



## Mantis

### Stereo Viewing Systems

Superior imaging for a wide range of inspection & rework tasks

- Patented optical technology for fatigue-free viewing and superb image quality
- Wide range of magnification options (to 20x)
- Long working distances; large depths of field
- Shadow-free true color LED illumination



1-800-381-7308 514-388-7308  
www.diverseelectronics.com  
sales@diverseelectronics.com



FM 584026

Vision Engineering Inc. has been  
certificated for the quality  
management system ISO 9001:2008.

# Improving operator ergonomics is not just about improving comfort

Businesses choose Vision Engineering's ergonomic microscopes because they know their operators are more efficient, more accurate and more productive. So the operator benefits and so does the business.

## Give your stereo microscope a health check!

### ✓ Ergonomic working position

An ergonomic body position makes the Mantis more comfortable, less fatiguing and, more importantly, much easier to use. Additionally, optimal operator ergonomics minimises the risk of repetitive strain-related injuries. A happy worker is a productive worker.

### ✓ Freedom of head movement

An additional benefit of Vision Engineering's patented eyepieceless design is that users do not need to align their eyes with eyepieces. This freedom of movement reduces associated neck and back strain associated with the fixed body position of conventional microscope eyepieces.

### ✓ A natural view of the subject

With conventional microscope eyepieces, operators must position their eyes very close to the eyepieces, blocking out ambient light. The intense light exiting the eyepieces causes the pupils to contract. Constant contraction and expansion of the pupils is the main cause of eye fatigue with microscopes.

With the patented eyepieces of Mantis, users sit back from the viewer, allowing ambient light into the eyes. Additionally, the light exiting the 'viewing lens' is spread over a larger area, providing a more natural view of the subject.

### ✓ Ability to wear glasses

With Mantis, operators do not need to remove their glasses (or safety glasses) to use the microscope.

### ✓ Easy hand-eye coordination

Easy hand-eye coordination is possible with the Mantis – critical for re-work, repair, dissection and other manipulation tasks. Sitting back from the viewer provides users with much better peripheral vision, so they can co-ordinate hands in a natural manner.



Read about our patented technology:  
[www.visioneng.com/ergonomics](http://www.visioneng.com/ergonomics) »

**Mantis Compact** is a high value stereo viewer which excels in the low magnification range for inspection or manipulation tasks where bench magnifiers have traditionally been used.

Patented optical technology allows operators freedom of head movement for superb ergonomics and hand-eye coordination, with the ability to wear glasses if required. All Mantis systems aid with productivity and quality improvements.

- Superior ergonomics for improved productivity and increased output
- Long working distances for easy sample manipulation and rework
- 2x, 4x, 6x and 8x quick change objectives
- Bright white, true color, LED illumination providing up to 10,000 hours of shadow-free viewing
- Superb hand-eye coordination for inspection and manipulation tasks
- Patented eyepieceless optics maximize head freedom providing superb ergonomics and reduced eye fatigue



Mantis Compact, with counterbalanced universal stand, for flexibility and ease of use.



High stability bench stand, with integral focus and dimmable substage illumination.



Articulated arm, designed specifically for applications requiring extended reach, without compromising stability.

## Options



### Floating Stage

Provides smooth and sensitive control allowing for samples to be accurately inspected. For use with bench stand only.



### UV Lighting

For UV inspection applications and fast and accurate fault detection.



### Secondary Link Arm

A secondary link increases total reach of articulated arm to 33.3" (847.5mm) and provides added flexibility and maneuverability.



### Floor Stand

Ideal for inspection where subjects are immobile or require a standing position. For use in conjunction with articulated arm. Lift, swing, tilt and rotate capabilities.

## Optical Data

Objective Lenses	Working Distance	Field of View
2x	6.57" (167mm)	1.77" (45.0mm)
4x	3.78" (96mm)	1.08" (27.5mm)
6x	2.87" (73mm)	0.76" (19.2mm)
8x	2.30" (58.5mm)	0.56" (14.3mm)

## Accessories

Lens protection caps  
Dust cover  
Replacement LED array

**Mantis Elite** is a high performance stereo microscope, offering superb optical performance with magnification options up to 20x, making it a perfect alternative to more traditional stereo microscopes.

Large fields of view and generous working distances permit a wide range of inspection, preparation and manipulation tasks, all with exceptional hand-eye coordination.



Mantis Elite, with counterbalanced universal stand for flexibility and ease of use.



Articulated arm, designed specifically for applications requiring extended reach, without compromising stability.

Optical Data		
Objective Lenses	Working Distance	Field of View
2x	6.29" (160mm)	2.24" (57.0mm)
4x	3.78" (96mm)	1.34" (34.0mm)
6x	2.68" (68mm)	0.91" (23.0mm)
6x SLWD*	4.41" (112mm)	0.79" (20.0mm)
8x	2.32" (59mm)	0.67" (17.0mm)
10x	2.13" (54mm)	0.53" (13.5mm)
15x	1.57" (40mm)	0.35" (8.8mm)
20x	1.14" (29mm)	0.25" (6.5mm)

## Accessories

Lens protection caps  
 Dust cover  
 Replacement LED array

\* cannot be used together with 2x or 20x lens

- High value, high specification patented design with superior optical performance
- 2x - 20x magnification options with quick change turret allows users to switch between low magnification inspection and high magnification for fine detail tasks
- Patented eyepieceless optics maximize head freedom providing superb ergonomics and minimal eye fatigue
- Superb hand-eye coordination for inspection and manipulation tasks
- Bright white, true color, LED illumination providing up to 10,000 hours of shadow-free viewing
- Long working distance and large field of view for easy sample manipulation and rework



High stability bench stand with integral focus, dimmable substage illumination and floating stage (optional).

## Options



### Floating Stage

Provides smooth and sensitive control allowing for samples to be accurately inspected. For use with bench stand only.



### Episcopic Illuminator

Through-the-lens illumination for the inspection of bore holes and complex internal/external features. Iris control for precise light positioning.



### UV Lighting

Switchable UV white light illumination for UV inspection applications and fast and accurate fault detection.



### Secondary Link Arm

A secondary link increases total reach of articulated arm to 33.3" (847.5mm) and provides added flexibility and maneuverability.



### Floor Stand

Ideal for inspection where subjects are immobile or require a standing position. For use in conjunction with articulated arm. Lift, swing, tilt and rotate capabilities.



**Mantis Elite-Cam** is a variant of the successful Mantis Elite stereo microscope, with an internally integrated USB2.0 digital camera, bringing image capture capabilities to the outstanding optical performance of Mantis.

- Factory integrated and sealed 1.3Mp USB2.0 camera
- Includes free software for basic image capture requirements
- Variety of image capture formats including .bmp, .jpg and .png

**Also available, DimensionOne software, which allows for professional image capture, annotation and dimensioning.**

#### Mantis Elite-Cam includes

USB cable, 3 foot  
Public domain image capture software, with installation CD



Mantis Elite-Cam with DimensionOne™ software illustrated.

## DimensionOne™ Software Option

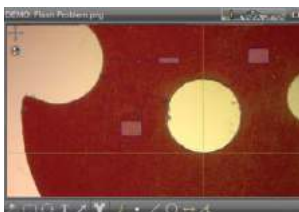


### Multilingual software

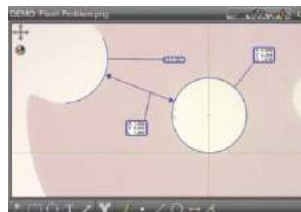
DimensionOne™ is available in multiple languages including English and Spanish.

### Opacity change

DimensionOne™ allows for the captured image to be modified with a change in opacity from 0 to 100%.



Opacity at 90%.



Opacity at 10%.

**DimensionOne™** is a powerful image capture, annotation and dimensioning software solution for the Mantis Elite-Cam, providing fast, precise imaging of your samples and components.

### Image capture

DimensionOne™ captures an image with a click of the mouse, or a touch of the screen\* - it's that simple!

### Annotation

Adding annotation text could not be easier. DimensionOne™ has one simple font and a palette of colors, ensuring maximum contrast can always be obtained for easy reading.

### Dimensioning and simple measurement

Onscreen dimensioning can be performed on any captured image to measure circles, lines, points, angles and distances. Additionally, there is a range of powerful dimensioning tools available.

### Save it, email it, print it.

The choice is yours. Files can be saved as .jpg, .png, or .bmp

### System requirements

DimensionOne™ requires Windows XP (or later).

\* Windows 7 (or later) operating system required for touchscreen functionality.



View the online demo at  
[www.visioneng.us/dimensionone](http://www.visioneng.us/dimensionone)

## Mantis... Compact, or Elite?

Vision Engineering has designed and manufactured world class optical systems since 1958.

The Mantis family is comprised of a unique range of patented optical systems without eyepieces, for intricate tasks requiring high quality viewing over extended periods of time.

Mantis is in use in tens of thousands of sites worldwide and has become the accepted standard for ergonomics and high performance magnification.

### Mantis Compact

Mantis Compact excels in the low magnification range for inspection or manipulation tasks where bench magnifiers have traditionally been used. Mantis Compact has a small footprint and low investment cost giving a superb price/performance ratio.

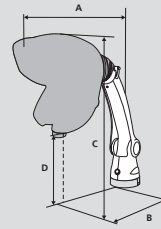


### Mantis Elite

Mantis Elite has enhanced optical performance, including higher magnification, a large field of view plus long working distances, making it a perfect alternative to traditional stereo microscopes for a wide range of inspection, preparation and manipulation tasks requiring hand-eye coordination. Mantis Elite also has an enhanced range of options, including digital image capture with the Mantis Elite-Cam variant.



#### Universal Stand



##### Mantis Compact

**Dimensions:**  
A = 22.24" (565mm) - 30.51" (775mm)  
B = 13.19" (335mm) - 21.46" (545mm)  
C = 15.55" (395mm) - 23.82" (605mm)  
D = 3.94" (110mm) - 12.60" (320mm)

**Unpacked weight:**  
Head 4.63 lbs (2.1kg) Stand 9.92 lbs (3.3kg)

**Packed weight:**  
Head 9.04 lbs (4.1kg) Stand 9.92 lbs (4.6kg)

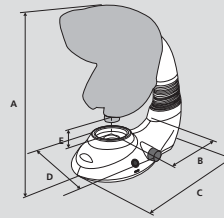
##### Mantis Elite

**Dimensions:**  
A = 23.35" (593mm) - 31.57" (802mm)  
B = 13.86" (352mm) - 24.49" (622mm)  
C = 16.34" (415mm) - 24.57" (624mm)  
D = 4.06" (103mm) - 12.28" (312mm)

**Unpacked weight:**  
Head 6.61 lbs (3.0kg) Stand 7.26 lbs (3.3kg)

**Packed weight:**  
Head 11.02 lbs (5.0kg) Stand 10.14 lbs (4.6kg)

#### Bench Stand



##### Mantis Compact

**Dimensions:**  
A = 20.71" (526mm) - 25.24" (641mm)  
B = 7.80" (198mm)  
C = 19.17" (487mm)  
D = 12.01" (305mm)  
E = 4.84" (123mm) - 9.37" (238mm)

**Unpacked weight:**  
Head 4.63 lbs (2.1kg) Stand 9.92 lbs (4.5kg)

**Packed weight:**  
Head 9.04 lbs (4.1kg) Stand 17.42 lbs (7.9kg)

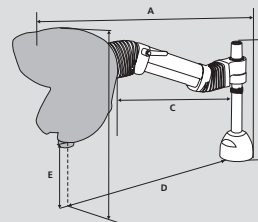
##### Mantis Elite

**Dimensions:**  
A = 21.18" (538mm) - 25.71" (653mm)  
B = 7.80" (198mm)  
C = 19.17" (487mm)  
D = 12.01" (305mm)  
E = 4.80" (122mm) - 9.33" (237mm)

**Unpacked weight:**  
Head 6.61 lbs (3.0kg) Stand 9.92 lbs (4.5kg)

**Packed weight:**  
Head 11.02 lbs (5.0kg) Stand 17.42 lbs (7.9kg)

#### Articulated Arm



##### Mantis Compact

**Dimensions:**  
A = 34.65" (880mm)  
B = 16.93" (430mm)  
C = 20.08" (510mm)  
D = 25.59" (650mm)  
E = 11.42" (290mm)

**Unpacked weight:**  
Head 4.63 lbs (2.1kg) Stand 24.25 lbs (11kg)

**Packed weight:**  
Head 9.04 lbs (4.1kg) Stand 29.76 lbs (13.5kg)

##### Mantis Elite

**Dimensions:**  
A = 34.65" (880mm)  
B = 16.93" (430mm)  
C = 20.08" (510mm)  
D = 25.59" (650mm)  
E = 11.42" (290mm)

**Unpacked weight:**  
Head 6.61 lbs (3.0kg) Stand 24.25 lbs (11kg)

**Packed weight:**  
Head 11.02 lbs (5.0kg) Stand 29.76 lbs (13.5kg)

#### Illumination

**Note:** All Mantis use a 9V DC external plug transformer, available in all worldwide plug configurations.

##### Mantis Compact

Lighting Data		
Light intensity measured at subject plane with color correction filters.		
20 LEDs	9,400 LUX	Up to 10,000 hours
Substage illumination (bench stand only)		
13 LEDs	1,200 - 4,000 LUX	Up to 10,000 hours

##### Mantis Elite

Lighting Data		
Light intensity measured at subject plane with color correction filters.		
24 LEDs	11,000 LUX	Up to 10,000 hours
Substage illumination (bench stand only)		
13 LEDs	1,200 - 4,000 LUX	Up to 10,000 hours



Precision manufactured in the USA

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# More about Vision Engineering...

## About us

Vision Engineering has been designing and manufacturing ergonomic microscopes for over 50 years.

With a philosophy of design innovation, Vision Engineering holds world patents for a number of optical techniques which significantly improve microscope ergonomics.

To date, over 300,000 'eyepieceless' and 'expanded image' microscopes have been installed for both industry and life science applications.

## ISO 9001:2008

Vision Engineering Ltd is certificated for the quality management system ISO 9001:2008.

## Service & support

Vision Engineering has a network of international offices throughout North America, Europe, and Asia, supported by fully trained distributor partners. Full user training, service, and support is available, ensuring the highest levels of customer support is maintained.

## Company history

Vision Engineering was founded in 1958 by Rob Freeman, a toolmaker who had previously worked as a race mechanic with the Jaguar Racing Team. Whilst at Jaguar, Rob developed a borescope for inspecting internal race engine parts without the need for disassembly.

Subsequently he formed Vision Engineering as a means of developing his interest in optics applied to manufacturing technology.

Over the years Vision Engineering has delivered leading-edge inspection and measurement products that have helped improved productivity and quality for thousands of companies the world over.



Falcon 3-axis measuring machine.



Swift-Duo dual optical and video measuring system.



Vision Engineering manufactures a comprehensive range of ergonomic stereo microscopes as well as a complete line of optical and video non-contact measuring systems.

## For more information...

Vision Engineering has a network of offices and technical distributors around the world. For more information, please contact your Vision Engineering branch, local authorized distributor, or visit our website.

Vision Engineering Inc.  
**(Manufacturing & Commercial)**  
570 Danbury Road, New Milford,  
CT 06776 USA  
Tel: +1 (860) 355 3776  
Email: [info@visioneng.com](mailto:info@visioneng.com)

Vision Engineering Inc.  
**(West Coast Commercial)**  
745 West Taft Avenue, Orange,  
CA 92865 USA  
Tel: +1 (714) 974 6966  
Email: [info@visioneng.com](mailto:info@visioneng.com)

Vision Engineering Ltd.  
**(Manufacturing)**  
Send Road, Send,  
Woking, Surrey, GU23 7ER, England  
Tel: +44 (0) 1483 248300  
Email: [generalinfo@visioneng.com](mailto:generalinfo@visioneng.com)

Vision Engineering Ltd.  
**(Commercial)**  
Monument House, Monument Way West,  
Woking, Surrey, GU21 5EN, England  
Tel: +44 (0) 1483 248300  
Email: [generalinfo@visioneng.com](mailto:generalinfo@visioneng.com)

Vision Engineering Ltd.  
**(Central Europe)**  
Anton-Pendele-Str. 3,  
82275 Emmerring, Deutschland  
Tel: +49 (0) 8141 40167-0  
Email: [info@visioneng.de](mailto:info@visioneng.de)

Vision Engineering Ltd.  
**(France)**  
ZAC de la Tremblaie, Av. de la Tremblaie  
91220 Le Plessis Paté, France  
Tel: +33 (0) 160 76 60 00  
Email: [info@visioneng.fr](mailto:info@visioneng.fr)

Vision Engineering Ltd.  
**(Italia)**  
Via Cesare Cantù, 9  
20092 Cinisello Balsamo MI, Italia  
Tel: +39 02 6129 3518  
Email: [info@visioneng.it](mailto:info@visioneng.it)

Vision Engineering  
**(Brasil)**  
Email: [info@visioneng.com.br](mailto:info@visioneng.com.br)

Nippon Vision Engineering  
**(Japan)**  
272-2 Saedo-cho, Tsuduki-ku,  
Yokohama-shi, 224-0054, Japan  
Tel: +81 (0) 45 935 1117  
Email: [info@visioneng.jp](mailto:info@visioneng.jp)

Vision Engineering Ltd  
**(China)**  
111, International Ocean Building,  
720 Pudong Avenue, Shanghai,  
200120, P.R. China  
Tel: +86 (0) 21 5036 7556  
Email: [info@visioneng.com.cn](mailto:info@visioneng.com.cn)

Vision Engineering  
**(S.E. Asia)**  
Tel: +603 80700908  
Email: [info@visioneng.asia](mailto:info@visioneng.asia)

Vision Engineering  
**(India)**  
Email: [info@visioneng.co.in](mailto:info@visioneng.co.in)

Distributor



**1-800-381-7308 514-388-7308**  
**[www.diverseelectronics.com](http://www.diverseelectronics.com)**  
**[sales@diverseelectronics.com](mailto:sales@diverseelectronics.com)**



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**[www.visioneng.us](http://www.visioneng.us)**

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