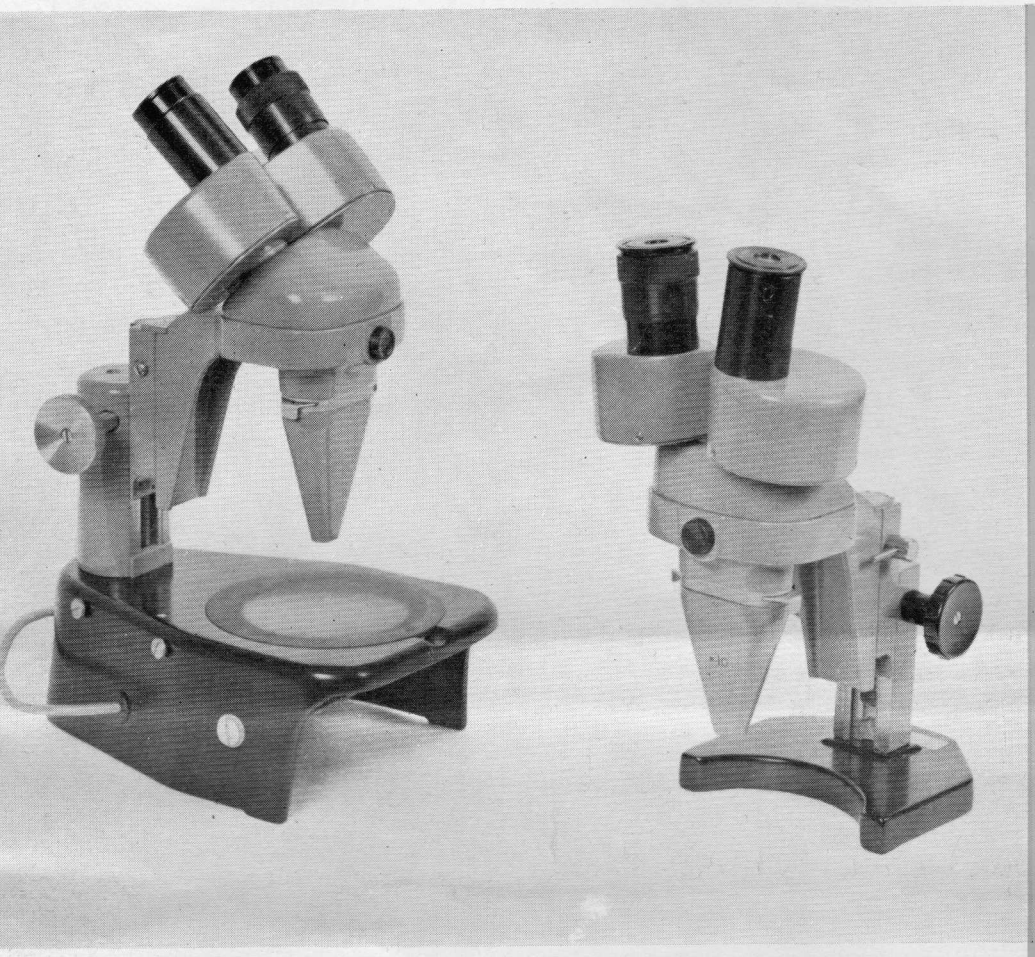
Vision 4-200

RANGE OF STEREO BINOCULAR MICROSCOPES



In recent years the design of stereo binocular microscopes has moved in two directions. Some types have become highly sophisticated, in some cases large and invariably expensive. Other types are cheap and poorly made with limited magnifications and rarely offer value for money.

As a result of these factors there are now many applications in industry, education and medicine where no suitable stereo microscope exists to meet current requirements.

The Vision 4-200 Range of Stereo Binocular Microscopes has been introduced to meet customer requests for simple, compact and robust instruments at realistic prices. It will appeal to those requiring the best in optical performance, wide range of magnifications, together with a standard of mechanics and finish normally only associated with the more expensive instruments.

STEREO BINOCULAR OPTICAL HEADS

There is a choice of two binocular optical heads to suit individual customer requirements:

Part No. 139/50. Microscope with vertical eyepiece tubes.

139/51. Microscope with 45° inclined eyepiece tubes.

Both are fitted with single nosepiece to take one interchangeable objective and offer the following features:

* A large range of wide field eyepieces and high quality objectives. Magnification range between X4–X200.
* Fully adjustable interpupillary distance from 56mm. to 87mm. with individual dioptre adjustment.
* Precision rack and pinion focusing.
* The high standard of engineering and finish normally associated with far more expensive instruments.

STANDS

There are four practical and efficient stands available to take the binocular head of your choice, either

Bench Stand Part No. 139/52. This is a simple compact stand with cast base, designed to take up a minimum amount of bench space, the base is detachable for machine mounting if required;

or

Transmitted Light Stand Part No. 139/53 provides transmitted light in a practical and economical configuration when used with Spot Lamp Part Nos. 139/21, 22 and 23.

In addition there are two useful long work stands:

Part No. 139/55. Plain long work stand with plate base.

Part No. 139/56. Plain long work stand with 'G' clamp.

VISION–THE BRITISH NAME IN WORLD OPTICS

EYEPIECES & OBJECTIVES

The paired wide angle eyepieces give extra wide fields of view and are all parfocal. All eyepieces are supplied in pairs and are quickly interchangeable.

Power	X5	X10	X15	X20
Part No.	139/8	139/9	139/10	139/11

Measuring Eyepiece

Single X10 micrometer eyepiece available if required without graticule, Part No. 139/18. A range of specific screw-in interchangeable graticules available on application.

Stereoscopic Objectives

The objectives have been computed with long working distances, large fields of view and visual fidelity of the highest order. Special attention has been paid to obtaining maximum depth of field as this is of major importance to the formation of a good stereoscopic image. Positive attachment of the objectives to the nosepiece ensures accuracy of optical alignment.

Power	X1.25	X2.5	X5	X10
Part No.	139/12	139/13	139/14	139/15

Magnification Table

OBJECTIVE	EYEPIECE X5	X10	X15	X20	WORKING DISTANCE
X1.25	6.25	12.5	18.75	25	85mm. (3.35")
X2.5	12.5	25	37.50	50	74mm. (2.91")
X5	25	50	75	100	42mm. (1.65")
X10	50	100	150	200	22mm. (0.87")

Field of View

OBJECTIVE	EYEPIECE X5		X10		X15		X20	
	mm.	in.	mm.	in.	mm.	in.	mm.	in.
X1.25	22.0	0.87	19.0	0.75	12.60	0.49	8.8	0.35
X2.5	10.0	0.40	9.2	0.36	6.16	0.24	4.0	0.16
X5	5.0	0.20	4.6	0.18	3.08	0.12	2.0	0.08
X10	2.5	0.10	2.3	0.09	1.49	0.06	1.0	0.04

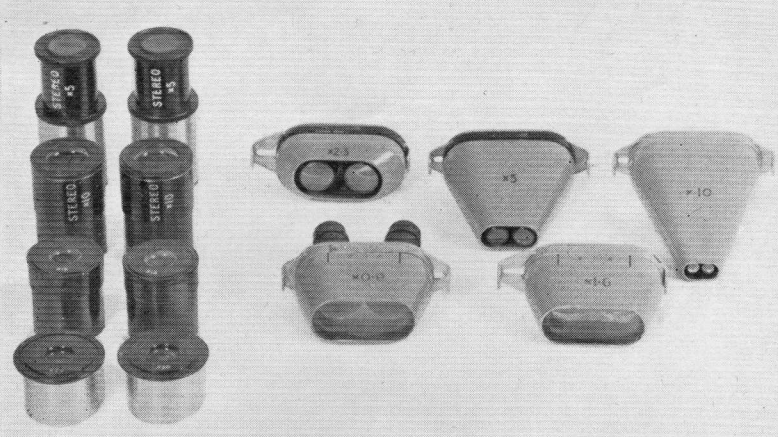
Extra Long Working Distance Objectives

An uncommon and most useful feature of the Vision 4-200 range of microscopes is the two extra long working distance objectives, these provide free working distances of 4 inches. The magnification and Part Nos. are as follows :—

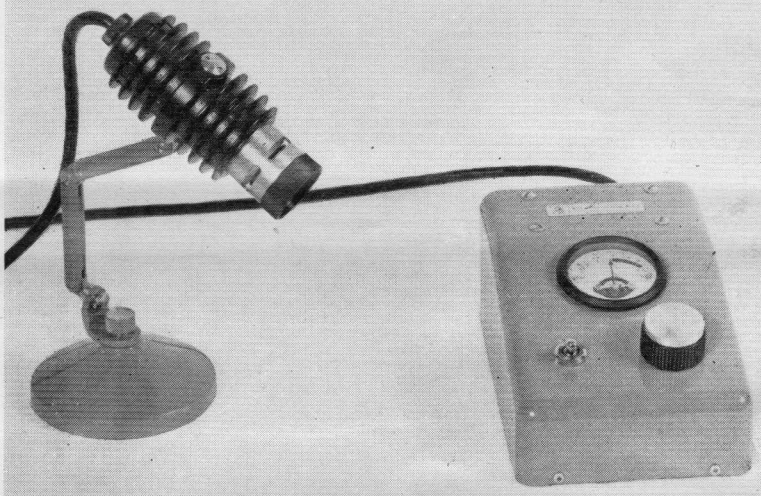
Power	X0.8	X1.6
Part No.	139/16	139/17

Field of View

OBJECTIVE	EYEPIECE X5		X10		X15		X20	
	mm.	in.	mm.	in.	mm.	in.	mm.	in.
X0.8	34.37	1.35	29.68	1.16	19.68	0.77	13.75	0.54
X1.6	17.18	0.67	14.84	0.58	9.84	0.38	6.87	0.27



ILLUMINATION



Good controllable illumination is essential to clear observation. The Vision Spot illuminator is fitted with focusing lens and can be quickly attached by a screw which fits into the threaded hole in the front of the optical head.

Two elbow joints and swivels allow the lamp to be adjusted to any angle. A free standing cast base is available for the Spot Illuminator together with a wide range of colour filters if desired.

Part No. 139/21. Spot lamp 6 volt 18 watt.
139/22. Free standing base.
139/23. Supply transformer 110/240 volt.

Vision Engineering Ltd.

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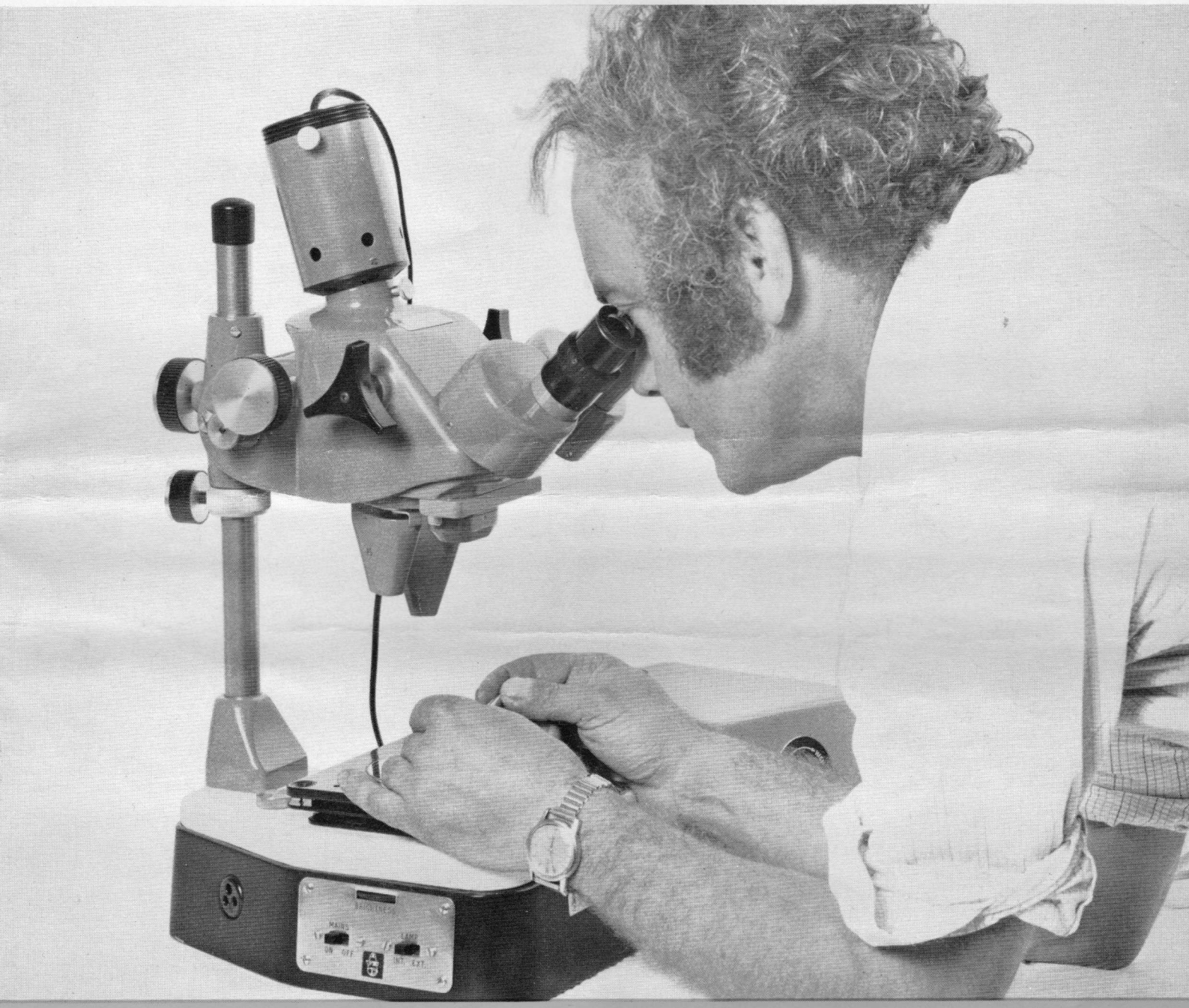
Vision Super 4-200

STEREO BINOCULAR MICROSCOPE



Over recent years as many manufacturers concentrate on stereo-zoom microscopes, customer choice in the field of high quality stereo microscopes and their attachments, has become extremely small. The Vision Super 4-200 stereo microscope is a new British three-position turret microscope of classic design, with many new and unusual features, to the highest standards of optical quality, mechanical engineering and finish. A wide range of high quality stereo objectives and wide field eye pieces are available, providing magnifications between X4-X200. To enable users to obtain the maximum utilisation from this instrument, a truly comprehensive range of accessories has been provided.

The Vision Super 4-200 Stereo Microscope will appeal to those requiring the best in optical performance at given magnifications with the ability to choose stand, illumination and other attachments most suitable to their individual requirements.

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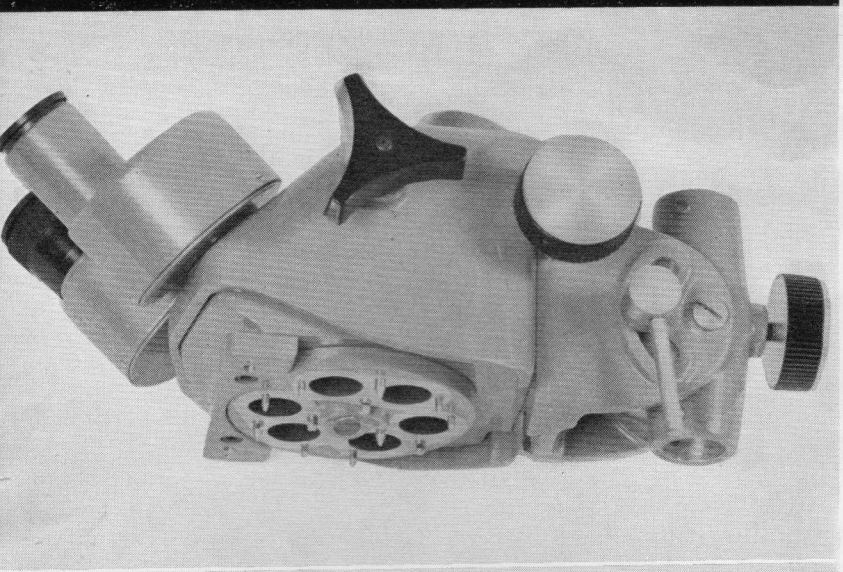
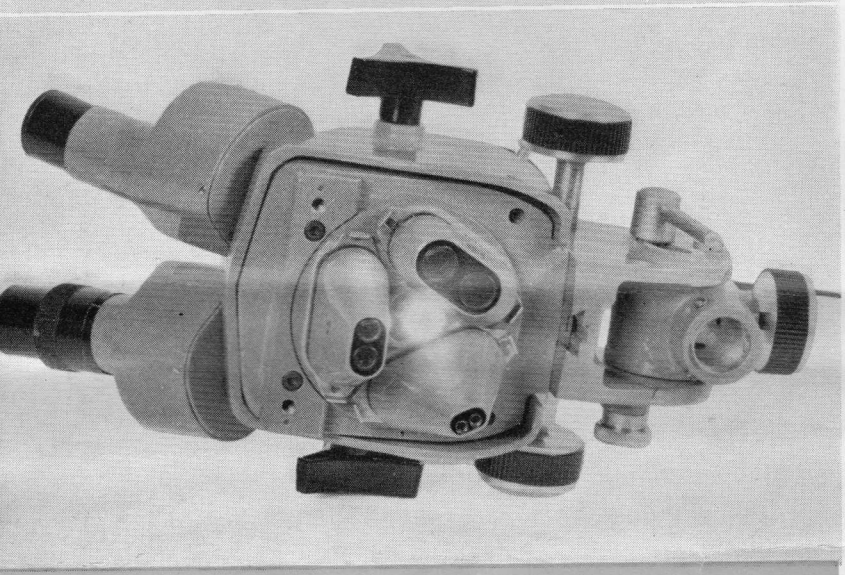
BASIC MICROSCOPE 139/1





Basic Microscope

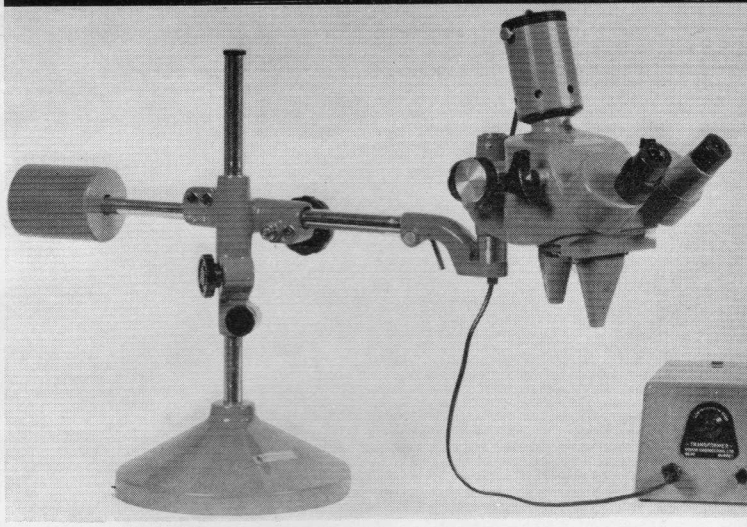
The stereo binocular head part No. 139/1 is a new design and is fitted with 45° inclined eyepieces.

An important feature of the three-position objective turret, is that indexing is carried out by rotation of the triangular knobs mounted on either side of the head. This enables magnification to be quickly changed without handling the turret.

A further unusual feature is that the angle of the stereo binocular head may be altered to suit individual or subject viewing requirements. Additional features of the stereo binocular head are as follows :—

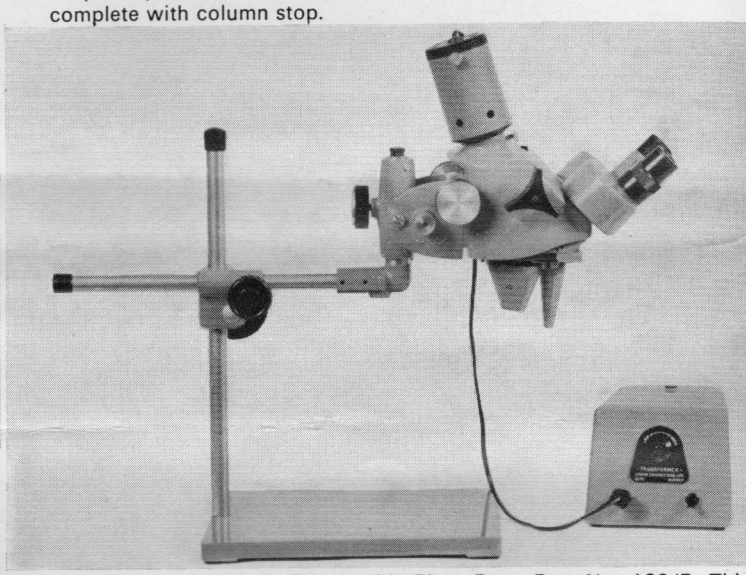
- *A large range of wide field eyepieces and high quality objectives, magnification between X4-X200.
- *Fully adjustable interpupillary distance from 56mm to 87mm with individual dioptre adjustment.
- *Precision rack and pinion focusing.
- *Provision for built-in illumination, Part No. 139/19 and 20.
- *A high standard of engineering and finish normally associated with far more expensive instruments.

LONG WORK STANDS

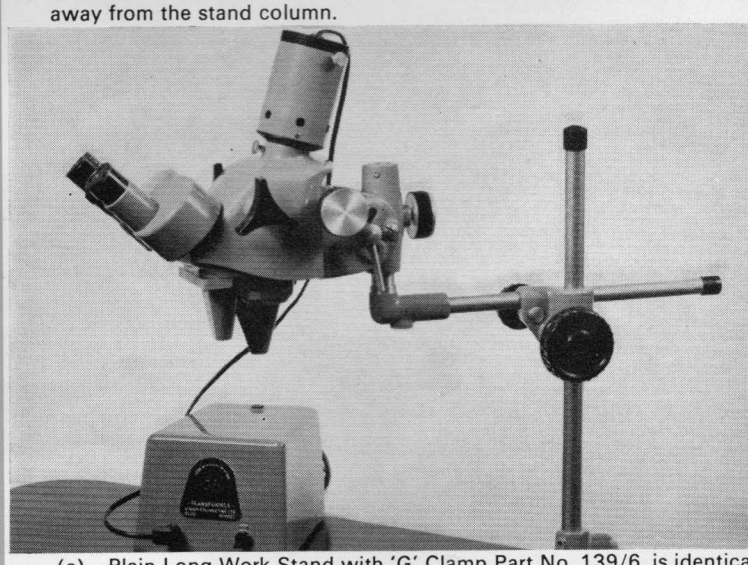


Long Work Stands

(a) The Racking Long Work Stand Part No. 139/7 enables the microscope to be moved over large areas without any projections below the objectives. Vertical and horizontal movement of the rack is in excess of 9″. The stand is supplied complete with heavy cast base and the microscope may be rotated through 360° around the stand which is supplied complete with column stop.



(b) Plain Long Work Stand with Plate Base Part No. 139/5. This inexpensive stand enables examination of large objects to be carried out where it is desirable to have the microscope mounted some distance away from the stand column.



(c) Plain Long Work Stand with 'G' Clamp Part No. 139/6, is identical to 139/5 but fitted with 'G' clamp mounting instead of plate base.

IMMENSE VERSATILITY AND OPTICAL PERFORMANCE

EYEPIECES & OBJECTIVES

The paired wide angle eyepieces give extra wide fields of view and are all parfocal. All eyepieces are supplied in pairs and are quickly interchangeable.

Power	X5	X10	X15	X20
Part No.	139/8	139/9	139/10	139/11

Measuring Eyepiece

Single X10 micrometer eyepiece available if required without graticule, Part No. 139/18. A range of specific screw-in interchangeable graticules available on application.

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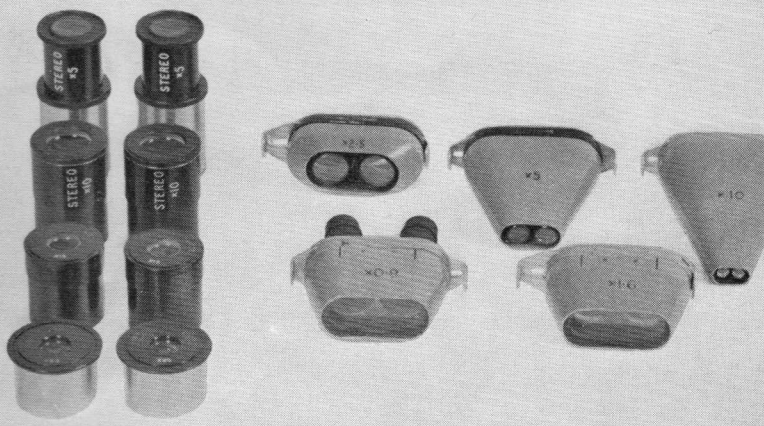
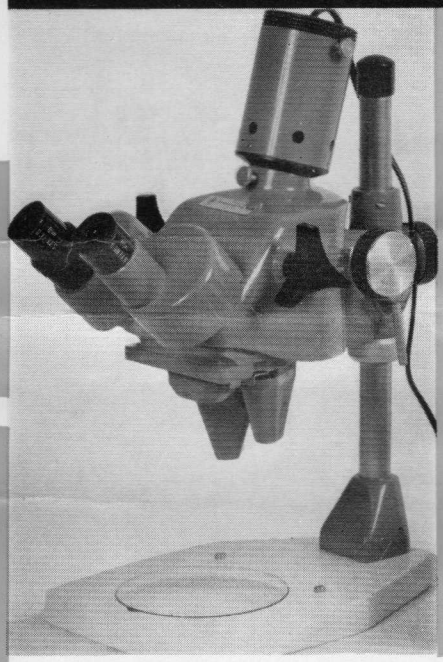


PLAIN BENCH STAND 139/2 & MOVEABLE STAGE 139/4



Plain Bench Stand, Part No. 139/2

The Plain Bench Stand Part No. 139/2 has been designed to take up minimum bench space. It is supplied complete with column stop and clear stage plate. Double sided black/white stage plate Part No. 139/3 is available and transmitted light base 139/28 may be added.



Movable Stage, Part No. 139/4

Movements are controlled by light finger pressure and are extremely smooth due to the use of precision ball slides. The top plate of the stage can be moved freely in all directions over a total area of 3″ x 3″. Quick action clamps for independent locking of X and Y movements are provided and greatly assist in the controlled examination of large areas.

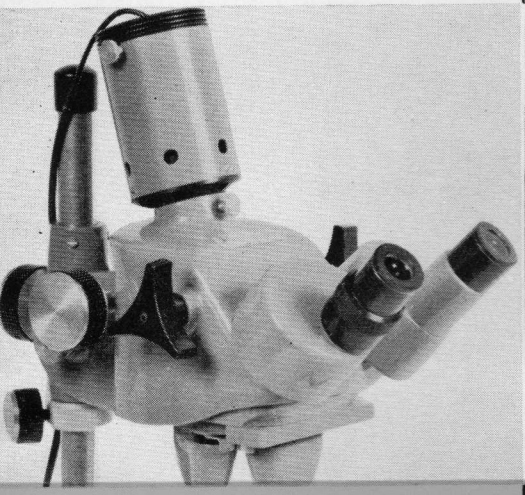
COMPLETE OBJECTIVE INTERCHANGEABILITY

ILLUMINATION

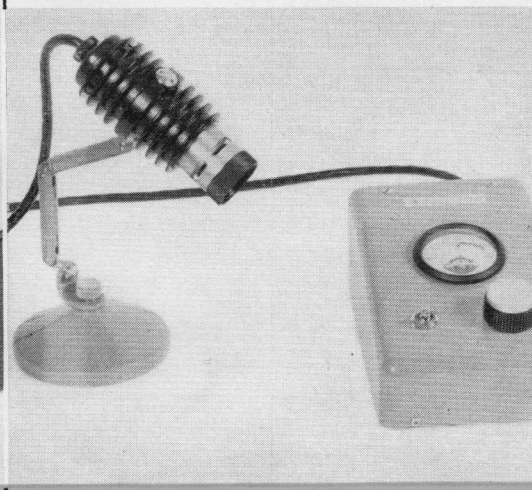
BUILT-IN LAMP UNIT 139/19
TRANSFORMER 139/20

SUBSTAGE 139/28

SPOT LAMP UNIT 139/21
BASE 139/22
TRANSFORMER 139/23







Built-in Lamp Unit 139/19
Transformer 139/20

Many subjects can be more clearly viewed with almost vertical illumination.

All Vision Super 4-200 series microscopes have provision to take a built-in 8-volt 50-watt Tungsten Halogen Lamp unit, working through a quartz rod light guide at 11° from vertical.

This in-built system is ideal for original equipment manufacturer requirements.

Substage 139/28

The Transmitted Light Base which fits below Bench Stand 139/2 is fitted with a special optical system that eliminates the need for a ground glass screen to achieve even illumination.

The transformer to operate the 6-volt 18-watt lamp from 110/240-volt AC is incorporated.

A finger tip control wheel is mounted on the side of the base to vary illumination intensity together with an on/off switch.

Lamp Unit 139/21
Spotlight Base 139/22
Transformer 139/23

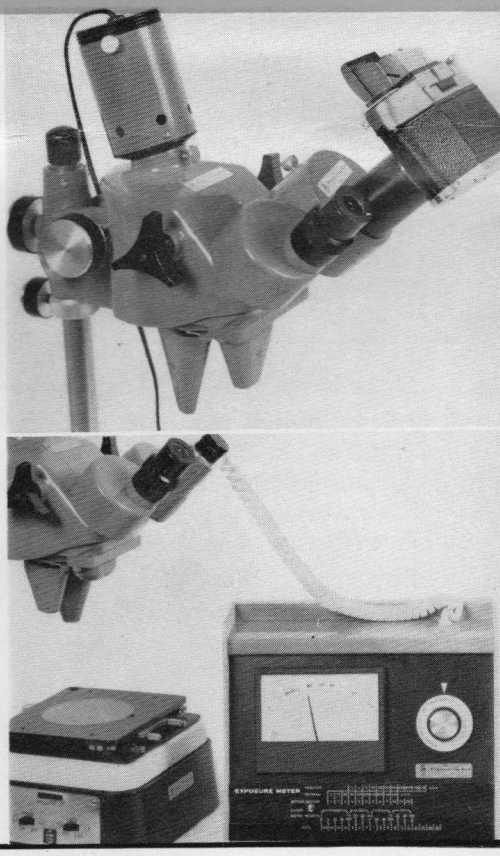
Many applications demand illumination from almost any angle.

The Vision Spot Illuminator is fitted with a focusing lens and can be quickly attached to the front of the optical head.

Two elbow joints in swivels allow the lamp to be adjusted to any angle.

A free-standing cast base is available together with a wide range of screw-in colour and heat filters.

CAMERA ATTACHMENT 139/29 & CDS EXPOSURE METER 139/30



Camera Attachment and CDS Exposure Meter

In many cases it is required to obtain photographic records of the subject under examination.

The specially developed photographic accessories are based on the Exa camera range. The camera adapter clamps on to the porroprism box of the microscope and this gives a rigid fixing capable of supporting the camera when the microscope head is mounted at any angle.

An Exa Ia reflex camera body is supplied with the adapter. The special objective is mounted in the adapter body which brings the microscope image to a sharp focus on the film plane and the full visual field is recorded on the negative.

The battery-operated Vision CDS exposure meter will be found invaluable for calculating the exposure time. It is an integrating meter measuring the total light over the field and has a built-in slide rule calculator. The unit is used by inserting the cell into the eyepiece adapter collar supplied and placing over the eyepiece.

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