



The Metrology Family

Full range of patented optical and video measuring systems, ranging from easy-to-operate manual configurations to automated video edge detection measuring platforms.



FM 557119

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



Kestrel Elite Optical Measuring Microscope

Kestrel Elite is a rugged, high accuracy measuring microscope, ideally suited for shop-floor production use, providing simple and accurate measurement of precision component parts.

- High value, low investment 2-axis optical measurement system
- Patented optical image clearly defines edges, offering superb resolution and contrast
- 150mm x 100mm measuring stage capacity
- Choice of rugged and intuitive microprocessor, ideal for shop-floor use, or state-of-the-art touch-screen tablet PC

Kestrel Elite is a high accuracy, low investment system, designed to transform your measurement and inspection capabilities.

Small, intricate parts, even difficult-to-view samples, such as black or white parts, or transparent plastics can be viewed in microscope-resolution detail through Kestrel Elite's patented optical viewing head, making accurate measurement easy. The superb optical clarity also allows detailed visual inspection to be performed simultaneously.



Kestrel Elite 2-axis optical measuring microscope, with 150mm x 100mm measuring stage and touch-screen tablet PC. Rugged microprocessor also available.

Swift Video Measuring System

Swift is one of the most intuitive, easy to use video measuring systems available.

- Low capital investment, high accuracy 2-axis video measuring system
- Next generation 'touch-to-measure' measurement software
- Modular construction allows future upgrade option of combined video *and* microscope measurement technologies

Designed as a powerful, yet simple video measuring system, Swift provides fast and accurate measurement of both routine and complex precision component parts, suitable for shop-floor and manufacturing inspection applications.



Compact, simple, accurate. Swift provides cost-effective 2-axis video measurement.

Swift-Duo Combined Video & Optical Measuring System

Swift-Duo is the only video measuring system to incorporate an ergonomic measuring microscope.

- 2-axis dual video and optical measuring system
- Seamlessly switch between video and microscope measurement
- Patented optical ergonomic microscope offers high resolution surface inspection

By integrating a high resolution ergonomic measuring microscope with Swift, Vision Engineering has created Swift-Duo, a video measuring system capable of measuring all your precision components, not just the easy ones! No need to switch systems. Both video and optical measurements occur seamlessly, in the same routine, without any delays.



Swift becomes Swift-Duo! Dual optical and measurement technologies in a single system.

Falcon Video Measuring Systems

Vision Engineering's Falcon incorporates over 50 years of proven optical experience, in a powerful 3-axis non-contact video measuring system. Falcon delivers cost-effective, accurate results with amazing simplicity.



Falcon CNC 3-axis video measuring system with fully automated 150mm x 150mm measuring stage. Manual versions available.

- High repeatable accuracy 3-axis video measuring system
- 'Best-in-class' performance, with advanced capabilities as standard
- 150mm x 150mm measuring stage capacity
- High resolution indexed zoom optics offer precision and flexibility; x10 - x50 and x20 - x100 options included as standard
- Progressive motorised Z-axis control

Vision Engineering has packed massive technical capabilities into a small and compact system, yet Falcon is suitable for both shop-floor quality control and manufacturing inspection applications.

From simple, single-feature operation to multi-point video edge detection, Falcon delivers accurate and repeatable results in 3 axis for a wide range of precision measuring applications.

Falcon includes both surface and substage iris aperture control, motorised Z-axis movement, controllable quadrant LED illumination and both high and low magnification lens options as standard.

“Such is the speed of the Falcon 5000's operation, it is able to perform the in-depth measurement of a full batch of parts in just 2 hours, compared to the previously taken 2 days.”

Charles Newby, Production Director
Butser Rubber

Which system is right for me?

Optical Measurement

- Optical measurement for highest levels of accuracy, difficult-to-view/one-off features, or critical measurements.
- Patented high resolution optical images ideal for low contrast, difficult-to-view components, complex features, or simultaneous visual inspection.

Video Measurement

- Video edge detection (VED) for enhanced throughput measurements.
- Ideal for high contrast components, batch routines, measurement of form features, or features both inside and outside the field of view.

System	Processor	Sensor	Automated	Measuring Range (X,Y)	Measuring Range † (Z)	Measuring Uncertainty	Magnification Options
Kestrel Elite	Microprocessor, or Touch-screen tablet PC	Optical	-	150mm x 100mm	-	$U_{95}2D = 7+(6.5L/1000)\mu m \diamond$	x10, x20, x50, x100
Swift	Touch-screen PC	Video	-	150mm x 100mm	-	$U_{95}2D = 7+(6.5L/1000)\mu m \diamond$	x10, x20, x50, x100
Swift-Duo	Touch-screen PC	Optical and Video	-	150mm x 100mm	-	$U_{95}2D = 7+(6.5L/1000)\mu m \diamond$	x10, x20, x50, x100
Falcon 300	Touch-screen microprocessor	Video	-	150mm x 100mm	125mm	$U_{95}2D = 3+(6L/1000)\mu m \diamond$	x10 - x50 zoom x20 - x100 zoom
		Video	Option	150mm x 150mm	115mm	$U_{95}2D = 3+(6L/1000)\mu m \diamond$	
Falcon 5000	PC	Video	-	150mm x 100mm	125mm	$U_{95}2D = 3+(6L/1000)\mu m \diamond$	x10 - x50 zoom x20 - x100 zoom
		Video	Option	150mm x 150mm	115mm	$U_{95}2D = 3+(6L/1000)\mu m \diamond$	
Hawk 200	Rugged microprocessor	Optical	-	150mm x 150mm	202mm - 255mm	$U_{95}2D = 4+(5.5L/1000)\mu m \blacktriangle$	x10, x20, x50, x100 x200, x500, x1000
		-	-	200mm x 150mm	202mm - 255mm	$U_{95}2D = 2+(4.5L/1000)\mu m \blacktriangle$	
		-	-	300mm x 225mm	40mm - 89mm*	$U_{95}2D = 15+(6.5L/1000)\mu m \blacktriangle$	
		-	-	400mm x 300mm	40mm - 89mm*	$U_{95}2D = 15+(8.5L/1000)\mu m \blacktriangle$	
Hawk 300 VED	Touch-screen microprocessor	Optical and Video	-	150mm x 150mm	202mm - 255mm	$U_{95}2D = 4+(5.5L/1000)\mu m \blacktriangle$	x10, x20, x50, x100 x200, x500, x1000
		-	Option	200mm x 150mm	202mm - 255mm	$U_{95}2D = 2+(4.5L/1000)\mu m \blacktriangle$	
		-	Option**	300mm x 225mm	40mm - 89mm*	$U_{95}2D = 15+(6.5L/1000)\mu m \blacktriangle$	
		-	Option**	400mm x 300mm	40mm - 89mm*	$U_{95}2D = 15+(8.5L/1000)\mu m \blacktriangle$	
Hawk 5000	PC	Optical	-	150mm x 150mm	202mm - 255mm	$U_{95}2D = 4+(5.5L/1000)\mu m \blacktriangle$	x10, x20, x50, x100 x200, x500, x1000
		-	-	200mm x 150mm	202mm - 255mm	$U_{95}2D = 2+(4.5L/1000)\mu m \blacktriangle$	
		-	-	300mm x 225mm	40mm - 89mm*	$U_{95}2D = 15+(6.5L/1000)\mu m \blacktriangle$	
		-	-	400mm x 300mm	40mm - 89mm*	$U_{95}2D = 15+(8.5L/1000)\mu m \blacktriangle$	
Hawk 5000 VED	PC	Optical and Video	-	150mm x 150mm	202mm - 255mm	$U_{95}2D = 4+(5.5L/1000)\mu m \blacktriangle$	x10, x20, x50, x100 x200, x500, x1000
		-	Option	200mm x 150mm	202mm - 255mm	$U_{95}2D = 2+(4.5L/1000)\mu m \blacktriangle$	
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		-	Option**	400mm x 300mm	40mm - 89mm*	$U_{95}2D = 15+(8.5L/1000)\mu m \blacktriangle$	

◊ Where L = measured length in mm (x100 system magnification, using controlled conditions).
 ▲ Where L = measured length in mm (x200 system magnification, using controlled conditions).
 † Configuration dependent.
 * Distance can be increased with the addition of a stand extension.
 ** X & Y axis only.



Hawk Family of Optical & Video Measuring Microscopes

The Hawk family of non-contact measuring microscopes have been designed for companies who demand the highest levels of manufacturing quality. Hawk systems range from simple optical measuring microscopes, to video edge detection measuring platforms, all delivering high accuracy, repeatable measurements.

Incorporating a patented Dynascope™ viewing head, the Hawk range provides superior microscope imaging, allowing operators to optically see the edge they wish to measure, in addition to enhancing both comfort and productivity during measurement sequences. The Dynascope™ head employs a patented 'eyepieceless' optics, rather than traditional eyepieces, permitting greater positional freedom for the operator.

“Hawk is the ideal piece of metrology equipment for us. It is easy to use and flexible enough to gauge nearly all of our components. The reporting capability allows me to capture a data file for every component we measure, which is vital for component traceability.”

Ken Delderfield, Quality Manager
Specialist Technologies Aerospace Group (STAG)

Modular in design, all Hawk systems are available with a wide range of high specification, precision measuring stage options, plus a choice of data processors, ranging from simple-to-operate digital readouts, to powerful PC-based metrology software, allowing you to tailor the exact system for your individual requirements.

- High repeatable accuracy 3-axis measurement
- Patented optical image clearly defines edges, offering superb resolution and contrast
- Powerful and intuitive microprocessors deliver simple, fast results
- Optional video edge detection for higher throughput measurements
- Wide range of system and software configurations



Want to know more?

Measuring applications vary widely. This is reflected in the wide range of non-contact measurement solutions from Vision Engineering. To discuss your application or specific requirement, why not contact us?

To receive detailed product brochures contact your local Vision Engineering representative or visit our website:

www.visioneng.com/measurement



Kestrel Elite



Swift & Swift-Duo



Falcon



Hawk



Vision Engineering manufactures a complete range of ergonomic stand-alone non-contact measuring systems.

Founded in 1958, Vision Engineering Ltd has built a reputation of innovative design, world-leading optical technology and ergonomically advanced products. Vision Engineering's range of non-contact measurement systems represents the very best in industry-proven solutions and leading-edge technologies.

Worldwide Training, Service & Support

Vision Engineering has a network of international offices throughout Europe, Asia and North America, supported by a network of over 120 fully trained distributor partners.

User training, application development, service, calibration and support is available for every measurement system, ensuring the highest levels of accuracy and productivity are maintained.

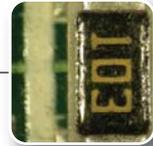
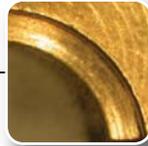
Measuring Stage Calibration, with NLEC

Measuring stages of all types will naturally display minute mechanical differences due to normal variations in component and manufacturing tolerances. Non-Linear Error Correction (NLEC) is the most accurate correction method available and uses a software algorithm to calculate and correct any errors across the measuring stage. All of Vision Engineering's measuring stages are factory calibrated with NLEC prior to installation.

Traceability to International Standards

Vision Engineering's measuring stage calibrations are internationally traceable to National Measurement Standards (NMS) through the Mutual Recognition Agreement (MRA), ensuring full compliance with quality standards, including ISO9000.

Patented 'Eyepieceless' Technology



See It – Measure It ...

Vision Engineering's patented Dynascope™ image projection technology delivers high contrast, microscope resolution images, of complex component parts. Difficult-to-view features such as low contrast black or white plastics, materials of different colours and textures, or transparent parts may all be viewed in intricate detail - something not always possible with profile projectors or video-based systems. The superb optical clarity also allows detailed visual inspection to be performed simultaneously.





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

For more information...

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