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Vision
ENGINEERING



Mantis

Stereo Viewing Systems

for a wide range of inspection and material rework tasks

- Patented optical technology for fatigue-free viewing and superb image quality
- Wide range of magnification options (to x20)
- Long working distances; large depths of field
- Shadow-free true colour LED illumination

Mantis...

Compact, Elite, Macro?

The Mantis family is a unique range of patented optical systems without eyepieces, for intricate tasks requiring superb quality viewing over long 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.

The latest generation of Mantis incorporates the most modern advances in optical design, moulded plastics and LED illumination.

Vision Engineering has designed and manufactured world leading optical systems since 1958. The company's patented optical viewers, microscopes and measuring systems are manufactured in Vision Engineering factories in the UK and the USA.

The stereo eyepieceless Mantis viewers have a wide range of applications; it is used throughout manufacturing industries (electronics, precision engineering, plastics, medical devices) and life science laboratories around the world.

Advantages of the next generation Mantis are:

- Entry level, low investment versions
- Compact, functional units
- Wide range of magnification options (to x20)
- Shadow-free LED cold illumination, both surface and substage
- Long working distances; large depths of field
- Stable structures for high magnification viewing



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 offers a wider, higher performance specification including high magnification, large field of view, long working distance and head tilt capability. Mantis Elite has enhanced optical performance, making it a perfect alternative to traditional stereo microscopes for a wide range of inspection, preparation and manipulation tasks requiring hand-to-eye co-ordination.



Mantis Macro

Mantis Macro offers a straight through in-line view of the subject, similar in operation to a bench magnifier, but with increased optical clarity and magnification. Mantis Macro offers a comparatively high magnification for an in-line viewer making it ideal for tasks which require exceptional hand-eye co-ordination and increased magnification.

Mantis Compact is a high value, low investment stereo viewer excelling 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 co-ordination, 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 throughput
- Long working distances for easy sample manipulation and rework
- x2, x4 and x6 quick change objectives
- Bright white, true colour, LED illumination providing over 10,000 hours of shadow-free viewing
- Superb hand-eye co-ordination for inspection and manipulation tasks
- Patented eyepieceless optics maximise head freedom providing superb ergonomics and reduced eye fatigue



Mantis Compact, with counter-balanced 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 847.5mm and provides added flexibility and manoeuvrability.



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 capability.

Optical Data

Objective Lenses	Working Distance	Field of View
x2	167mm	45.0mm
x4	96mm	27.5mm
x6	73mm	19.2mm

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 x20, making it a perfect alternative to more traditional stereo microscopes.

Large fields of view and generous working distances allow for a wide range of inspection, preparation and manipulation tasks to be carried out, all with exceptional hand-eye co-ordination.



Mantis Elite, with counter-balanced universal stand and 25° tilting head facility, 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
- x2 - x20 magnification options with quick change turret allows users to switch between low magnification inspection and high magnification fine detail tasks
- Patented eyepieceless optics maximise head freedom providing superb ergonomics and minimal eye fatigue
- Superior ergonomics for improved productivity and increased throughput
- Superb hand-eye co-ordination for inspection and manipulation tasks
- Bright white, true colour, LED illumination providing over 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 847.5mm and provides added flexibility and manoeuvrability.



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 capability.

Optical Data

Objective Lenses	Working Distance	Field of View
x2	160mm	57.0mm
x4	96mm	34.0mm
x6	68mm	23.0mm
x6 SLWD*	112mm	20.0mm
x8	59mm	17.0mm
x10	54mm	13.5mm
x15	40mm	8.8mm
x20	29mm	6.5mm

Accessories

Lens protection caps
Dust cover
Replacement LED array

* Single mount objective replaces twin turret assembly

Unlike other Mantis, which have an upright optical path, the **Mantis Macro** provides straight through in-line viewing which makes the co-ordination of hand and eye even easier.

Mantis Macro offers a straight through in-line view of the subject, similar in operation to a bench magnifier but with increased magnification and optical clarity making it ideal for tasks which require exceptional hand-eye coordination and increased magnification.



Mantis Macro, with counter-balanced universal stand and 30° tilting head facility, for flexibility and ease of use. Straight through in-line view for optimal hand-eye co-ordination and maximum working distance.

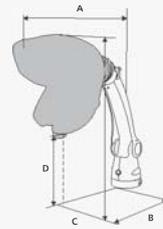
- Patented eyepieceless optical technology expands the exit pupil providing head freedom and eye relief for excellent ergonomics
- Straight through in-line optical path offers superb hand-eye co-ordination for inspection and manipulation tasks
- x2.5 –x5.0 magnification with quick change turret allows user to switch between magnifications
- Superior ergonomics for improved productivity and increased throughput
- Long working distance and large field of view for easy sample manipulation and rework
- Bright white, true colour, LED illumination providing over 10,000 hours of shadow-free viewing

Optical Data		
Objective Lenses	Working Distance	Field of View
x2.5	116mm	48.6mm
x5.0	66mm	23.8mm

Accessories
Lens protection caps
Dust cover
Replacement LED array

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Universal Stand



Mantis Compact

Dimensions:
 A = 565mm - 775mm
 B = 335mm - 545mm
 C = 395mm - 605mm
 D = 110mm - 320mm

Unpacked weight:
 Head 2.1kg Stand 3.3kg

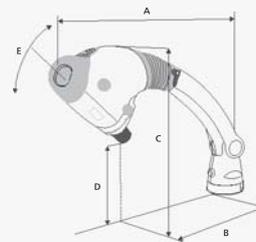
Packed weight:
 Head 4.1kg Stand 4.6kg

Mantis Elite

Dimensions:
 A = 593mm - 802mm
 B = 352mm - 622mm
 C = 415mm - 624mm
 D = 103mm - 312mm

Unpacked weight:
 Head 3.0kg Stand 3.3kg

Packed weight:
 Head 5.0kg Stand 4.6kg



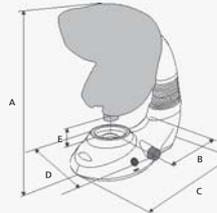
Mantis Macro

Dimensions:
 A = 500mm - 700mm
 B = 260mm - 450mm
 C = 350mm - 570mm
 D = 75mm - 300mm
 E = 20° - 50°

Unpacked weight:
 Head 2.6kg Stand 3.3kg

Packed weight:
 Head 4.9kg Stand 4.6kg

Bench Stand



Mantis Compact

Dimensions:
 A = 526mm - 641mm
 B = 198mm
 C = 487mm
 D = 305mm
 E = 123mm - 238mm

Unpacked weight:
 Head 2.1kg Stand 4.5kg

Packed weight:
 Head 4.1kg Stand 7.9kg

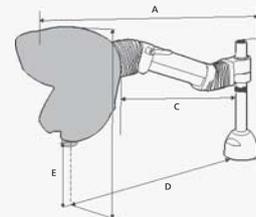
Mantis Elite

Dimensions:
 A = 538mm - 653mm
 B = 198mm
 C = 487mm
 D = 305mm
 E = 122mm - 237mm

Unpacked weight:
 Head 3.0kg Stand 4.5kg

Packed weight:
 Head 5.0kg Stand 7.9kg

Articulated Arm



Mantis Compact

Dimensions:
 A = 880mm
 B = 430mm
 C = 510mm
 D = 650mm
 E = 290mm

Unpacked weight:
 Head 2.1kg Stand 11kg

Packed weight:
 Head 4.1kg Stand 13.5kg

Mantis Elite

Dimensions:
 A = 880mm
 B = 430mm
 C = 510mm
 D = 650mm
 E = 290mm

Unpacked weight:
 Head 3.0kg Stand 11kg

Packed weight:
 Head 5.0kg Stand 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 colour correction filters.		
20 LEDs	9,400 LUX	10,000 hours
Substage illumination (bench stand only)		
13 LEDs	1,200 - 4,000 LUX	10,000 hours

Mantis Elite

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

Mantis Macro

Lighting Data		
Light intensity measured at subject plane with colour correction filters.		
40 LEDs	9,500 LUX	10,000 hours