

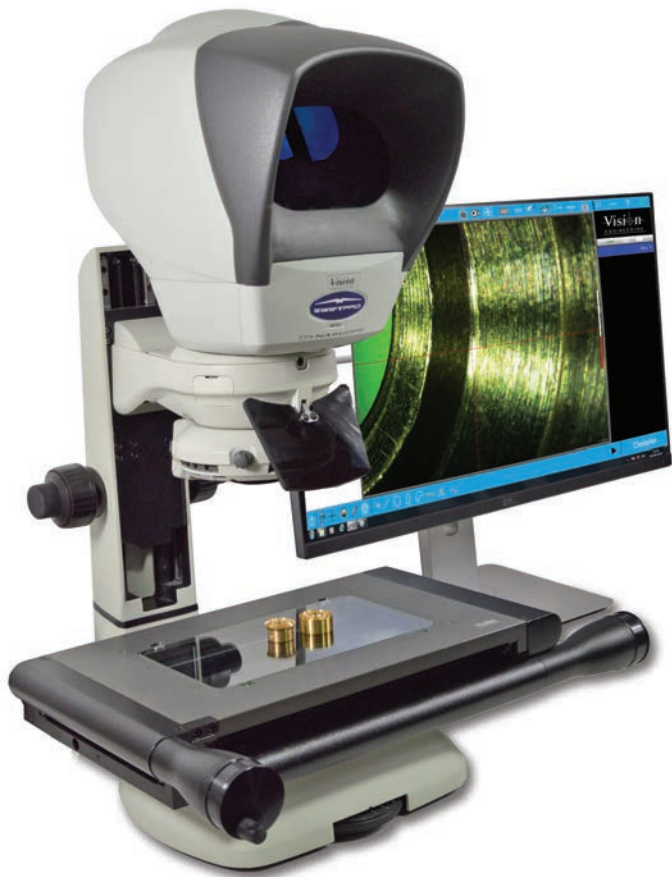
Optical and video
measuring system
Swift PRO Family



Swift PRO - Optical & Video Measuring Systems

Simply measure.

Swift PRO is a powerful yet easy to use vision measurement system, combining the latest video and optical measurement technologies in a robust, versatile design.



With a rich suite of measurement and reporting features, Swift PRO is the right measurement tool for a broad range of applications, from electronics and aerospace to automotive, plastics and medical device manufacturing.

The real power of Swift PRO lies in its simplicity to carry out advanced measurement tasks! Thanks to its user friendly interface and small footprint, Swift PRO is at home on the shop floor as well as in the QC laboratory.

- ✓ Proven design
- ✓ Ideal for toolmakers & shopfloor applications
- ✓ Simple to configure and to use
- ✓ Versatile - ergonomic **optical** measurement and **video** edge detection in one system!

Dynascope® technology in Swift PRO

Swift PRO is the only system available to include the unique and patented eyepiece-less ergonomic measuring microscope.

The **Dynascope®** technology allows operators to take accurate measurements whilst wearing prescriptive glasses, safety goggles and contact lenses. Other system benefits include a large field of view and peripheral vision.



Swift PRO Duo

Video & Optical Measuring System

Combining the ergonomic benefits of Vision Engineering's patented eyepiece-less optical measurement technology with the speed and practicality of video edge detection Swift PRO Duo is truly one-of-a-kind!

- ✓ Versatile measurement system with video and ergonomic optical measurement capabilities; ideal for those with variable measuring requirements
- ✓ Take accurate measurements in seconds, with no need for pre-programming
- ✓ Advanced and robust measuring system in a compact size



Find out more: www.visioneng.com/swiftproduo

Swift PRO Cam

Video Measuring System

Swift PRO Cam is one of the most intuitive, easy to use video measurement systems available. With its high resolution video camera and 200mm x 100mm measurement capacity, you can carry out fast and accurate measurements on wide range of precision parts.

- ✓ Built-in HD camera
- ✓ Fast and accurate measurements with Video Edge Detection (VED)
- ✓ Small footprint
- ✓ Ideal upgrade from a profile projector or another video measurement system



Find out more: www.visioneng.com/swiftprocam

Swift PRO Elite

Optical Measuring System

Swift PRO Elite is a simple, robust, optical measuring microscope, providing accurate measurements of a wide range of precision components, even difficult subjects such as black or transparent plastics.

- ✓ Impressive repeatability and reproducibility
- ✓ Accurate measurement of complex parts, simply
- ✓ Available with PC-based control or simple, robust digital readout
- ✓ Ideal upgrade from a toolmakers microscope



Find out more: www.visioneng.com/swiftproelite



Precision Engineering

Machined parts for automotive, aerospace, watchmaking and general manufacturing industries can be vastly varied in terms of shape, size and materials used.

You can use Swift PRO video measurement capability to quickly measure profiles of these parts while surface features on metal parts can be measured accurately with Swift PRO ergonomic optical head. There is no need to use a second measuring microscope or a coordinate measuring machine (CMM) to measure features that cannot be detected by the video camera.

Electronics

Printed circuit boards and electronic components can be easily measured with Swift PRO Cam's superior video edge detection capability. You can even use one of the variants with an optical head, for quickly checking if there are any defects on the boards.



Medical & Plastic

Whether it's for medical use, packaging, electronics or food & drinks, plastic parts can be challenging to measure repeatedly. Especially edges of features on clear and black plastic parts are difficult for a video system to detect, due to lack of contrast between the feature and its background.

Vision Engineering's ergonomic optical head, eliminates this problem, as the operator can use the ergonomic optical head of Swift PRO Elite and Swift PRO Duo to accurately identify the feature to be measured.



Extremely versatile

Whatever your measurement requirements, Vision Engineering can offer you the right solution from its broad range measurement and inspection systems. Please contact your local Vision Engineering representative for more information.

Technical details



	Swift PRO Duo	Swift PRO Cam	
Measurement uncertainty (X, Y)*		5 + (6.5L/1000)µm L = length in mm, using controlled conditions with 100x magnification at the standard measuring plane	
Measurement uncertainty (Z)*		10µm, using controlled conditions with 100x magnification	
Ergonomic optical measurement	●	○	●
Video edge detection	●	●	○
Video camera resolution	5MP	5MP	○
Magnification options (system total)		10x, 20x, 50x, 100x	
Measuring stage		Precision measuring stage, with factory-set Non-Linear Error Correction (NLEC) calibration as standard	
Measuring Range (X, Y)		200mm x 100mm (8" x 4")	
Measuring Range (Z) 3-axis variant only		98mm (3.86")	
Encoder Resolution		X = 1µm Y = 1µm Z = 0.5µm	
Maximum Load		10kg (22.04lbs)	
LED Substage Illumination	●	●	●
LED Quadrant Surface Illumination	●	●	●
Illumination Control via Software	●	●	○
Substage iris control	●	●	●
Dimensions (H x W x D)	680mm x 515mm x 480mm (26.77" x 20.27" x 18.90")	450mm x 515mm x 480mm (17.72" x 20.27" x 18.90")	680mm x 515mm x 480mm (26.77" x 20.27" x 18.90")
Optical head weight (unpacked)	4kg (8.82lbs)		
Stage 150mm x 100mm weight (unpacked)	10.5kg (23.15lbs)		
Stage 200mm x 100mm weight (unpacked)	12kg (29.76lbs)		
Stand weight (unpacked)	6kg (13.23lbs)		

*Measurement uncertainty is determined in accordance with ISO-10360 Part 7

Software and microprocessors

M-series measuring software

Renowned M-series software carries out basic to advanced measurement applications with ease and with minimal training. Intuitive user interface would appeal to a wide user base, ranging from machine operators on the shop floor to metrologists in the QC lab.

- ✓ Instant profile and surface measurement
- ✓ Programmable light control
- ✓ Easy reporting
- ✓ DXF import/export
- ✓ Thread, gear and wire measurement options



Mx200 Digital Readout

Combining a familiar user experience with current touchscreen conventions, the robust Mx200 readout can quickly be integrated into customers' optical measurement processes while being accessible to a wide range of users.

Supporting industry standard feature measurement and popular construction types, the Mx200 allows users to apply popular geometric tolerance controls to measured or constructed features, and to view results accurately. Traceable measurement results can be printed, saved and exported in multiple formats.



VISION ENGINEERING + OUR DIFFERENCE

Vision Engineering Ltd. has been designing and manufacturing high quality ergonomic microscopes, digital instruments, inspection and non-contact measuring systems for over 60 years.

Innovation

With a philosophy of design innovation, Vision Engineering holds world patents for a number of optical / digital techniques, significantly improving viewing ergonomics and enabling customer quality and productivity improvements.

To see our focused quality, please contact your Vision Engineering branch, local authorised distributor, or visit our website: visioneng.com

Quality

Vision Engineering prides itself on quality products, electronics, mechanics and optics and is certified for the quality management system ISO 9001:2015. Quality is as important to us as it is to our customers. Our systems have proved themselves many times over and are chosen by the world's leading companies.

Global

Vision Engineering has manufacturing and design facilities in the UK and USA, plus sales and support offices throughout Europe, the Americas, the Far East, and Asia. We support our customers with close technical and service support anywhere in the world.

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FM 557119

Vision Engineering Ltd. has been certified for the quality management system ISO 9001:2015.

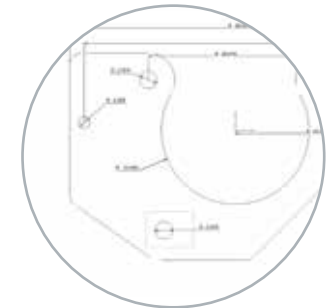
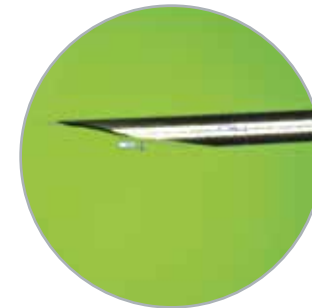
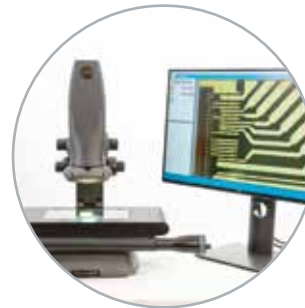
SWIFT PRO EDGE



SIMPLE – ACCURATE – COMPACT

Swift PRO Edge is an extension to the popular Swift PRO series of bench-top optical measuring systems. The 6.5x zoom lens enables quick and precise magnification adjustments without the need to change lenses. This makes it accessible to operators of all skill levels, delivering more efficient and accurate performance to your business.

It is an affordable and powerful solution if you are looking to upgrade and enhance your measurement capabilities from traditional hand tools, height gauges and shadowgraphs to advanced video measurement with accurate, traceable results.



Compact design

The small footprint of Swift PRO Edge makes it ideal for shop floor measurement where space is at a premium. You can bring your inspection process closer to production and identify non-conformances sooner.



Indexed optical zoom

The 6.5x indexed optical zoom makes it easy for you to measure components of different shapes and sizes with precision, offering more flexibility for your measurement tasks.

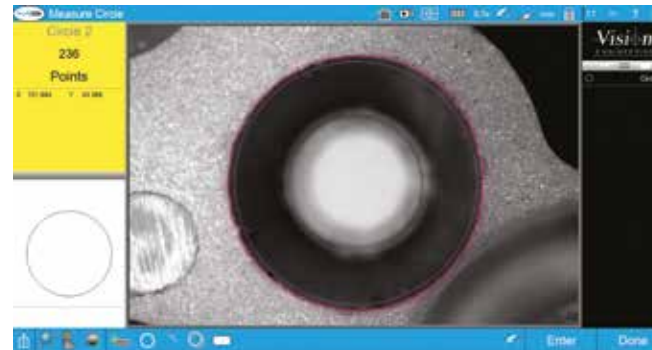


Versatile

Swift PRO Edge can handle a wide range of industrial applications. It measures sizes from sub-millimetre up to 200 millimetres with a magnification range of 0.7x to 4.5x, providing accurate and repeatable measurements for small to medium-sized parts.

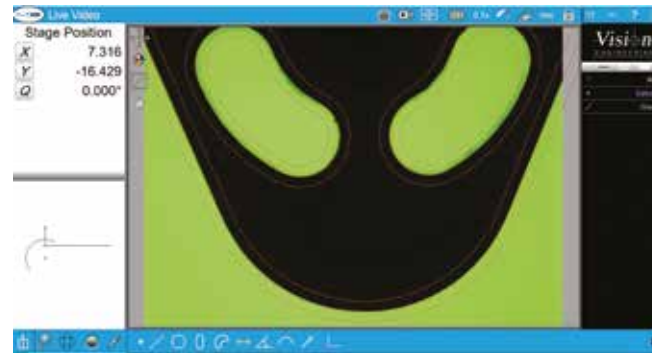
Easy-to-use

With Swift PRO Edge, measuring complete features is a quick and easy click. The system's accurate edge detection ensures precise measurements every time.



Intuitive yet powerful M3 software simplifies the measurement process, helping your operators get up to speed quickly.

Additional software options are available for measuring standard threads and spur gears. Import DXF files to create measurement programmes and digital overlays for shadowgraph-style comparison.



Whether you are measuring surface features or profiles, Swift PRO Edge's fully programmable transmitted and reflected lights deliver consistent illumination, which is crucial for maintaining your measurement accuracy and repeatability.

Technical Information

Measuring capacity (X,Y)	200 mm x 100 mm (8" x 4")
Measuring capacity (Z)	95 mm (3.7")
Encoder resolution	1µm in X and Y, 0.5µm in Z
Maximum load	10 kg (22.04 lbs)
Substage (transmitted) illumination	LED with green filter and iris control
Surface (reflected) illumination	Quadrant-controlled LED ring light
Zoom lens	6.5x indexed zoom
Zoom steps	0.7x, 1x, 2x, 3x, 4x, 4.5x
Min - max magnification (fit to screen) ¹	18x - 225x
Min - max magnification (1:1 view)	80x - 533x
Min - max field of view (mm, fit to screen)	1.4 mm x 1.0 mm – 8.0 mm x 6.0 mm
Camera	5.0MP USB 3 colour camera
Dimensions (H x W x D)	620 mm x 515mm x 480mm (24.40" x 20.27" x 18.90")
Machine weight (unpacked)	20 kg (44.09 lbs)
Measurement uncertainty (X, Y) ²	5.0 + (6.5L/1000) µm
Measurement uncertainty (Z)	10µm, using controlled conditions at maximum magnification

¹ On 22" monitor

² Measurement uncertainty is determined in accordance with ISO-10360 Part 7 using controlled conditions with highest magnification at the standard measuring plane. Increased accuracies may be obtained by in-situ system calibration.
L = length in mm.

Swift PRO Edge combines advanced technology and robust construction to deliver an easy-to-use yet powerful measuring solution at a competitive price point.

**SWIFT PRO
EDGE**

Vision
ENGINEERING

www.visioneng.com