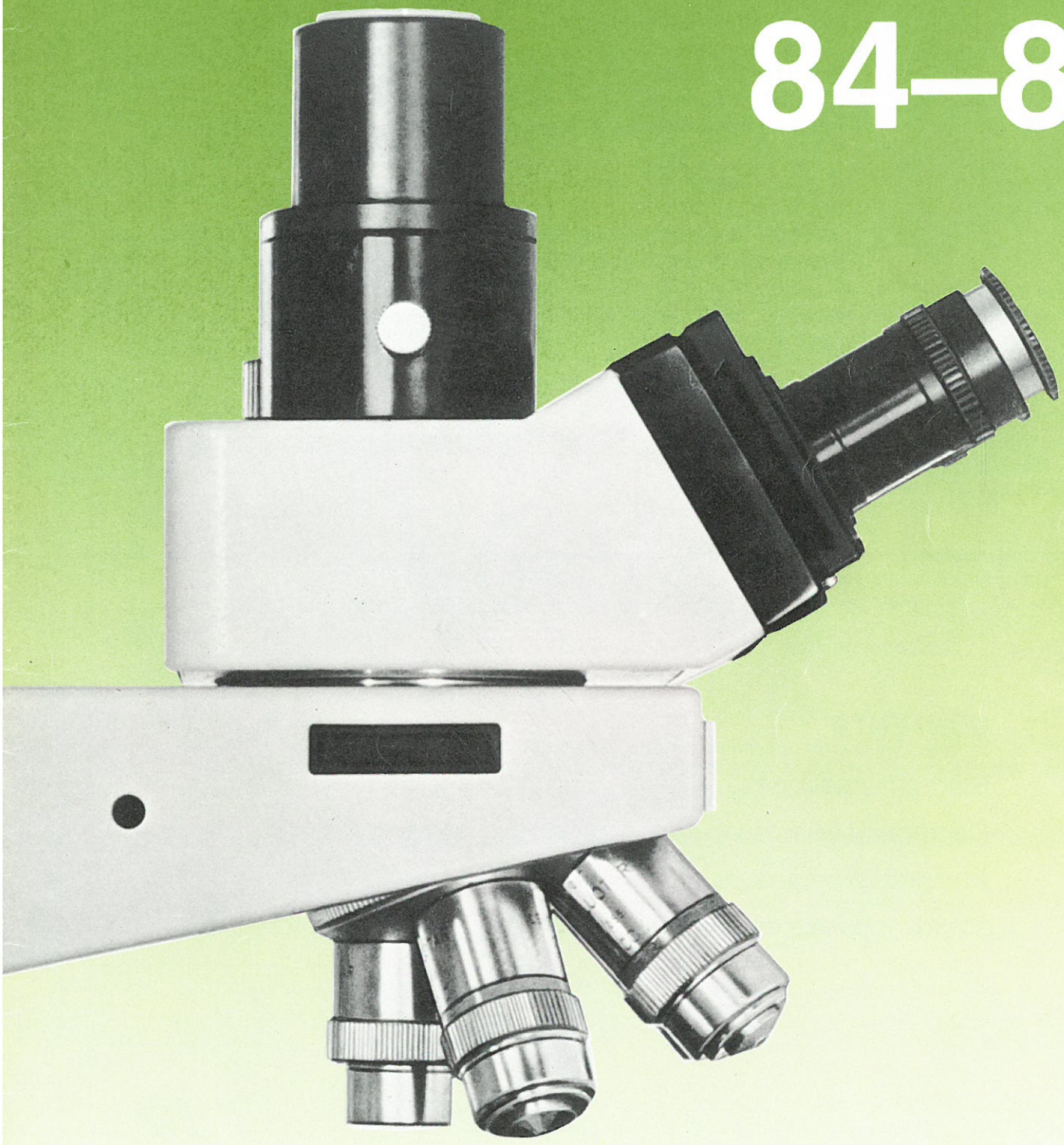
# MICROSCOPES 84–85



STEREOMICROSCOPES
FUORESCENCE MICROSCOPES
ACCESSORIES

COMPOUND MICROSCOPES
INVERTED MICROSCOPES
PHOTOMICROGRAPHY

**MICRO INSTRUMENTS (OXFORD) LTD**

7 Little Clarendon Street, Oxford, OX1 2HP Telephone: Oxford (0865) 54466

This catalogue contains information on a large range of microscope and microscope accessories. The microscopes are listed in outfit form to enable you to compare instruments at a glance.

In virtually all cases detailed brochures are available on request which will describe specific microscopes in more detail.

If you require to discuss your particular application please contact us. We can arrange to demonstrate equipment in your laboratory and provide detailed quotations.

The following other general catalogues are also available:

**Micromanipulators**

**Microslides**

**Magnifiers**

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# MICRO INSTRUMENTS (OXFORD) LTD

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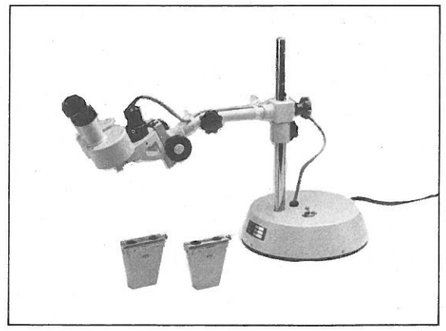
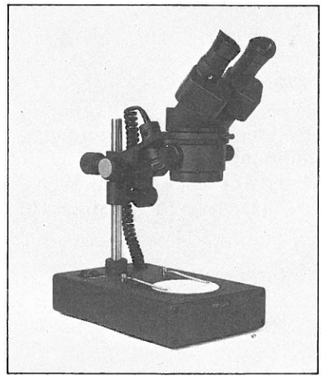


### PRIOR STEREOMASTER

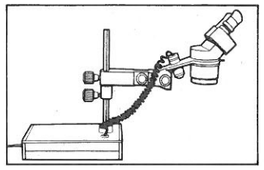
The stereomaster is a useful instrument when a long working distance, low magnifications and low cost are the requirements. The basic instrument gives a magnification of 10x (WD = 160mm). Supplementary slide on objectives are available to increase the overall magnification to 20x (WD = 90mm) and 35x (WD = 90mm).

| | |
|---|---|
| **PO240** | Stereomaster with built-in illumination, long arm stand, magnification 10x |
| **PO241** | Supplementary lens to give 20x |
| **PO243** | Supplementary lens to give 35x |



### PRIOR S2000

The S2000 gives an extra long working distance of 170mm and has a built-in triple magnification changer. By using a supplementary 2x lens and 10x and 20x eyepieces an overall magnification range of 5x to 80x can be achieved. A particular feature of this instrument is the choice of good low cost illuminators.



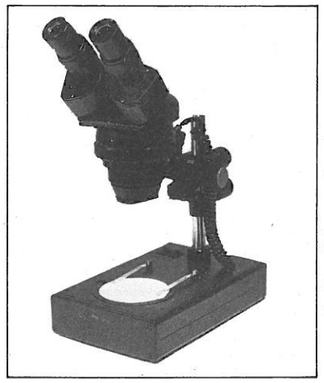
*Long arm stand*

INCIDENT/TRANSMITTED STAND

| | |
|---|---|
| **S2014** | Multimag stereo 5x, 10x, 20x |
| **S2016** | Multimag stereo 10x, 20x, 40x |

LONG ARM STAND

| | |
|---|---|
| **S2004** | Multimag stereo 5x, 10x, 20x |
| **S2006** | Multimag stereo 10x, 20x, 40x |
| **S2039** | Auxiliary lens 2x |



### PRIOR ZS 2500

The ZS 2500 stereomicroscope has a zoom ratio of 6.7:1 giving, with 10x eyepieces, a magnification range of 6.7x to 45x. A long arm stand (as for Prior 2000, see above) is available for this model.

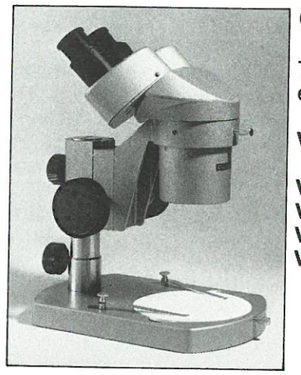
| | |
|---|---|
| **ZS 2500** | Stereomicroscope with incident/transmitted illumination, pair of 10x eyepieces (WD = 90mm) |
| **W42** | Extra 15x or 25x eyepieces per pair |
| **W23** | Auxiliary lenses 0.5x (WD = 162mm), 0.75x (WD 104mm), 1.5x (WD = 48mm), 2x (WD = 34mm) each |



### SWIFT M80

The Swift M80 series is made up of three alternative heads fitted with two sets of paired objectives. The magnification is changed by rotating the cylindrical objective mounting. The stand illustrated includes built-in mains incident 20w and transmitted 10w illumination, which are controlled by a switch on the base to function individually or simultaneously.

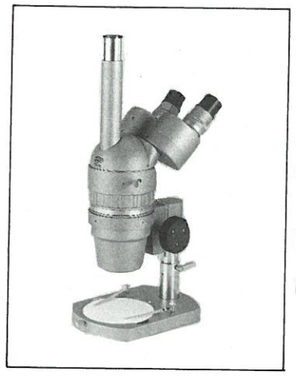
| | |
|---|---|
| **M 81 B** | Stereomicroscope with incident/transmitted illumination, 1x/2x objectives (WD = 76.7mm) and 10x eyepieces |
| **M 85 B** | As above except with 1x/3x objectives (WD = 64mm) |
| **M 88 B** | As above except with 2x/4x objectives (WD = 56mm) |



## OLYMPUS VMT

The Olympus VMT has a turret changer giving a choice of two magnifications with each eyepiece magnification.

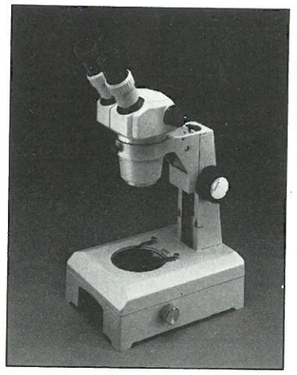
**VMT-2** Stereomicroscope with incident/transmitted stand giving 10x/20x magnification with 10x eyepieces (WD = 90mm)
**VMT-4** As above but giving 10x/40x magnification (WD = 90mm)
**VM** Supplementary lens 1.5x (WD = 43mm) or 2x (WD = 29mm) each
**VM-15** Pair of wide field 15x eyepieces
**VM-20** Pair of wide field 20x eyepieces



## OLYMPUS SZ-III

The SZ-III microscope has a built-in zoom magnification changer giving a continuously variable factor of 0.7x to 4x. The working distance is 88mm. Supplementary objectives are available with magnifications of 0.5x (WD = 159mm), 0.75X (WD = 105mm), 1.5x (WD = 45mm) and 2x (WD = 30mm). With a choice of 10x, 15x and 20x eyepieces, an overall magnification range of 3.5x to 160x is available.

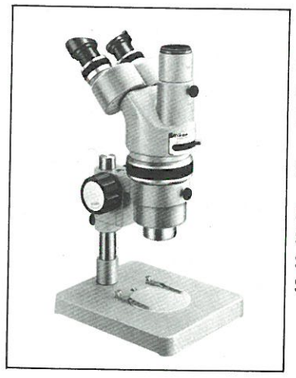
**D7001/W** Stereomicroscope with incident and transmitted illumination, 10x eyepieces
**D7003/W** Stereomicroscope as above except with vertical phototube for photomicrography



## NIKON SMZ-1

The SMZ-1 has a zoom magnification changer giving factors 0.7x to 3x. The total magnification range of this instrument in conjunction with eyepieces 10x, 15x, 20x, 33x and 0.5x, 2x supplementary lenses is 3.5x to 198x.

**SMZ-1** Stereomicroscope with 10x eyepieces, giving 7x to 30x (WD = 100mm) 6v 10w incident halogen illuminator
**SMZ-1/T** Attachable transmitted light base
**SMZ-1/E** Extra 15x or 20x eyepieces
**SMZ-1/HE** Pair of 33x eyepieces
**SMZ-1/0.5** 0.5x supplementary lens (WD = 181mm)
**SMZ-1/2** 2x supplementary lens (WD = 32.7mm)



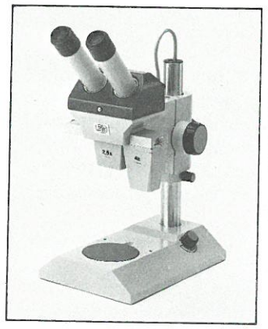
## NIKON SMZ-10

The SMZ-10 is a high resolution zoom stereomicroscope (zoom ratio 6:1). It can be fitted with a binocular or trinocular head. By means of supplementary lenses and interchanging eyepieces magnifications from 3.3x to 160x are covered.

**SMZ-10** Stereomicroscope with 10x eyepieces, 6.6x to 40x (WD =87.5mm) 6v 15w incident tungsten illuminator
**SMZ-10/T** Extra for transmitted light stand
**SMZ-10/E** Extra pair of 15x eyepieces
**SMZ-10/0.5** 0.5x supplementary lens (WD = 146mm)
**SMZ-10/2** 2x supplementary lens (WD = 30mm)



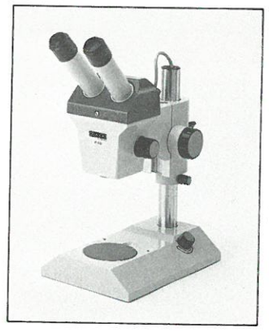




## ZEISS DR

The DR microscope has a quick change device for the two pairs of objectives. The choice of paired objectives is 0.8x (WD = 63mm), 1.0x (WD = 88mm), 1.6x (WD = 88mm), 2.0x (WD = 88mm), 2.5x (WD = 88mm), 4x (WD = 63mm), 6.3x (WD = 63mm) and 8x (WD = 63mm). With a choice of eyepieces of 4x, 10x, 16x and 25x, an overall magnification range of 3.2x to 160x is available.

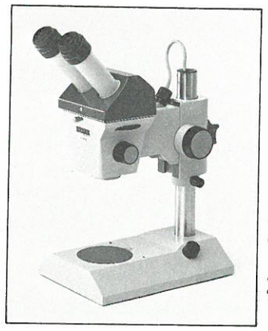
**Zeiss DR** Stereomicroscope for incident and transmitted illumination, 1.6x and 4x objectives, pair of 10x eyepieces



## ZEISS DV4

The DV4 microscope has a built-in zoom magnification changer giving a continuously variable factor of 1x to 4x. The working distance is 75mm. Supplementary objectives are available with magnifications of 0.5x (WD = 127mm) and 2x (WD = 25mm). With a choice of 4x, 10x, 16x and 25x eyepieces, an overall magnification range of 4x to 200x is available.

**Zeiss DV4** Stereomicroscope for incident and transmitted illumination with 10x eyepieces

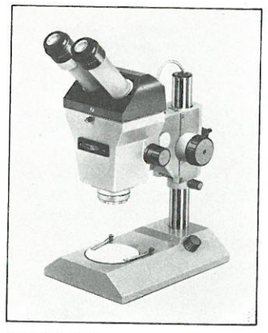


## ZEISS SR

The SR has a five step drum magnification changer with factors 0.8x, 1.2x, 2x, 3.2x and 5x. The standard working distance is 88mm. With a choice of 10x, 16x and 25x, an overall magnification range of 8x to 125x is available. This range can be extended to 250x with a 50mm front lens. An interesting feature of this instrument is that 17 different objectives are available, providing a range of working distances from 50mm to 2000mm.

A full range of accessories is available including dual viewing, camera attachment, drawing tube and brightfield/darkfield illumination.

**Zeiss SR** Stereomicroscope for incident and transmitted illumination with 10x eyepieces



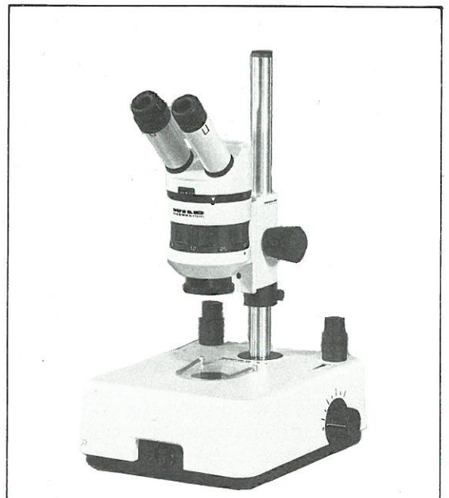
## ZEISS SV8

The SV8 has a wide zoom range of 1:8 and a working distance of 88mm. With a choice of 10x, 16x and 25x eyepieces, a magnification range of 8x to 160x is achieved. This range can be extended with different front objectives (see SR specification above).

**Zeiss SV8** Stereomicroscope for incident and transmitted illumination with 10x eyepieces

ALTERNATIVE EYEPIECES AVAILABLE FOR ABOVE INSTRUMENTS

**46 40 01** 10x eyepiece
**46 40 04** 10x eyepiece (focusing)
**46 40 02** 10x wide field eyepiece
**46 40 03** 10x wide field eyepiece (focusing)
**46 42 02** 16x wide field eyepiece
**46 44 01** 25x wide field eyepiece
**46 44 04** 25x wide field eyepiece (focusing)
**46 49 12** Eyepiece claming ring (for focusing eyepieces)



## WILD M5A

The M5A has a four step magnification changer drum with factors of 0.6x, 1.2x, 2.5x and 5x. The working distance is 94mm. Supplementary objectives are available with magnifications of 0.3x (WD = 270mm), 0.5x (WD = 165mm), 1.5x (WD = 46mm) and 2x (WD = 32mm). With a choice of eyepieces of 10x, 15x and 20x, an overall magnification range of 1.8x to 200x is available.

A very large range of accessories is available for this instrument.

**M5A** Stereomicroscope with incident and transmitted light with 10x eyepieces (magnifications 6x, 12x, 25x and 50x)



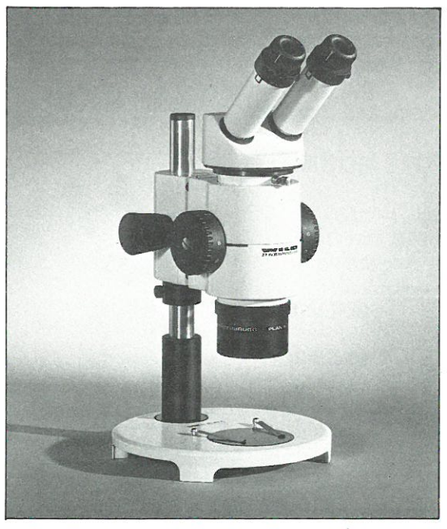
## WILD M7A M7S

The M7A has a built-in zoom magnification changer giving a range of 0.6x to 3.1x with a working distance of 91mm. Supplementary objectives are available with magnifications of 0.5x (WD = 156mm) and 2x (WD = 23mm). With a choice of 10x, 15x and 20x eyepieces, an overall magnification range of 3x to 124x is available.

The M7S model is basically the same design except the front objective can be displaced to be centrally positioned under one of the twin zoom systems, which improves the performance for photography. Good phototgraphic facilities are available for both these microscopes.

**M7A** Stereomicroscope with transmitted and incident illumination with 10x eyepieces (magnification range 6x to 31x)

**M7S** As above except with axially displaceable front lens



## WILD M8

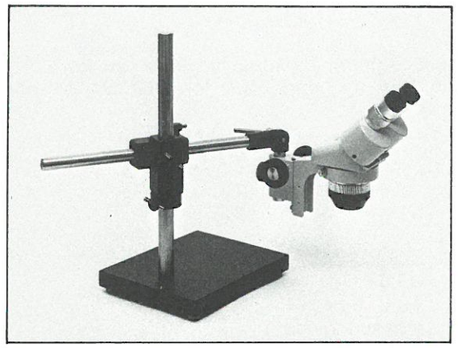
The M8 microscope has a large zoom range of 0.6x to 5x with a working distance of 87mm. Supplementary objectives are available with magnifications of 0.4x (WD = 180mm) and 1.6x (WD = 25mm). With a choice of 10x, 15x and 20x eyepieces, an overall magnification range of 2.4x to 160x is available.

Good photographic facilities are available as is a choice of large stable stands.

**M8** Stereomicroscope for transmitted and incident illumination with 10x eyepieces (magnification range 6x to 50x)





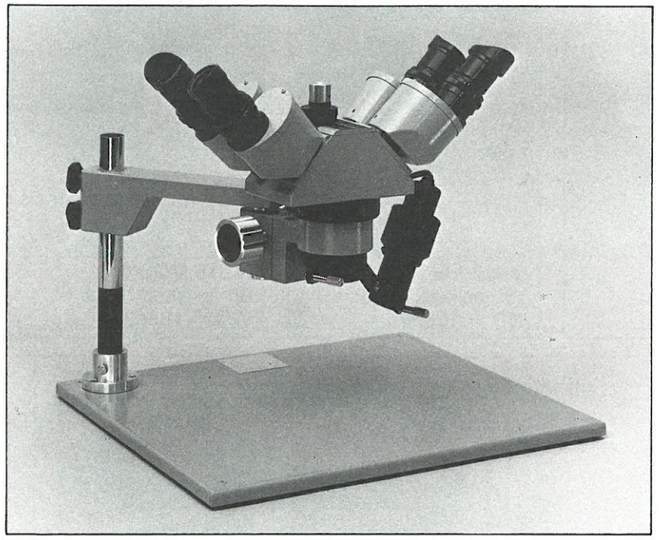


## LONG ARM HEAVY BASE STAND

This low cost stand permits the study of large objects. Both the horizontal and vertical extensions are adjustable over a wide range and the head may be tilted through 180°. Special adjustments enable the microscope to be used viewing either vertically or horizontally. The stand is available with fittings to suit a large range of stereomicroscopes from different manufacturers.

**UHM** Heavy base stand

## NISSHO DUAL VIEWING STEREOMICROSCOPE



This microscope enables two people to examine the same object at magnifications of 2.5x to 80x. The zoom magnification system provides a rapid change of magnification to enable large areas and detail to be examined.

The instrument has two major applications. Firstly in industry for demonstration, discussion and training purposes in small component manufacture and assembly work, particularly where stereomicroscopes are used in production. It can also be used in the Life Sciences for operations where two people are required to perform intricate work.

OPTICAL DATA

The standard outfit has 10x eyepieces giving a magnification range of 5x to 20x with field diameters of 45 to 11.25mm. Alternative magnifications are available by referring to the table and selecting the appropriate eyepieces and auxiliary objectives.

| Aux. Objective | Zoom range | Working distance | Eyepiece | | | |
|---|---|---|---|---|---|---|
| | | | 5× (WF) | | 10× (WF) | |
| | | | MAG. | Field dia | MAG. | Field dia |
| | 0.5~2× | 170mm | 2.5~10× | 45~11.25 | 5~20× | 45~11.25 |
| 1.5× | 0.75~3× | 120mm | 3.75~15× | 33.7~8.4 | 7.5~30× | 33.7~8.4 |
| 2× | 1~4× | 75mm | 5~20× | 22.5~5.6 | 10~40× | 22.5~5.6 |

| | | | 15× (WF) | | 20× (WF) | |
|---|---|---|---|---|---|---|
| | 0.5~2× | 170mm | 7.5~30× | 34~8.5 | 10~40× | 30~7.5 |
| 1.5× | 0.75~3× | 120mm | 11.25~45× | 25.5~6.3 | 15~60× | 22.5~5.6 |
| 2× | 1~4× | 75mm | 15~60× | 17~4.25 | 20~80× | 15~3.75 |

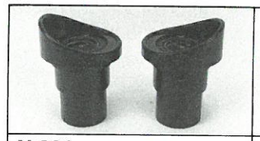
**ZDX-80** Standard outfit with double head, 4:1 zoom stereo system, focusing controls, pair of wide field 10x eyepieces, large square base 380 x 400mm (magnification range 5x to 20x working distance 170mm).

**N300** Spot lamp with 6v 7.2w bulb, double adjustable arm and transformer.

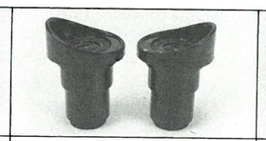
**N.001** Pair of wide field 5x eyepieces
**N.002** Pair of wide field 10x eyepieces
**N.003** Pair of wide field 15x eyepieces
**N.004** Pair of wide field 20x eyepieces
**N.005S** Single focusing wide field 10x eyepiece with scale 0-100
**N.005C** Single focusing wide field 10x eyepiece with cross line
**N.008S** Auxiliary objective 1.5x
**N.009S** Auxiliary objective 2.0x

## NISSHO MDS STEREO VIEWER RANGE

The MDS range of stereo viewers give extra long working distances (up to 240mm) and magnifications from 5x to 40x. Instruments can be purchased in many different combinations and even as heads only for attaching to other equipment. Please refer to the following selection chart.



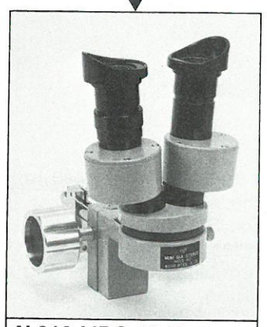
**N.201**
Pair of 10x eyepieces



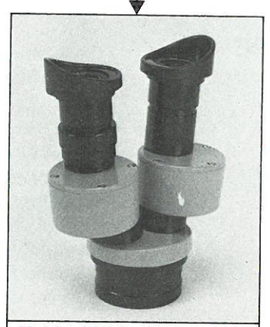
**N.202**
Pair of 20x eyepieces



**N.203**
10x eyepiece with measuring scale



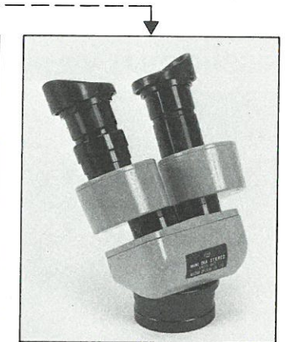
**N.213** MDS-40-U
Straight head 1x
WD = 135mm



**N.214** MDS-40
Straight head 1x
WD = 135mm



**N.215** MDS-50
45° inclined head 1x
WD = 185mm



**N.216** MDS-60
60° inclined head 1x
WD = 185mm




**N.205** 0.5x
Auxiliary lens
WD = 240mm




**N.206** 2x
Auxiliary lens
WD = 65mm




**N.207** 1.5x
Auxiliary lens
WD = 130mm



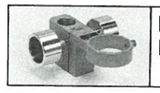

**N.208** 2x
Auxiliary lens
WD = 85mm



**N.030**
Universal stand



**N.031**
Universal magnetic stand



**N.209**
Focusing unit

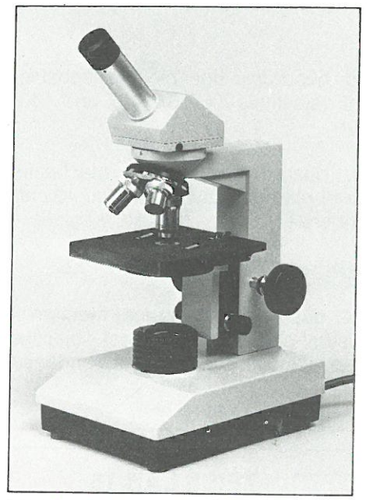


**N.015**
'P' type
plain stand

N.B. Lamp units suitable for use with these instruments are detailed in the accessory section of this catalogue.

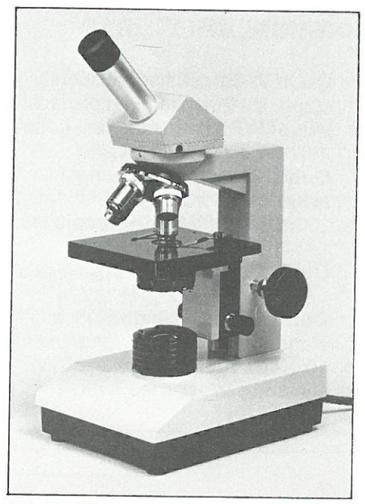






### MICROTEC M90

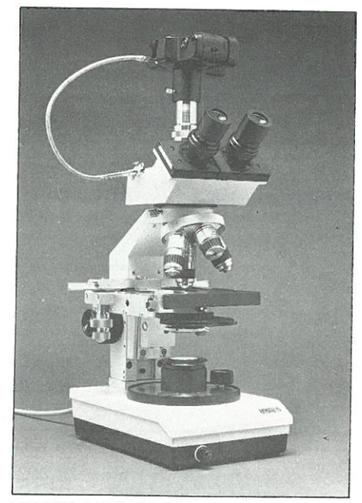
**M90** with monocular tube, built-in 30w illumination, fixed 0.65 condenser with disc diaphragm, triple nosepiece, achromat objectives 4x, 10x, 40x, WF 10x eyepiece.



### MICROTEC M90A

**M90A** with monocular tube, built-in 30w illuminator, focusing 1.25 condenser, quadruple nosepiece, achromat objective 4x, 10x, 40x, WF 10x eyepiece.

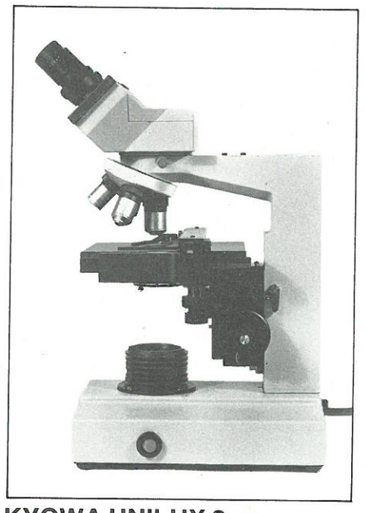
**M90A(B)** as above except with binocular head.



### SWIFT M1000

**M1001D** with binocular tube, built-in 30w illumination, focusing 1.25 condenser, quadruple nosepiece, built-in mechanical stage, objectives 4x, 10x, 40x and 100x, pair of WF 10x eyepieces.

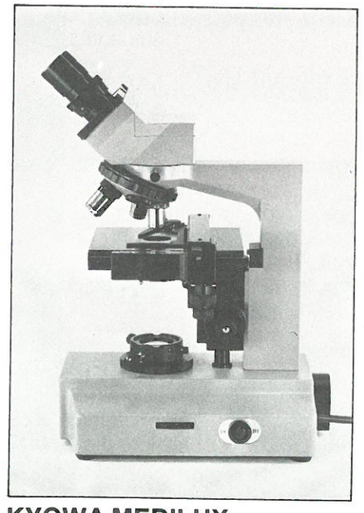
**M1002D** as above except with 6v 20w halogen illumination.



### KYOWA UNILUX 2

**Unilux A** with binocular tube, built-in 30w illuminator, 1.25 condenser, mechanical stage, semi-plan objectives 4x, 10x, 40x and 100x, pair of WF 10x eyepieces.

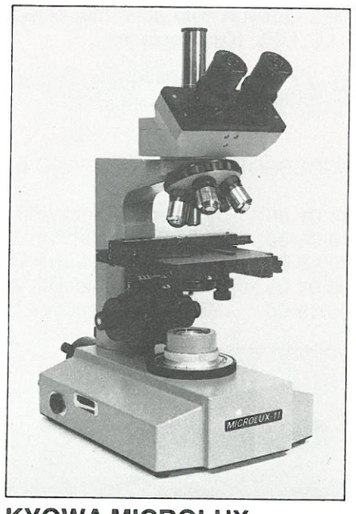
**Unilux B** as above except with 6v 20w halogen illumination.



### KYOWA MEDILUX

**Medilux A** with trinocular head, 6v 20w halogen illuminator, 1.25 condenser, mechanical stage, semi-plan objectives 4x, 10x, 40x and 100x, pair of WF 10x eyepieces.

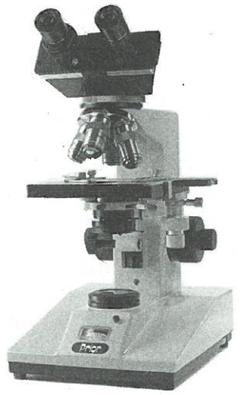
**Medilux B** as above except with binocular head.




### KYOWA MICROLUX

**Microlux A** with binocular head, 6v 30w illumination, 1.25 condenser, mechanical stage, plan objectives 4x, 10x, 20x, 40x and 100x, pair of WF 10x eyepieces.

**Microlux B** as above except with trinocular head.



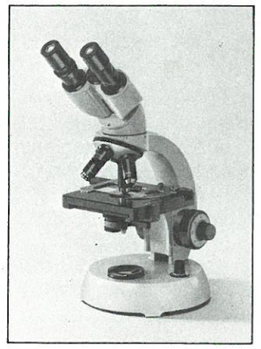
## PRIORLUX

**Outfit A** comprising: Binocular head, quadruple nosepiece, mechanical stage, 6v 20w illumination, achromat objectives 4x, 10x, 40x and 100x, pair of WF 10x eyepieces, condenser.

**Outfit B** comprising: Binocular head, quadruple nosepiece, mechanical stage, 6v 15w Kohler illumination, semi-plan objectives 4x, 10x, 40x and 100x, pair of WF 10x eyepieces, condenser.

**Outfit C** as outfit B but with plan objectives 4x, 10x, 40x and 100x.

**Outfit D** comprising: Binocular head, quadruple nosepiece, mechanical stage, 6v 15w Kohler illuminations, semi-plan phase contrast objectives 10x, 40x and 100x, pair of WF 10x eyepieces, turret phase condenser, centering telescope.

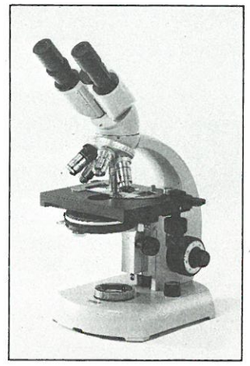


## ZEISS KF-2

Binocular head, quadruple nosepiece, mechanical stage (25 x75mm), 6v 15 w illumination, 0.9 AS condenser.

**KF-2 Outfit A** with achromat objectives 10x, 40x and 100x, CPL 10x eyepieces.

**KF-2 Outfit B** with semi-plan objectives 10x, 40x and 100x, CPL 10x eyepieces.



## ZEISS LAB 16

Binocular head, quintuple nosepiece, mechanical stage (50 x 75mm), 6v 10w halogen illumination, 0.9 flip top condenser, field iris.

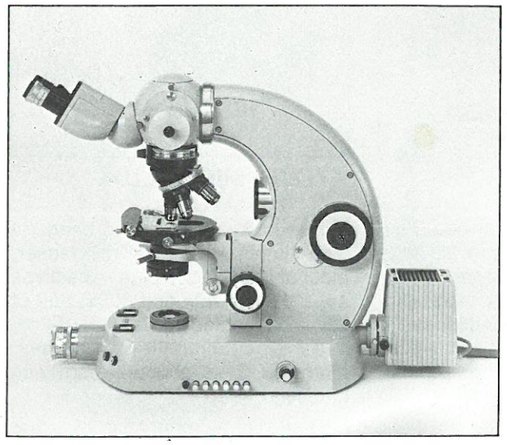
**LAB 16 Outfit A** with achromat objectives 3.2x, 10x, 40x and 100x, CPL 10x eyepieces.

**LAB 16 Outfit B** with semi-plan objectives 2.5x, 10x and 40x, KPL 10x eyepieces.

Outfits for phase contrast are available. Details on request.

ACCESSORIES FOR KF-2 AND LAB 16

| | |
|---|---|
| **46 01 00** | Achromat objective 3.2x/NA = 0.07 |
| **46 06 00** | Achromat objective 25x/NA = 0.45 |
| **46 19 00** | Achromat objective 100x/NA = 1.25 oil |
| **46 01 05** | Semi-plan objective 2.5x/NA = 0.08 |
| **46 19 05** | Semi-plan objective 100x/NA = 1.25 oil |



## CARL ZEISS PHOTOMICROSCOPE III

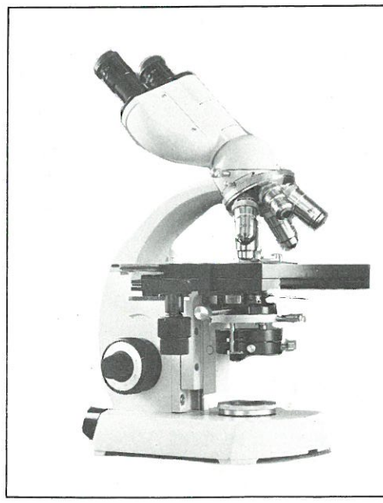
The photomicroscope III has a fully automatic 35mm camera built into the limb of the microscope.

All the controls for the illumination and the automatic camera are built into the base of the microscope. The film format can be seen and focusing is carried out through the binocular head. The use of a photomultiplier with a selector for spot measurement makes the instrument ideal for automatic photography with low light levels, eg fluorescence.

**Photomicroscope** comprising: Stand 6v 15w Kohler illumination, automatic camera, mechanical stage, planachromat objectives 4x, 10x, 25x, 40x, oil and 63x oil, wide angle 10x eyepieces, 1.3 condenser.





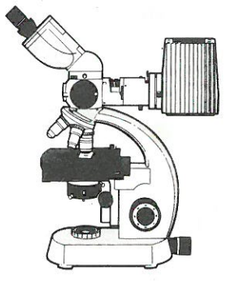


## CARL ZEISS STANDARD

**Standard Outfit A** comprising: Stand 16, graduated mechanical stage, built-in 6v 10w quartz iodine illumination, binocular tube, achromat objectives 3.2x, 10x, 40x and 100x, pair of CPL 10x eyepieces, 0.9 condenser.

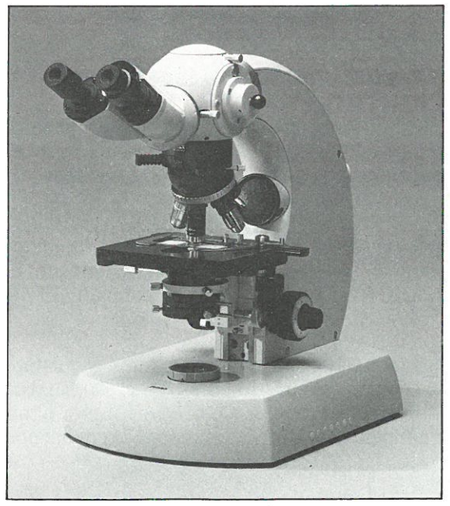
**Standard Outfit B** comprising: Stand 16, graduated mechanical stage, built-in 6v 10w quartz iodine illumination, binocular tube, planachromat 2.5x, planachromat 10x, neofluar 40x and neofluar 100x objectives, pair of KPL 10x eyepieces, 1.3 condenser.

**Standard Outfit C (phase contrast)** comprising: Stand 16, graduated mechanical stage, built-in 6v 10w quartz iodine illumination, binocular head, 10x, 40x and 100x phase achromat objectives, pair of CPL 10x eyepieces, 0.9 condenser, phase telescope.



## CARL ZEISS STANDARD FOR INCIDENT FLUORESCENCE

**Standard FL** with binocular head, mechanical stage, built-in 6v 10w quartz iodine illumination, quintuple nosepiece, 1.3 condenser, IVFL incident illuminator, HBO 50 mercury lamp, filter set 10 (selective FITC), neofluar objectives 10x, 40x and 100x, KPL 8x eyepieces.

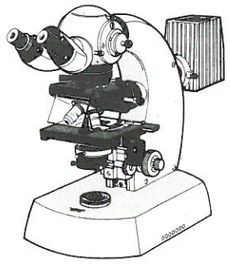


## CARL ZEISS UNIVERSAL R

The Zeiss Universal R microscope has the same size stand as the photomicroscope and will accommodate the same large range of accessories.

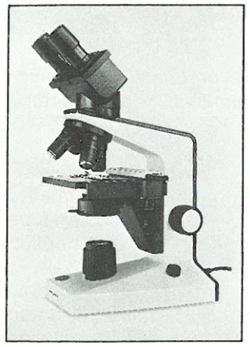
The main difference is that the Universal does not contain a built-in camera system.

**Universal** comprising: Stand, 6v 15w Kohler illumination, binocular tube, mechanical stage, planachromat objectives 2.5x, 10x, 40x and 100x, pair of KPL 10x eyepieces, 1.3 condenser.



## CARL ZEISS UNIVERSAL FOR INCIDENT FLUORESCENCE

**Universal R-FL** with binocular head, mechanical stage, built-in 6v 15w lamp unit, quintuple nosepiece, 1.3 condenser, III RS incident illuminator, HBO 50 mercury lamp, filter set 10/selective FITC. Plan neofluar 16x, 25x, 40x oil/water/glycerol and neofluar 100x objectives, KPL 10x eyepieces.



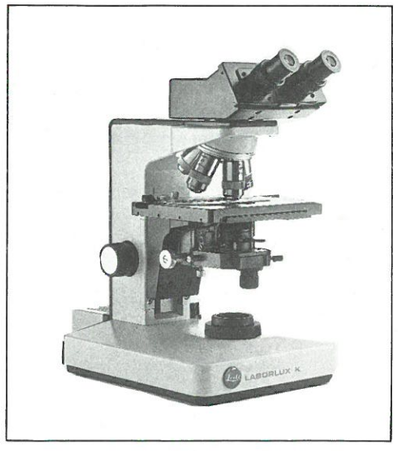
## LEITZ HM-LUX 3

The HM-Lux 3 has a novel 'accommodation' focusing adjustment. The single focusing knob provides a finer movement as the distance between the object and the objective focal plane decreases.

A push-in stop is available for dark field with 10x and 40x objectives as are push-in stops for phase contrast with 10x and 40x phase objectives.

**HM-Lux 3 Outfit A** comprising: Monocular tube, built-in 6v 5w illumination, plain stage, sleeve focusing 0.9 condenser, achromat objectives 3.2x, 10x and 40x, periplan 10x eyepieces and storage case.

**HM-Lux 3 Outfit B** comprising: Binocular tube, built-in 6v 5w illumination, mechanical stage, sleeve focusing 0.9 condenser, achromat objectives 3.2x, 10x, 40x and 100x, periplan 10x eyepieces and storage case.

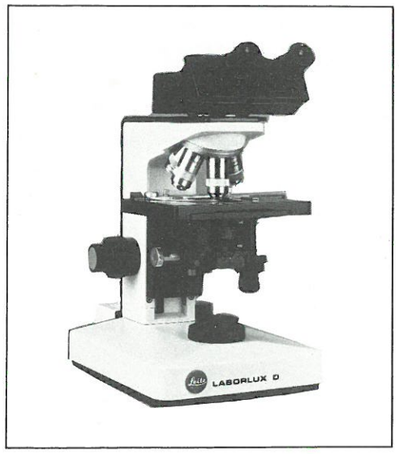


## LEITZ LABORLUX K (Combined coarse and fine focusing)

**Laborlux K Outfit A** comprising: Binocular head (45° angle), quintuple nosepiece, built-in mechanical stage 75 x 50mm, 6v 20w built-in illumination, EF objectives 4x, 10x, 40x and 100x, pair of periplan 10x eyepieces, 0.9 condenser.

**Laborlux K Outfit B** comprising: Binocular head (30° angle), quintuple nosepiece, large built-in mechanical stage, 6v 20w built-in illumination, EF objectives 4x, 10x, 40x and 100x, pair of periplan 10x eyepieces, 0.9 condenser.

**Laborlux K Outfit C** comprising: Binocular head (30° angle), quintuple nosepiece, built-in mechanical stage 75 x 50mm, 6v 20w built-in illumination, EF phase contrast objectives 10x, 40x and 100x, turret phase condenser, pair of periplan 10x eyepieces, centering telescope.

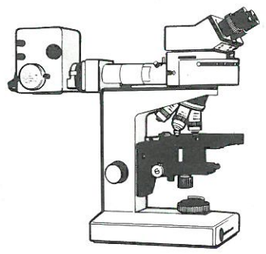



## LEITZ LABORLUX D (Coaxial coarse and fine focusing)

**Laborlux D Outfit A** comprising: Binocular head (30° angle), quintuple nosepiece, large built-in mechanical stage, 6v 20w built-in illumination, EF objectives 4x, 10x, 40x and 100x, pair of periplan 10x eyepieces, 0.9 condenser.

**Laborlux D Outfit B** comprising: Binocular head (30° angle), quintuple nosepiece, large built-in mechanical stage, 6v 20w built-in illumination, EF 4x, NPL Fluotar objectives 10x, 40x and 100x, pair of periplan GF 10x eyepieces, 0.9 condenser.

**Laborlux D Outfit C** comprising: Binocular head (30° angle), quintuple nosepiece, large built-in mechanical stage, 6v 20w built-in illumination, NPL Fluotar 10x, 40x and 100x phase contrast objectives, turret phase contrast condenser, pair of periplan 10x eyepieces, centering telescope.

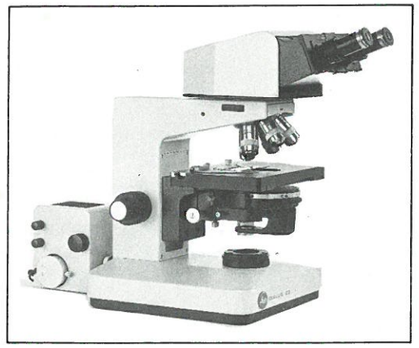


## LEITZ LABORLUX D FOR INCIDENT FLUORESCENCE

**Laborlux D-FL** comprising: Binocular head, quintuple nosepiece, large buit-in mechanical stage, 6v 20w built-in illumination, NPL Fluotar 10x, 40x and 100x objectives, pair of periplan GF 10x eyepieces, Ploemopak incident illuminator, HBO 50 mercury lamp, FITC filter set.



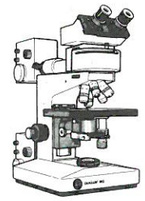




## LEITZ DIALUX 22

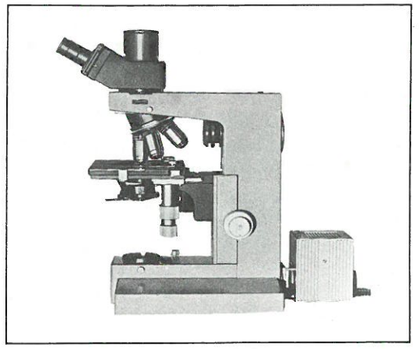
**Dialux 22 Outfit A** comprising: Binocular head, quintuple nosepiece, large mechanical stage, built-in 6v 20w illumination, EF objectives 4x, 10x, 40x and 100x, pair of periplan 10x eyepieces, 0.9 condenser.

**Dialux 22 Outfit B** comprising: Binocular head with variable viewing angle (see illustration), quintuple wide field nosepiece, EF 4x, NPL Fluotar 10x, 40x and 100x objectives, pair of periplan GF 12.5x eyepieces, 0.9 condenser.



## LEITZ DIALUX 22 WITH INCIDENT FLUORESCENCE

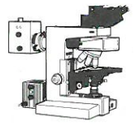
**Dialux 22-FL** comprising: Binocular head, quintuple wide field nosepiece, large mechanical stage, built-in 6v 20w illumination, NPL Fluotar objectives, 10x, 40x and 100x, pair of periplan 10x eyepieces, 0.9 condenser, Ploemopak incident illuminator, HBO 50 mercury lamp, FITC filter set.



## LEITZ ORTHOLUX II

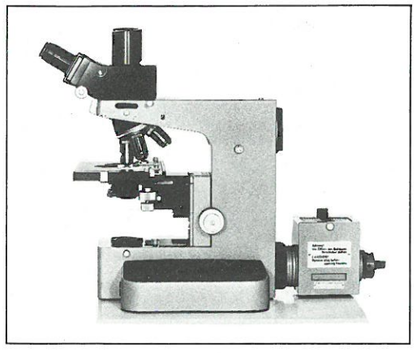
The Leitz Ortholux II universal research microscope has a 50w quartz iodine lamp unit. Higher intensity light sources such as 12v 100w quartz iodine and mercury vapour lamps can be fitted to this stand.

**Ortholux II** comprising: Stand, mechanical stage, 12v 50w quartz iodine illumination, binocular phototube, achromat objective 4x, NPL Fluotar objectives, 10x, 25x, 40x and 100x, pair of GF 10x eyepieces, 0.9 condenser.



## LEITZ ORTHOLUX WITH INCIDENT FLUORESCENCE

**Ortholux II-FL** comprising: Binocular head, quintuple nosepiece, large mechanical stage, built-in 50w illumination, NPL Fluotar objectives 10x, 40x and 100x, pair of periplan GF 10x eyepieces, 0.9 condenser, Ploemopak incident illuminator, HBO 50w mercury lamp, FITC filter set.



## LEITZ ORTHOPLAN

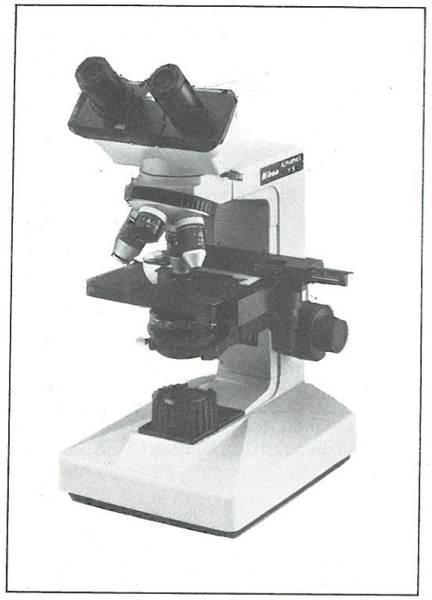
The Orthoplan large research microscope has an extre wide field which is achieved by the large diameter eyepieces in conjunction with the special binocular head and, of course, the Leitz plano objectives which produce a flat image over a very wide field.

**Orthoplan** comprising: Stand, mechanical stage 12v 100w quartz iodine illumination, binocular phototube, objectives plano 2.5x, plan fluorite 10x, plan Apo's 25x, 40x and 100x, pair of GW 10x eyepieces, 0.9 condenser.



## LEITZ ORTHOPLAN WITH INCIDENT FLUORESCENCE

**Orthoplan-FL** comprising: Binocular head, quintuple nosepiece, large mechanical stage, built-in 100w illumination, NPL Fluotar objectives 10x, 40x and 100x, pair of GW 10x eyepieces, 0.9 condenser, Ploemopak incident illuminator, HBO 50 mercury lamp, FITC filter set.

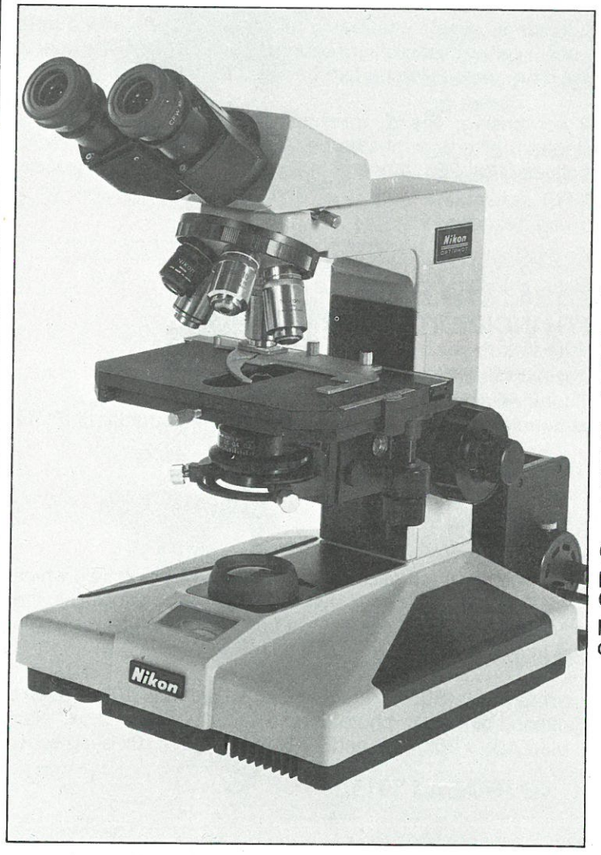


## NIKON ALPHAPHOT

**Alphaphot YST** with binocular head, quadruple nosepiece, mechanical stage, mains 20w illumination, CFE achromat objectives 4x, 10x, 40x and 100x, pair of CFW E10x eyepieces, 1.25 condenser.

**Alphaphot YSF** with binocular head, quadruple nosepiece, mechanical stage, 6v 20w quartz iodine illumination with field diaphragm, CF achromat objectives 4x, 10x, 40x and 100x, pair of CFW E10x eyepieces, 1.25 condenser.

**Alphaphot YSF-Ph** with binocular head, quadruple nosepiece, mechanical stage, 6v 20w quartz iodine illumination with field diaphragm, CF achromat phase contrast objectives 10x, 40x and 100x, turret phase contrast condenser, centering telescope.




## NIKON LABOPHOT AND OPTIPHOT

**Labophot Outfit A** comprising: Binocular head, quintuple nosepiece, mechanical stage, built-in 6v 20w halogen illumination, CF achromat objectives 4x, 10x, 40x and 100x, pair of CFW 10x eyepieces, 1.25 condenser.

**Labophot Outfit B** as Outfit A except with CF plan objectives 4x, 10x, 40x and 100x.

**Labophot Outfit C** as Outfit A except with CF achromat phase objectives 10x, 40x and 100x, turret phase condenser and centering telescope.

**Optiphot Outfit A** comprising: Binocular head, quintuple nosepiece, mechanical stage, 12v 50w illumination, CF plan objectives 4x, 10x, 40x and 100x, pair of CFW 10x eyepieces, 1.25 condenser.

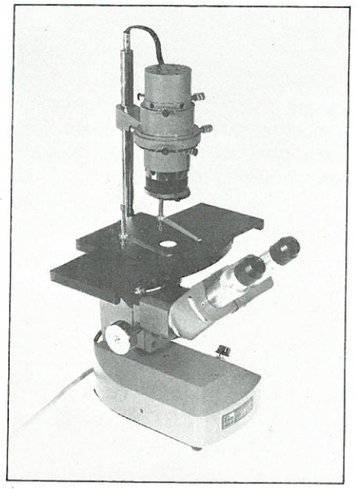
**Optiphot Outfit B** comprising: Binocular head, quintuple nosepiece, mechanical stage, 12v 50w illumination, CF plan objectives phase contrast 10x, 40x and 100x, pair of CFW 10x eyepieces, turret phase condenser, centering telescope.

## NIKON OPTIPHOT FOR INCIDENT FLUORESCENCE

**Optiphot-FL** comprising: Binocular head, quadruple nosepiece, mechanical stage, 12v 50w illumination, CF Fluor 10x, 20x, 40x and CF plan 100x objectives, pair of CFW 10x eyepieces, 1.25 condenser, Epi-fluorescence illumination EF-D with 100w mercury lamp, FITC filter set.



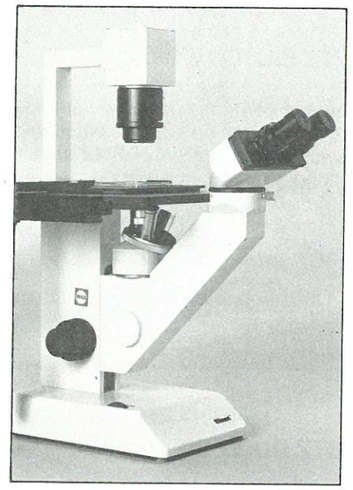




## MICROTEC ROUTINE TISSUE CULTURE MICROSCOPE

**Microtec Routine Outfit A** comprising: Binocular head, stage, coarse focusing ONLY, 6v 12w illumination, 4x, 10x and LWD 20x objectives, WD 10x eyepieces.

**Microtec Routine Outfit B** as above except with 10x, 20x, phase contrast objectives, illuminator phase ring, centering telescope.

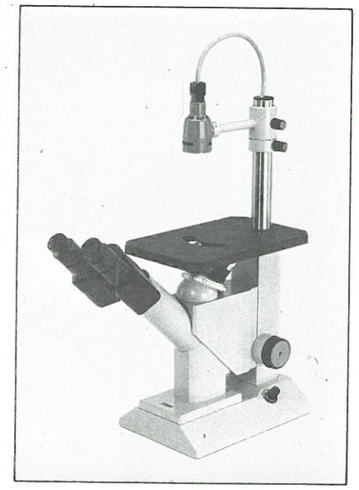


## WILOVERT INVERTED MICROSCOPE

**Wilovert Outfit A** with 4x, 10x and 20x objectives, WF 10x eyepieces, fixed stage.

**Wilovert Outfit B** with 4x objectives, 10x and 20x phase contrast objectives, phase condenser, WF 10x eyepieces, phase telescope.

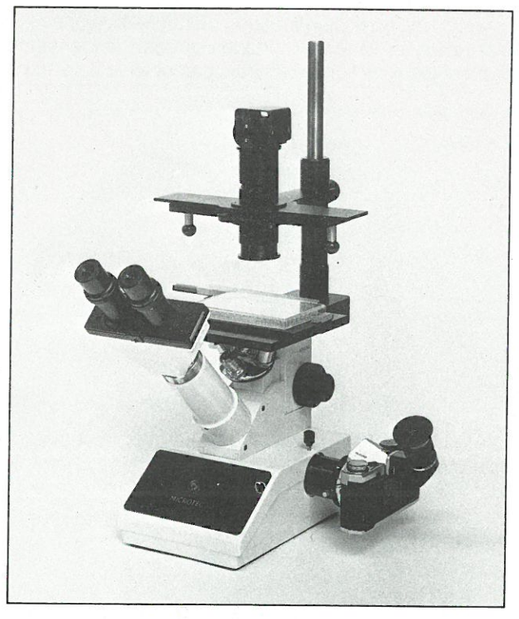
**96676** Attachable mechanical stage for special holders



## ZEISS ID02

**ID02 Outfit A** with 3.2x, 10x, LWD 20x objectives, WF 10x eyepieces, fixed stage.

**ID02 Outfit B** with 3.2x, 10x phase, LWD 20x objectives, WF 10x eyepieces, mechanical stage.



## SWIFT MICROTEC INVERTED MICROSCOPE

**Swift Microtec Outfit A** comprising: Stand with coarse and fine focusing, plain stage, quadruple nosepiece, 6v 20w quartz iodine illumination, LWD condenser, 4x, 10x, LWD 20x objectives, pair of WF 10x eyepieces.

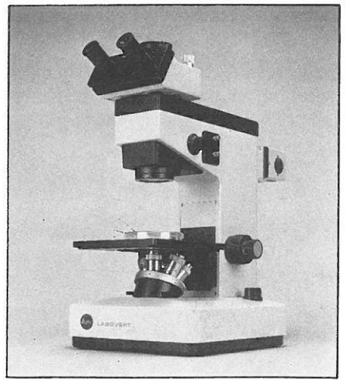
**Swift Microtec Outfit B** comprising: Stand with coarse and fine focusing, plain stage, quadruple nosepiece, 6v 20w quartz iodine illumination, LWD condenser with phase slider, 4x objective 10x and LWD 20x phase contrast objectives, pair of WF 10x eyepieces, centering telescope.

**MS101** Attachable mechanical stage
**MS101.2** Holder for 96 well microtiter plate (other holders available on request)
**MS109** LWD objective 40x
**MS112** LWD phase contrast objective 40x

A camera attachment can be readily attached to this instrument to plug into the base (as illustrated).

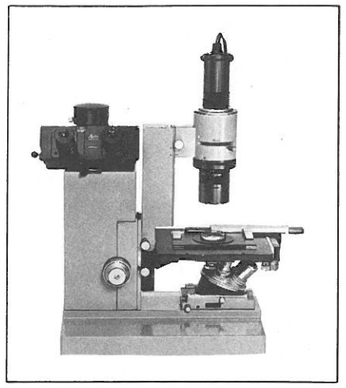
**MS116** Projection optics and mount to accept S.L.R. 35mm camera

# INVERTED MICROSCOPES



## LEITZ LABOVERT

**Labovert** comprising: Stand with coaxial coarse and fine focusing controls, 6v 20w illumination system, binocular head, mechanical stage with holder for 96 well microtiter plate, EF 4x objective, phase contrast objectives 10x and LWD 20x, pair of periplan GF 10x eyepieces, centering telescope.

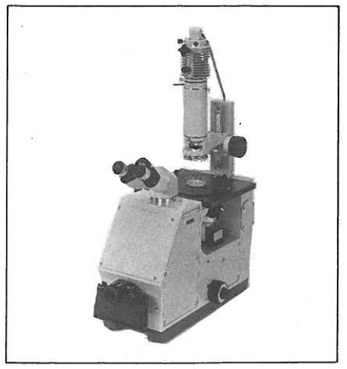


## LEITZ DIAVERT

**Diavert** comprising: Stand with coaxial coarse and fine focusing controls, 6v 15w illumination, binocular head, mechanical stage with holder for 96 well microtiter plate, EF 4x objective, phase contrast objectives 10x and LWD 20x, pair of periplan GF 10x eyepieces, centering telescope.

EXTRA OBJECTIVES FOR LABOVERT AND DIAPHOT

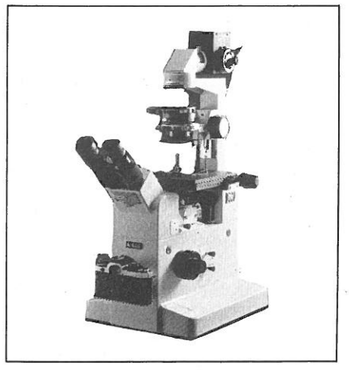
**519 680** LWD phase contrast 25x objective
**519 437** LWD phase contrast 32x objective
**519 795** LWD phase contrast 40x objective



## ZEISS IM 35

**IM 35** comprising: Stand with 12v 60w illumination, sextuple nosepiece, mechanical stage, binocular head, LWD simple phase contrast condenser, 3.2x objective, phase contrast objectives 10x, LWD 20x, pair of wide field 10x eyepieces.

**46 07 16** LWD phase contrast 40x objective



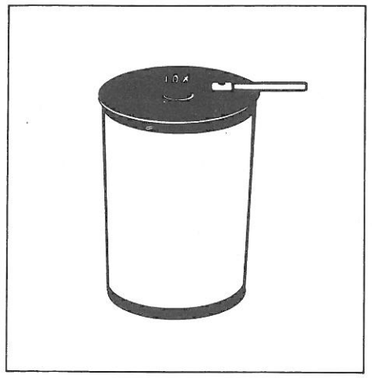
## NIKON DIAPHOT

**Diaphot** comprising: Stand with 50w illumination, quintuple nosepiece, binocular head, mechanical stage, LWD phase condenser, phase contrast objective, plan 4x, achromat 10x, LWD 20x, pair of wide field 10x eyepieces.

**MSB013400** LWD phase contrast 40x objective

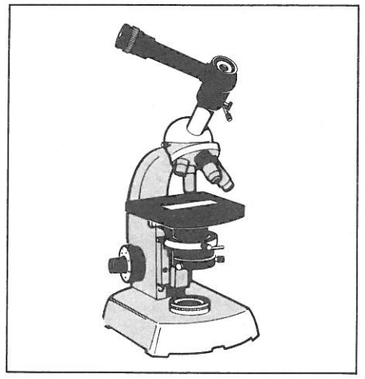


# MICROSCOPE ACCESSORIES



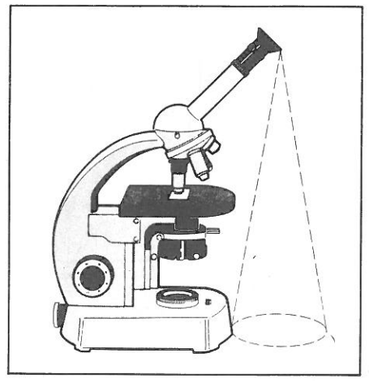
## POINTER EYEPIECE 10X

This eyepiece incorporates a movable pointer operated by a small lever on the top face.



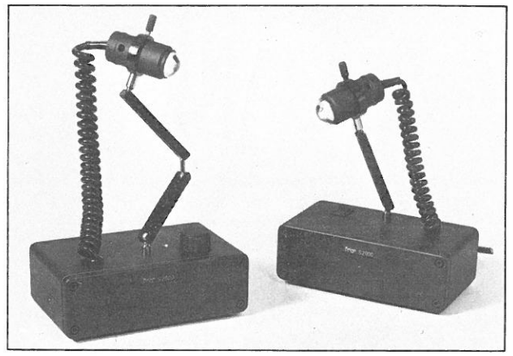
## DOUBLE DEMONSTRATION EYEPIECE

This device enables two people to view through the same microscope. It has a built-in movable pointer.



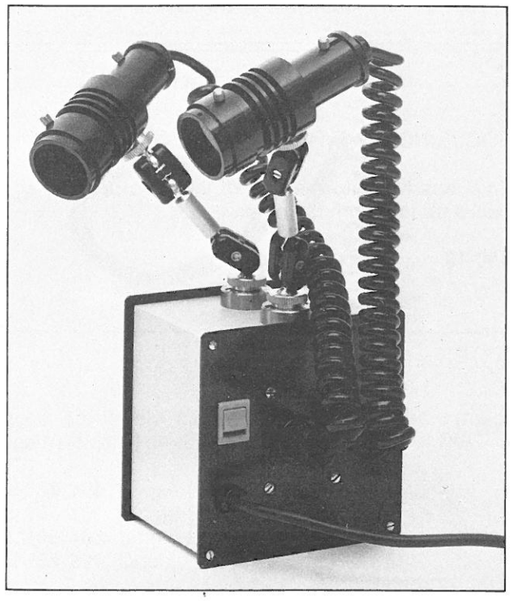
## DRAWING EYEPIECE

This simple device is inserted into the microscope and enables the microscope image and the drawing paper to be viewed simultaneously.



## PRIOR MICROLAMPS

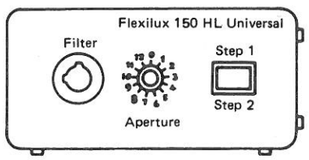
**S2030** Single arm multipurpose lamp unit with 6v 7.2w bulb (non-regulating)
**S2040** Double arm multipurpose lamp unit with 6v 7.2w bulb (regulating)



## HM LAMPS

**HM/S** Single arm spot lamp with 6v 7.2w bulb (non-regulating)
**HM/D** Double arm spot lamp (illustrated) with 6v 7.2w bulb (non-regulating)

The adjustable lamp arms on these units screw into the transformer box by a standard camera tripod screw thread (¼in whitworth) enabling other fittings to be easily made up by the user.




## FIBRE OPTIC LAMP

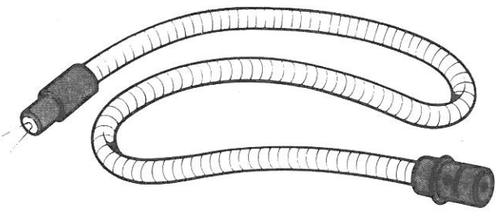
**Flexilux 150HL/C** Complete fibre optic light source fitted with 20v 150w quartz iodine bulb. The single swan neck is 300mm long and is fitted with a focusing lens. The intensity of the illumination is adjustable by means of a diaphragm, thus avoiding any change in colour temperature.

## FIBRE OPTIC LAMPS–Component parts

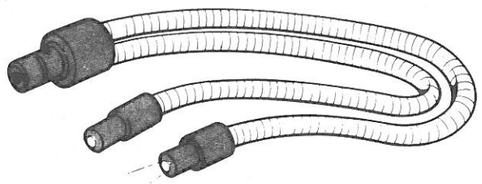
A variety of fibre optic lamp units can be made up by selection from the following component parts.

**150HL** Flexilux Universal 150w quartz iodine source
**DDL** Spare bulb 20v 150w

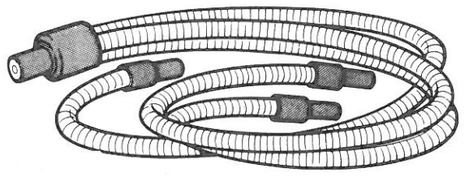
### SWAN NECKS



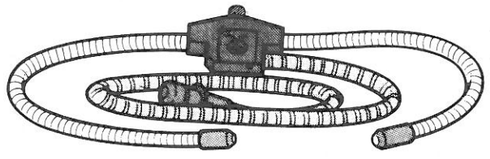
**150-01** Single 3 x 300mm
**150-02** Single 3.5 x 600mm
**150-03** Single 5.5 x 600mm



**150-04** Double 4.2 x 500mm
**150-05** Double 4.9 x 600mm
**150-06** Double 7.8 x 600mm

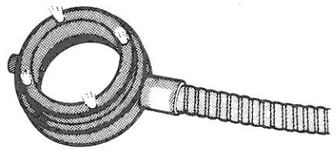


**150-07** Triple 6.0 x 600mm

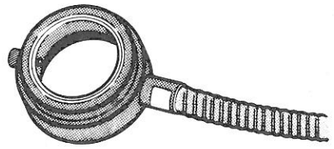


**150-08** Incident illuminator
**150-09** Holder for Wild stereomicroscope
**150-10** Holder for Olympus VM stereomicroscope

### RING LIGHTS



**150-11** Four point 750mm long



**150-12** Complete circle 750mm long

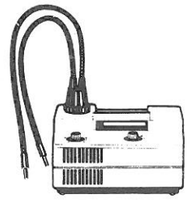
### FOCUSING LENS FOR SWAN NECKS

This lens fits onto the end of the fibre optic swan necks up to 10mm diameter.

**150-13** Focusing lens







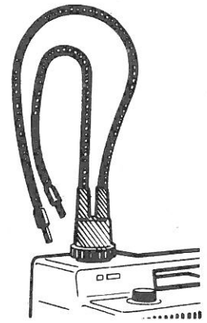
## FIBRE OPTIC LAMP

**Schott KL 1500 H/C** Complete fibre optic light source fitted with a 15v 150w quartz iodine bulb. The single swan neck is 750mm long and is fitted with a focusing lens. The intensity of the illumination is adjustable by filtration, thus avoiding any change in colour temperature which is 3000°K (2700°K at economy setting).

## SCHOTT FIBRE OPTIC LAMP–Components parts

**KL 150 000** Schott 150 w quartz iodine source
**A1/232** Spare bulb 15v 150w

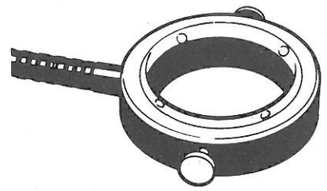
### SWAN NECKS



Self supporting flexible light guide in a matt black metal sheathing.

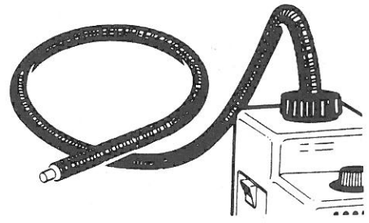
**KL 154 101** Single 4.5 x 750mm
**KL 154 201** Double 4.5 x 750mm
**KL 154 301** Triple 4.5 x 750mm

### FOUR POINT RING LIGHT



**KL 157 401** 1000mm long (30mm ID)
**KL 157 402** 1000mm long (66mm ID)

### FLEXIBLE LIGHT GUIDES

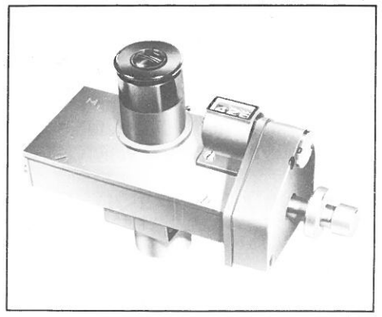


These are freely mobile light guides. The protective sheathing consists of metal coated with black PVC.

**KL 155 101** Single 3 x 1000mm
**KL 155 102** Single 5 x 1600mm
**KL 155 103** Single 8 x 1000mm
**KL 155 201** Double 4.5 x 1600mm

### FOCUSING LENSES AND FILTERS

**KL 158 210** Focusing lens
**KL 158 200** Focusing lens and blue, green, red, orange filters
**KL 158 110** Internal filter set (conversion, blue, green, yellow, red, neutral)

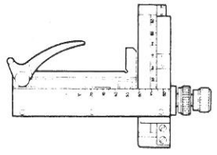


## CURTAIN MEASURING EYEPIECE

The curtain eyepiece is used in making measurements with the microscope and has a wide field of application in microscopical research and in industrial inspection. The user sees neutral density curtains in the right and left hand halves of the field: these are controlled by a pair of concentric milled heads, the smaller head regulating their position in the field, and the larger one altering their distance apart by moving the right hand curtain only. In use, the curtain on the left is first brought to the edge of the object at that side, by means of the small milled head, and the larger is then turned until the other curtain touches the right hand extremity of the object. The distance between the curtains can then be read from the digital counter. A revolving motion allows the eyepiece to be used for measurements in any direction without the necessity of rotating the object. The eyepiece fits any standard microscope tube.

Objects which lie behind the curtains can be seen clearly, so that the whole field remains in view. The boundaries of the curtains have no thickness, unlike the lines in a conventional graticule : also since the curtains appear grey certain optical effects associated with large local changes in intensity (Mach effect), which are unfavourable to accurate measurement, are avoided.

Because both curtains are movable, a mechanical stage is not essential. This feature is also useful if the nature of the object is such that it is inconvenient to move it by small amounts.



## MICROTEC ATTACHABLE MECHANICAL STAGE

**SKS 1b-K** Mechanical stage with coaxial horizontal control knobs. This stage will grip a plain stage up to 12mm thickness with a minimum length of the stage side of 114mm.

## GENERAL ACCESSORIES

SOFT PLASTIC DUST COVERS

| | |
|---|---|
| **DC/S** | Small for bench stands |
| **DC/M** | Medium for bench stands with camera attachment |
| **DC/L** | Extra large |

IMMERSION OIL

| | |
|---|---|
| **M1/0** | 50ml immersion oil in plastic applicator |

MICROSCOPE SLIDE CABINETS AND BOXES

| | |
|---|---|
| **M1/S50** | Black covered box to hold 50 slides |
| **M1/S100** | Black covered box to hold 100 slides |
| **M1/C1000** | Mahogany cabinet to store flat 1000 3in x 1in slides in 28 trays width 15½in, depth 13¼in, height 17in |
| **M1/C2000** | To store 2000 slides in 56 trays width 15½in, depth 13¼in, height 39in |
| **M1/C3000** | To store 3000 slides width 19½in, depth 13¼in, height 39in |

FILTERS 32MM DIAMETER

Red
Orange
Yellow
Green
Daylight blue
Blue
Heat absorbing
Neutral

FILTERS 2IN X 2IN

Daylight blue
Green
Neutral
Heat absorbing

POLARIZING FILTERS

2in x 2in high extinction Polaroid laminate



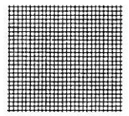


## EYEPIECE GRATICULES



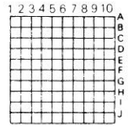

Micrometer scale, 10mm divided into 100 parts of 0.1mm.

**E1/16** 16mm diameter
**E1/19** 19mm diameter
**E1/21** 21mm diameter



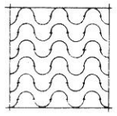
Square grid, 1mm grid squares.

**E11/16** 16mm diameter
**E11/19** 19mm diameter
**E11/21** 21mm diameter




Indexed squares.

**E11a/16** 16mm diameter
**E11a/19** 19mm diameter
**E11a/21** 21mm diameter



Mertz pattern.

**GM1/16** 16mm diameter
**GM1/19** 19mm diameter
**GM1/21** 21mm diameter



Weibel type 1.

**GW1/16** 16mm diameter
**GW1/19** 19mm diameter
**GW1/21** 21mm diameter



Webel type 2.

**GW2/16** 16mm diameter
**GW2/19** 19mm diameter
**GW2/21** 21mm diameter

We are able to supply many more types of graticule. Details on request.

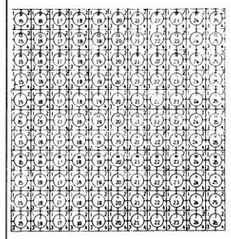
## GRATICULE ADAPTOR RINGS

The above 16mm and 21mm diameter graticules can be adapted to fit the tubes of most eyepieces by means of the series of M4 adaptor rings.

| | |
|---|---|
| **M4/16** | Internal diameter: 16mm, external diameters: 17, 18, 19, 20 or 22mm |
| **M4/21** | Internal diameter: 21mm, external diameters: 22, 23, 24, 25, 26, 27, 28 or 29mm |

Please state required external diameter when ordering.

## SPECIMEN LOCATION SLIDES



**S7 England Finder** Glass slide 75x 26mm ground accurately on three location edges and ruled in 1mm squares referenced and subdivided as illustrated. The lower glass face is matted A 'map reference' for a field of interest on a specimen is found by replacing the slide with the England Finder in the fixed stops of the mechanical stage without altering the setting of the latter. The appropriate 'map reference' is read off the England Finder through the microscope. By reversing the process using the same control edges, but with any England Finder on any microscope, the 'map reference' is first located through the microscope , and the specimen slide then substituted for the England Finder, when the appropriate field of view will be seen through the microscope.

**S30 Halton Finder** Glass slide 76x 26mm marked with smaller reference pattern with basic 0.2mm squares over a field of 5 x 5mm. The Halton Finder is used in a similar way to the England Finder, but its finer markings render it useful at higher magnifications.

## STAGE MICROMETERS

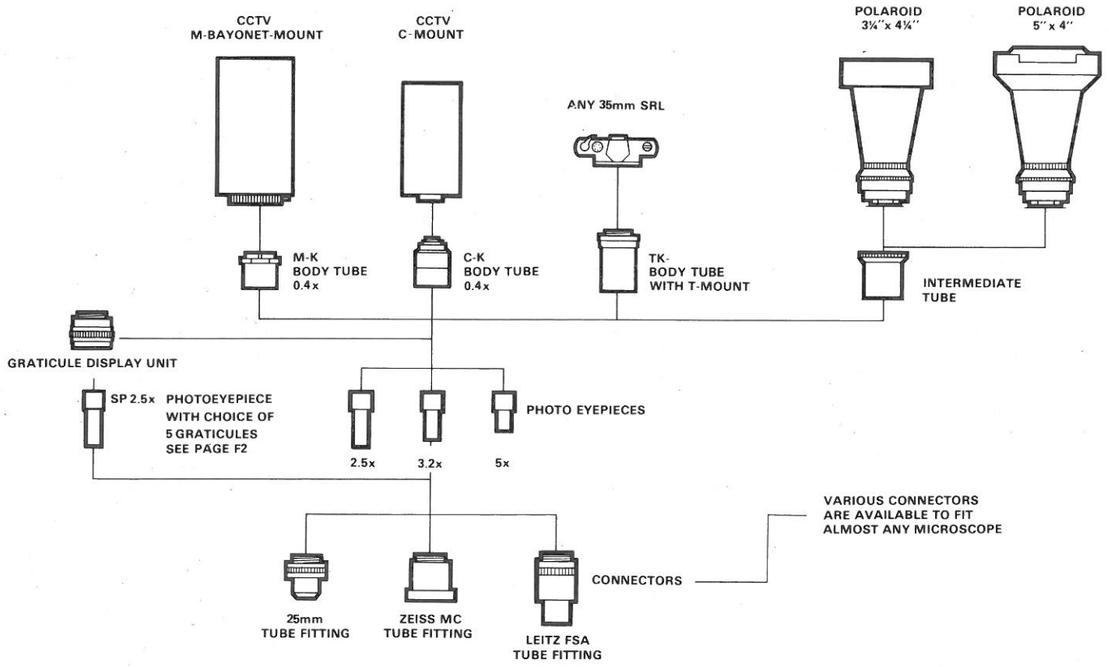
| | |
|---|---|
| **S8** | Stage micrometer 1mm in 100 parts of 0.01mm for transmitted light |
| **S78** | Stage micrometer 1mm in 100 parts of 0.01mm for reflected light |

## PHOTOGRAPHIC EQUIPMENT

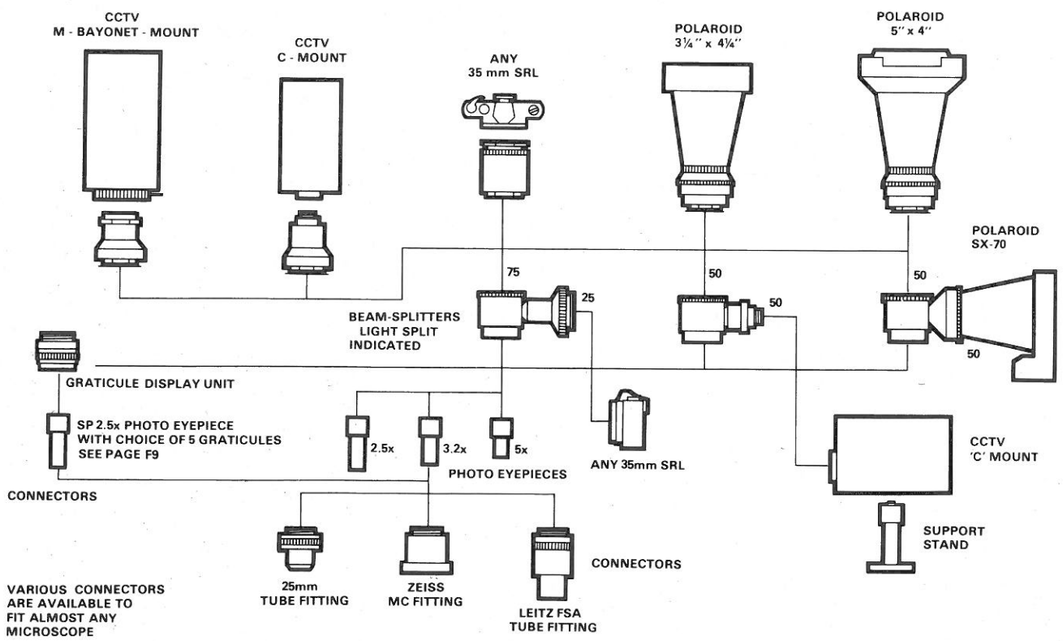
The MCA system is made up of a range of optical/mechanical interfaces and beam splitting units. These allow CCTV, Polaroid and 35mm cameras to be fitted to virtually any type of microscope.

The following schematic diagrams show the various permutations available:

### MCA ONE CAMERA SYSTEM

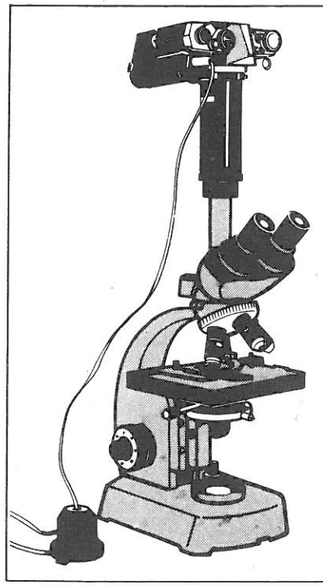



### MCA TWO CAMERA SYSTEM







## OLYMPUS OM-2N AUTOMATIC 35MM CAMERA ATTACHMENT

The Olympus OM-2N provides a low cost completely automatic camera attachment that can be fitted to virtually every microscope.

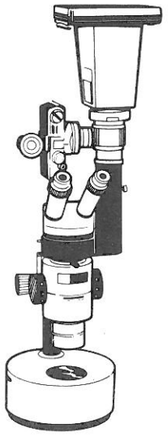
**OM-2N** comprising: Camera body, focusing screen, viewfinder, photo eyepiece, microscope adaptor, cable release.

**OM-2N Motor Wind** automatic motorised film advance system for above with electronic shutter release.

**OM-2N Recordata Back** to enable each negative frame to be marked with a reference number for precise identification of each frame.

**IMPORTANT**

**The OM-2N is a specially modified camera and is not the standard OM-2 camera. We have modified the camera to enable it to operate even when the camera is not switched to the Auto/On position, thus eliminating a possible operator error. It also reduces the drain on the battery as power is only consumed during the actual exposure. It is particularly essential for time lapse work.**

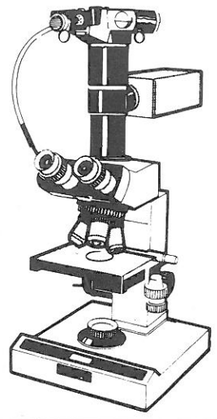


## OLYMPUS OM-2N AUTOMATIC 35MM AND POLAROID CAMERA ATTACHMENT

This system can also be fitted to virtually every microscope. It provides a completely automatic camera attachment and the 35mm camera can be used to calculate the exposure for the Polaroid camera.

**OM-2N Polaroid** comprising: 35mm camera body, focusing screen, viewfinder, photo eyepiece, microscope adaptor, cable release, 3¼in x 4¼in Polaroid camera back.

The motor wind and recordata back, listed above, can also be fitted to this system.



## OM-2N 35MM CAMERA SYSTEM AND TV ADAPTOR

We can also supply this camera system combined with a TV camera.

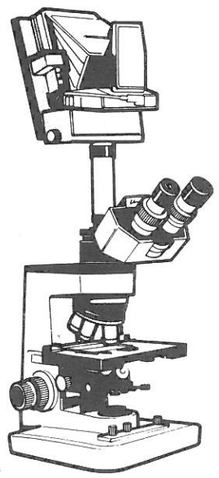
**OM-2N TV** comprising: 35mm camera body, focusing screen, viewfinder, photo eyepiece, microscope adaptor to accept vertically mounted CCTV camera.

## OM-2N 35MM TIME LAPSE EQUIPMENT

This system incorporates automatic switching on of the light and a fault alarm system. Exposure intervals can be set from 2 seconds to 30 minutes. With the 250 exposure back, recordings can be made for as long as 5 days.

**OM-2N Time Lapse** comprising: 35mm camera body, focusing screen, viewfinder, photo eyepiece, microscope adaptor, motorised film transport, 250 frame cassette.

# MICROSCOPE ACCESSORIES



## POLAROID SX-70 MICROSCOPE ADAPTOR

– automatic exposure
– instant
– full colour images
– economical
– simple to use

The Polaroid SX-70 photomicrographic system attaches easily to most microscopes. Its accuracy, speed and ease of use make it ideal for scientific, medical, industrial, educational and other applications.

**SX-70/Microscope adaptor** comprising: SX-70 Polaroid camera with automatic exposure control and microscope adaptor.

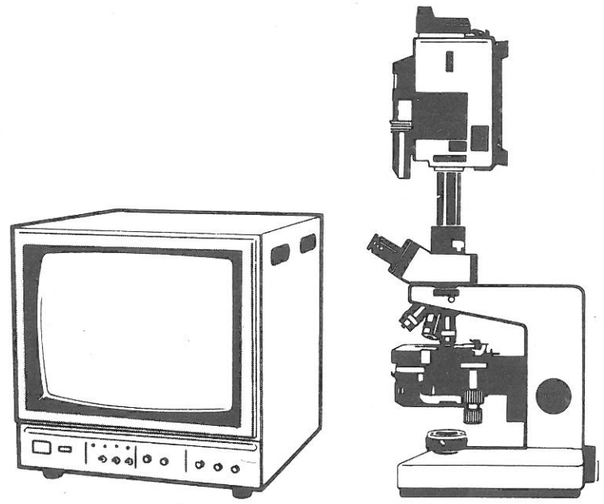
**Type 778** SX-70 film pack (10 shots).

## CCTV EQUIPMENT

Colour and black/white TV equipment can be fitted to most microscopes.

However, due to the continual and rapid change in cameras that are available we are not including any specific outfits in this catalogue.

Please contact us as and when you have any requirements and we will send you the most up-to-date details on cameras and monitors.





## REQUEST FOR MORE INFORMATION

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☐ WITH THE FOLLOWING ACCESSORIES:

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**7 LITTLE CLARENDON STREET, OXFORD OX1 2HP**

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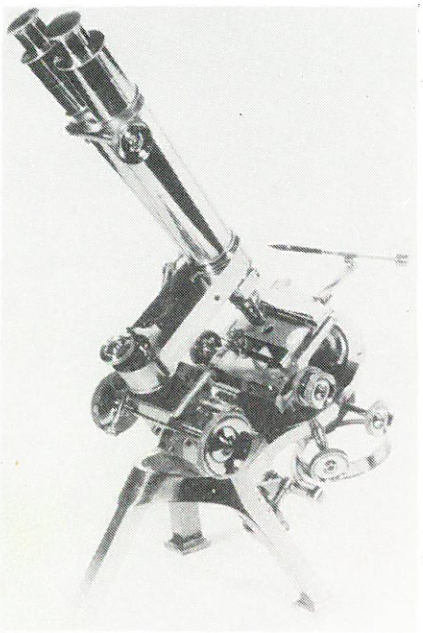
# Books on Microscopy

## ESSAYS ON THE HISTORY OF THE MICROSCOPE
### by G. L'E. Turner



Twelve essays covering bibliography, construction, use and social background of the development of the microscope. The book includes a survey of sources and modern studies on the history of optical instruments.

*"admirable, learned, erudite and fascinating texts"*

**Journal of the Royal Society of Arts**

*"a wealth of references on microscopical history"*

**Museums Journal**

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**Art and Antiques**

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**Microscopical Society of Canada Bulletin**

248 pages, 9½" x 6½"
75 photographs and diagrams
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## Hartley's Microscopy

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