	5.51
Microplan	20 ×	0.50	0.56
Microplan	40 ×	0.65	0.65
Microplan	63 ×	0.90	0.16
Apoplan	63 ×	0.95	0.12
Microplan	100 × oil	1.25	0.33

Dark ground objectives

Type	Magnification	N.A.	Working distance in mm
Achromatic	10 ×	0.22	2.16
Achromatic	20 ×	0.50	1.42
Achromatic	40 ×	0.65	0.89

VICKERS LTD. **VICKERS INSTRUMENTS**

HAXBY ROAD
YORK
YO3 7SD

Telephone: 0904 24112
Telegrams: Coordinate York

BREAKFIELD
COULSDON
SURREY CR3 2UP

Telephone: 01-668 5287
Telegrams: Orrery, Croydon