Vision ENGINEERING

Mantis

Ergonomic stereo microscopes

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

bsi.

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, proving 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 rework, repair, dissection and other manipulation tasks. Sitting back from the viewer provides users with much better peripheral vision, so they can coordinate hands in a natural manner.

Read about our patented technology:
www.visioneng.us/ergonomics **»**

Low investment, compact and flexible

Mantis Compact

Mantis Compact is a high value stereo microscope 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. Operators can increase productivity and improve quality, at an affordable price.

- High value, low investment system
- 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.

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

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.

High performance, wide range of options

Mantis Elite

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.

- High value, high specification patented design with superb optical performance
- 2x - 20x magnification options with quick change turret allows users to switch between low magnification inspection and high magnification fine detail tasks
- Patented eyepieceless optics maximize head freedom providing superb ergonomics and minimal eye fatigue
- Superior ergonomics for improved productivity and increased output
- 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).

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

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.

Integrated digital camera

Mantis Elite-Cam

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 Free image capture software, with installation CD

Mantis Elite-Cam with DimensionOne™ software illustrated.

DimensionOne™ Software Option

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 pallette 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

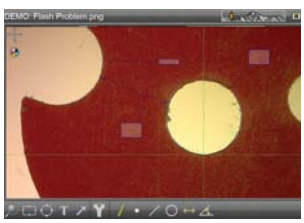
DimensionOne™ requires Windows XP (or later).

Multilingual software

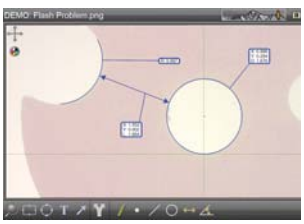
DimensionOne™ is available in multiple languages including English and Spanish.

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%.

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

View the online demo at
www.visioneng.us/dimensionone

Technical Details

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 superb 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.

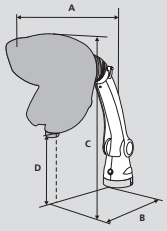
Mantis Compact

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

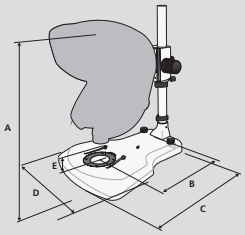
Dimensions:
A = 23.35" (593mm) - 31.57" (802mm)
B = 13.86" (352mm) - 24.49" (622mm)
C = 16.34" (415mm) - 24.57" (624mm)
D = 4.06" (103mm) - 12.28" (312mm)

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

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

Power:
9V DC external plug transformer, available in all worldwide plug configurations.

Bench Stand



Mantis Compact

Dimensions:
A = 18.70" (475mm) - 23.93" (608mm)
B = 11.81" (300mm)
C = 14.67" (380mm)
D = 12.99" (330mm)
E = 10.07" (256mm) max,
less working distance

Unpacked weight:
Head 2.1kg Stand 5.0kg

Packed weight:
Head 4.1kg Stand 8.4kg

Mantis Elite

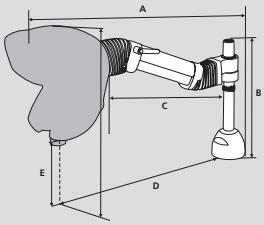
Dimensions:
A = 19.17" (487mm) - 24.40" (620mm)
B = 11.81" (300mm)
C = 14.67" (380mm)
D = 12.99" (330mm)
E = 10.03" (255mm) max,
less working distance

Unpacked weight:
Head 3.0kg Stand 5.0kg

Packed weight:
Head 5.0kg Stand 8.4kg

Power:
100-240VAC 50-60HZ 1.0A Max, available in all worldwide plug configurations.

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)

Power:
9V DC external plug transformer, available in all worldwide plug configurations.

Illumination

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)		
58 LEDs	2,700 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)		
58 LEDs	2,700 LUX	Up to 10,000 hours

Manufactured in USA

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 Inc 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.

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.

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