

Product Range Overview



- Stereo Optical Inspection Microscopes
- Non-Contact Measurement Systems
- Laboratory Microscopes
- Metallurgical Microscopes



FM 557119

Vision Engineering Ltd has been certified for the quality management system ISO 9001:2008.

# Stereo Optical Inspection Microscopes

A range of patented optical systems, offering fatigue-free viewing with superb hand/eye co-ordination, for improved quality and productivity.



Vision Engineering has designed and manufactured world leading stereo optical systems for over 50 years. Systems range from low magnification fixed ranged viewers for inspection and manipulation, to high magnification stereo microscopes with patented expanded-pupil technology.

All systems present the operator with high contrast, high resolution three dimensional images. Patented optics allow for fatigue-free viewing with superb hand/eye co-ordination, leading to improvements in quality and productivity.



Lynx with boom mount

## Stereo Inspection Systems

All Vision Engineering stereo inspection systems present the user with a three dimensional image, offering excellent depth perception. Because the image path to each eye is different, the variations in the surface of the subject will be seen with a clarity that is not possible when viewing a photograph or a monitor image.

There are many variants and options within the stereo inspection product range. A wide range of camera and workholding options can be used with Vision Engineering stereo products. Other variants include UV and polarised light sources.

Your sales engineer or local distributor will be able to advise you which system is most appropriate for your inspection application.



- Patented optical technology for fatigue-free viewing
- Long working distances; large depths of field for easy sample manipulation
- Fixed and stereo zoom magnification options up to x320
- Modular systems with a wide range of options and accessories
- Entry level, low investment versions
- Bench stand or boom arm options

## Mantis Stereo Viewers

The Mantis family of stereo viewers are used in tens of thousands of sites worldwide and have become an industry standard for ergonomics and high performance magnification. The unique patented spatial imaging system of Mantis increases throughput and reduces operator errors by dramatically reducing eyestrain and body fatigue.

All Mantis systems have large fields of view and long working distances for superb hand-eye co-ordination and easy sample manipulation, finishing or rework.



Mantis is simple and cost-effective to use and is unrivalled for visual inspection and manipulation tasks.

To compliment the Mantis family there is also Lentis - a high performance bench magnifier incorporating the latest lens and stand technology.

## Stereo Range Overview

	Magnification Range	Boom or Stand Mount	Camera Attachment	Expanded Pupil
<b>Lentis</b> - bench magnifier	2.5 Dioptres	Boom Arm	N/A	N/A
<b>Mantis</b>	Compact	Both	N/A	Optical Head
	Elite	Both	N/A	Optical Head
	Elite-Cam	Both	Digital/Video	Optical Head
<b>Lynx</b> - stereo zoom microscope	x3.5 - x120	Both	Digital/Video	Dynascope
<b>Alpha</b> - stereo zoom microscope	x2.1 - x160	Both	Digital/Video	ISIS Eyepieces
<b>SX45</b> - binocular stereo zoom	x4 - x200	Both	Digital/Video	N/A
<b>SX80/100</b> - binocular stereo zoom	x4 - x320	Both	Digital/Video	N/A

# Non-Contact Measurement Systems

Vision Engineering's range of non-contact measuring systems provide high accuracy, repeatable measurement of complex components of all materials.



- Outstanding clarity - for easier definition of the component edge, even where contrast is poor
- High system accuracy
- Excellent repeatability, even with complex components
- Accurate reproducibility, with a diversity of materials
- Variety of configurations from manual to fully automated Video Edge Detection
- Modular design with a wide range of options and accessories

Vision Engineering lead the world in the design and manufacture of non-contact measurement equipment. Thousands of manufacturers worldwide use Vision Engineering systems to measure components in a wide variety of production and quality control applications.

With configurations varying from 2-axis manual systems to fully automated Video Edge Detection (VED) 3-axis measuring platforms, there is a modular, flexible solution to virtually every optical non-contact measuring application.



## Optical and Video Measurement Solutions

Accurate non-contact measurement of precision components requires high resolution, high contrast images, combined with a precision measuring stage. Vision Engineering's optical measurement systems employ patented Dynascope™ technology to provide microscope resolution images with enhanced surface definition for fast and simple measurement. Critical parts can be measured with confidence.

Patented Dynascope™ technology presents a clear, pure optical image to the operator through the 'expanded pupil' optical head. This image has not been digitised and will not suffer from loss of resolution, resulting in clear views of optically difficult parts.

Measurement applications vary widely - this is reflected in the broad range of non-contact solutions offered. All systems come with a high level of local technical support, before and after installation.

Falcon incorporates over 50 years of Vision Engineering's proven optical experience in a powerful range of 3-axis non-contact video measuring systems. Packed with massive technical capabilities yet with a small footprint, Falcon is suitable for both shop-floor quality control and manufacturing inspection applications, combining power with amazing simplicity.



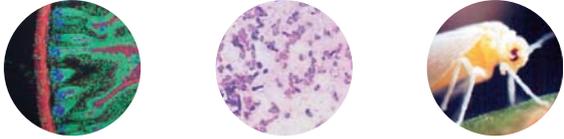
Falcon video measuring system

## Measurement Range Overview

	Stage Size	Magnification Range	Video Edge Detection	Camera Options	Control Options
<b>Kestrel</b> - 2 axis optical measurement	150 x 100mm	x10 - x50	N/A	Digital/Video	QC-200 Microprocessor
<b>Peregrine</b> - 2 axis optical/video measurement	150 x 100mm	x10 - x50	Standard	Video as standard	QC-300 Video Microprocessor
<b>Falcon manual</b> - 3 axis video measurement	150 x 100mm 150 x 150mm	x10 - x100	Standard	Video as standard	QC-300 Video Microprocessor
<b>Falcon automated</b> - 3 axis video measurement	150 x 100mm 150 x 150mm	x10 - x100	Standard	Video as standard	QC-300 Video Microprocessor / QC-5000 PC software
<b>Hawk manual</b> - 3 axis optical/video measurement	150 x 150mm 200 x 150mm	x20 - x1000	Optional	Digital/Video	QC-200 Microprocessor / QC-300 Video Microprocessor / QC-5000 PC software
<b>Hawk automated</b> - 3 axis optical/video measurement	200 x 150mm	x20 - x1000	Optional	Digital/Video	QC-5000 PC software
<b>Hawk large stage</b> - 3 axis optical/video measurement	300 x 225mm 300 x 400mm	x20 - x500	Optional	Digital/Video	QC-5000 PC software

# Laboratory Microscopes

Vision Biomed has developed a number of patented optical techniques which allow microscope users to work more efficiently and accurately, for longer.



Vision Biomed, a Division of Vision Engineering Ltd, has designed and manufactured world leading optical systems for over 50 years. Vision Biomed's range of routine laboratory microscopes are integrated with wide-angle expanded-pupil optics to optimise the ergonomic performance of the microscope and the efficiency of the operator.



## Improved Operator Comfort

Many routine biomedical applications are intensive and involve repetitive microscope use. Consequently, enhancements which improve operator comfort and efficiency will be significant, leading to reduced errors.

Vision Biomed's range of routine upright and inverted laboratory microscopes are suitable for a range of tasks, from observation through to the most demanding high magnification screening applications.

The range includes both upright routine laboratory and inverted tissue culture microscopes, offering versatility and a wide range of accessories, including phase contrast, darkfield and fluorescence illumination.



DX41 routine microscope, with optional ISIS eyepieces

- Range of high quality routine laboratory microscopes
- Superior ergonomics provide greater work efficiency and accuracy
- Safety goggles and spectacles can be worn comfortably without loss of clarity, colour or perspective
- Wide range of illumination options, including brightfield, polarised light, phase contrast, darkfield and fluorescence
- Wide range of accessories including digital camera and image archiving software

## Patented Optical Technology

Vision Biomed's patented expanded-pupil technology significantly improves operator comfort by removing the need for users to precisely align their eyes with restrictive eyepieces, freeing up head movement, improving comfort and efficiency.

Expanded-pupil technology also means that an operator does not need to physically come into contact with the eyepiece of the microscope. In environments where there is a contamination, biological, or chemical hazard, this offers a safer working solution for the operator.

ISIS expanded eyepiece modules are also available to improve the performance of other brand microscopes.



ISIS 'expanded-pupil' eyepiece accessory

## Laboratory Range Overview

	Magnification Range	Boom or Stand Mount	Camera Attachment	Expanded Pupil
DX21 - routine microscope	x40 - x1000	Bench Stand	Digital/Video	N/A
DX41 - laboratory microscope	x40 - x1000	Bench Stand	Digital/Video	ISIS Eyepieces optional
DX61 - inverted microscope	x40 - x400	Bench Stand	Digital/Video	ISIS Eyepieces optional
ISIS - ergonomic eyepieces	N/A	N/A	N/A	ISIS Eyepieces

# Metallurgical Microscopes

Vision Engineering's accomplished material science microscope provides performance and flexibility for routine applications.

Vision Engineering's routine metallurgical microscope offers outstanding optical performance, with optimised ergonomics to allow operators to work for extended periods of time, resulting in greater efficiency.

Disciplines that utilise the DX51 include manufacturers of electronic devices, ceramics, wear debris and plastics.

- Infinity optical system offering excellent contrast and resolution
- Range of illumination techniques including brightfield and polarised light
- Modular multimedia solutions for image capture, archiving, analysis and documentation
- Modular design provides flexibility for easy upgrade



DX51 metallurgical microscope

## Metallurgical Range Overview

	Magnification Range	Boom or Stand Mount	Camera Attachment	Expanded Pupil
DX51	x40 - x400	Bench Stand	Digital/Video	N/A

### Support

With international representation, Vision Engineering responds to customer demand with speed, efficiency and innovative solutions. Highly trained distributors provide every customer with the world class support they have grown to expect before and after every sale.

4 manufacturing sites, 7 direct international sales offices and a network of international distributors offer an unbeatable level of support, today and in the future.

### Technology

Utilising multiple patents in image projection and exit pupil expansion technologies, Vision Engineering provides users with high contrast, high resolution images along with unmatched ergonomic advantages.

What does this mean to the microscope user?

- Increased efficiency
- Greater accuracy
- Reduced errors

### Solutions

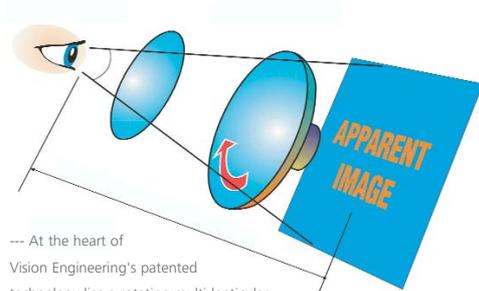
Vision Engineering optical systems are used by engineers and scientists worldwide. The systems are designed to be modular, allowing users the flexibility to customise a system that meets the immediate requirement or to add future options as needs change.

More than 300,000 Vision Engineering systems have been delivered to provide inspection and measurement solutions worldwide.

## Patented Optical Technology

Vision Engineering's reputation is built on innovative design, advanced optical technology and ergonomically superior products. The product range incorporates a range of exit pupil expansion technology patents.

Expanding the exit pupil results in the maximum axial and radial head freedom, vital for viewing tasks that take a long time or require repeated and precise checks. The combination of microscope resolution, image quality and patented exit pupil expansion result in unrivalled levels of ergonomics, sustaining operator accuracy, speed and efficiency.



--- At the heart of Vision Engineering's patented technology lies a rotating multi-lenticular (multi-lens) disc, composed of millions of lenticules (lenses), which act as independent image forming surfaces with diameters of a few microns each. The disc spins at high speed to merge the millions of individual optical paths into an aberration-free, high-clarity image ---



Conventional eyepiece microscope.



An example of Vision Engineering's patented Dynascope™ image projection technology.