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## Optical and Video Measuring Systems



FM 557119

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

- ✓ Superior edge detection with combined optical & HD video measurement technologies
- ✓ Easy to use intuitive interface
- ✓ Accurate measurements traceable to international standards
- ✓ Up to 100x magnification

# Swift PRO - Optical & Video Measuring Systems

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## 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 & shop floor 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 while wearing prescriptive glasses, safety goggles and contact lenses. Other system benefits include a large field of view and peripheral vision.



# Swift PRO Duo

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## 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 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.us/swiftproduo](http://www.visioneng.us/swiftproduo)

# Swift PRO Cam

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## Video Measuring System

Swift PRO Cam is one of the most intuitive, easy to use video measurement systems available. With its HD video camera and an option of either a 6"x 4" or 8"x 4" measurement capacity, you can carry out fast and accurate measurements of a 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.us/swiftprocam](http://www.visioneng.us/swiftprocam)

# Swift PRO Elite

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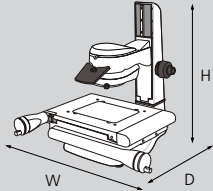
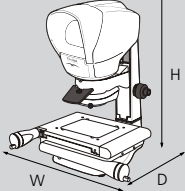
## Optical Measuring System

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 microprocessor.
- ✓ Ideal upgrade from a toolmakers microscope



Find out more: [www.visioneng.us/swiftproelite](http://www.visioneng.us/swiftproelite)

	Swift PRO Duo	Swift PRO Cam	Swift PRO Elite
<b>Measurement uncertainty (X, Y)</b>	$U_{95}2D = 5 + (6.5L/1000)\mu\text{m}$ L = length in mm, using controlled conditions with 100x magnification at the standard measuring plane (Increased accuracies may be obtained by in-situ system calibration)		
<b>Measurement uncertainty (Z)</b>	10 $\mu\text{m}$ , using controlled conditions with 100x magnification		
<b>Ergonomic optical measurement</b>	●	○	●
<b>Video edge detection</b>	●	●	○
<b>Video camera resolution</b>	2MP (HD)	2MP (HD)	○
<b>Magnification options (system total)</b>	10x, 20x, 50x, 100x		
<b>Measuring stage</b>	Precision measuring stage, with factory-set Non-Linear Error Correction (NLEC) calibration as standard		
<b>Measuring Range (X, Y)</b>	8" x 4" (200mm x 100mm) 6" x 4" (150mm x 100mm)		
<b>Measuring Range (Z) 3-axis variant only</b>	3.86" (98mm)		
<b>Height Adjustment</b>	4" (100mm)		
<b>Encoder Resolution</b>	X = 1 $\mu\text{m}$ Y = 1 $\mu\text{m}$ Z = 0.5 $\mu\text{m}$		
<b>Maximum Load</b>	22.04lbs (10kg)		
<b>LED Substage Illumination</b>	●	●	●
<b>LED Quadrant Surface Illumination</b>	●	●	●
<b>Illumination Control via Software</b>	●	●	○
<b>Substage iris control</b>	●	●	●
<b>Dimensions (H x W x D)</b>	26.77" x 20.27" x 18.90" (680mm x 515mm x 480mm)	17.72" x 20.27" x 18.90" (450mm x 515mm x 480mm)	26.77" x 20.27" x 18.90" (680mm x 515mm x 480mm)
<b>Optical head weight (unpacked)</b>	8.82lbs (4kg)		
<b>Stage 150mm x 100mm weight (unpacked)</b>	23.15lbs (10.5kg)		
<b>Stage 200mm x 100mm weight (unpacked)</b>	29.76lbs (12kg)		
<b>Stand weight (unpacked)</b>	13.23lbs (6kg)		

## Software and Embedded Controller

### 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 and wire measurement options



### QC 3000 Embedded Controller (microprocessor)

Thanks to its sleek but robust industrial design, the QC 3000 is ideal for applications in a harsh production environment.

The flat aluminium housing with integrated power pack and fan less passive cooling is extremely sturdy and tolerant to negative influences. The 12.1" touchscreen of specially hardened glass supports multi-touch gesture control and can be operated with gloves.





## 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.

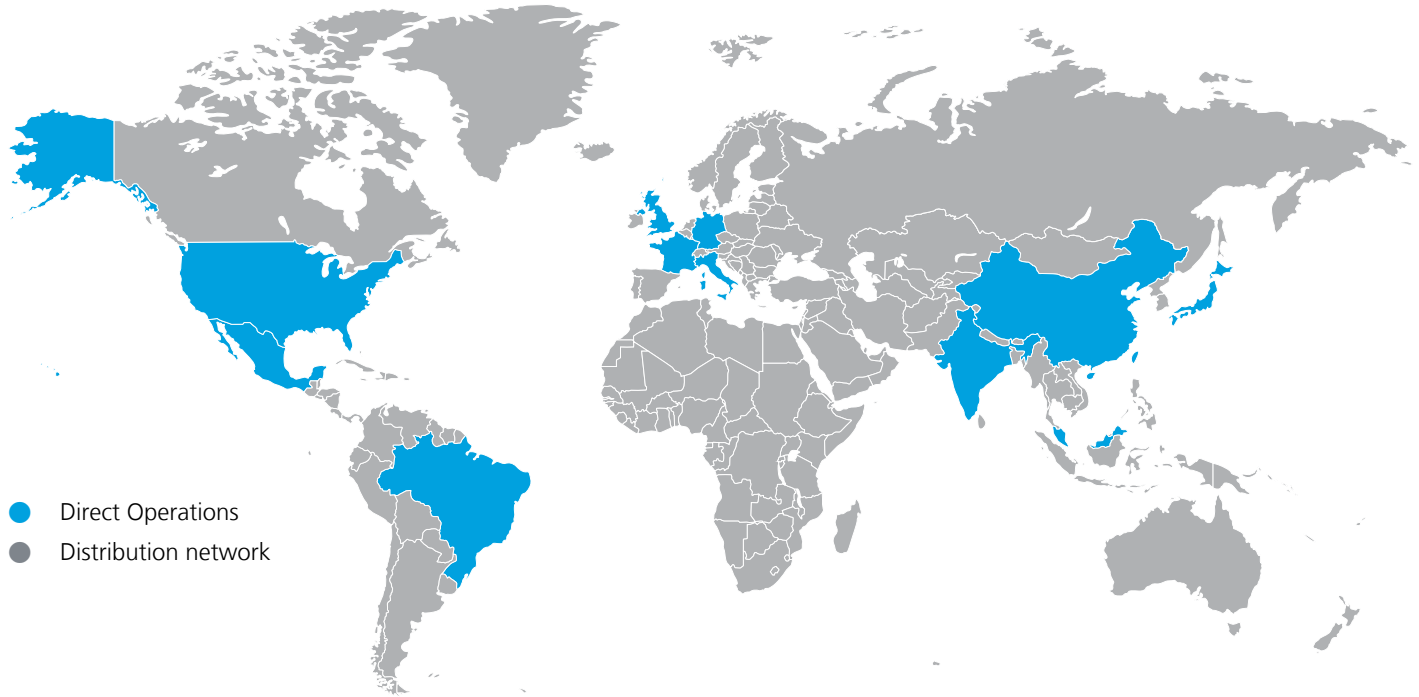
Vision Engineering's ergonomic optical head, eliminates this problem, as the operator can use the ergonomic optical head of Swift PRO Elite and Swift PRO Duo to accurately identify the feature to be measured.

## 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.



Vision Engineering is a global manufacturer of ergonomic stereo microscopes, digital inspection systems and optical and video measuring systems.




- Direct Operations
- Distribution network

Since 1958, Vision Engineering has become one of the worlds most innovative and dynamic microscope suppliers.

**For more information...**

For more information, please contact your Vision Engineering branch, local authorized distributor, or visit our website.

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