



## Video Measuring Systems for precision measurement & inspection

- 2-axis video measuring systems, ideal for measuring 2-D features of small, intricate parts
- Option of combined video *and* microscope measurement technologies
  - Seamlessly switch between video and microscope measurement
  - Patented optical ergonomic microscope offers high resolution visual inspection
- Low capital investment, high accuracy measurement systems



FM 557119

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

# Dual Video & Optical Measuring System

## Two measurement systems in one!

Swift is the only video measuring system to incorporate an ergonomic measuring microscope. With Swift-Duo, previously difficult-to-view samples can now be measured and inspected on the same system, in the same routine, by the same operator.

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**Measure all your components,  
not just the easy ones.**

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 both shop-floor and manufacturing inspection applications.

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.

## 'Next generation' measurement software

Data processing is provided by the 'next generation' of touch-screen PC-based measurement software. With simplicity at its core, the intuitive 'touch-to-measure' software can be used by shift workers or advanced users alike, simplifying complex work steps, reducing operator error, while minimising training requirements.

Ergonomic  
measuring microscope

Video  
measuring system



## Swift-Duo. Why video *and* optical measurement?

Dual video and optical measurement technologies provide the best of both worlds, so whatever component you are measuring, you can be sure you have the best tools for the job, in a single system, without any hold-ups.

### Video measurement

Video measurement is ideal for routine components where edges of features can easily be identified. 'Next generation' measurement software coupled with a high resolution video camera enables Swift to measure a wide variety of simple and complex features, quickly and simply, either through automated video edge detection, or manually.

However components come in all shapes, colours, and textures, so with Swift-Duo, you can choose the ideal technology for the measured feature, seamlessly switching from video measurement to optical measurement in the same routine, without delay, ensuring you have the best measurement tool available all the time.

### Multi-plane measurements

Many users need to measure in X and Y axis, but at different heights. Swift's robust, dynamically engineered stand design is specifically designed to maximise X,Y measurement accuracy at different plane heights, employing a highly engineered precision bearing assembly.

### Optical measurement

In order to take an accurate measurement, you need to be able to clearly identify the edge of the feature being measured. Swift-Duo incorporates a patented eyepieceless measuring microscope, providing high contrast, microscope resolution images of your components. Complex, or difficult-to-view features can be viewed in intricate detail, ensuring you can take accurate measurement of all your components, not just the easy ones! The superb microscope image also allows for high resolution visual inspection.

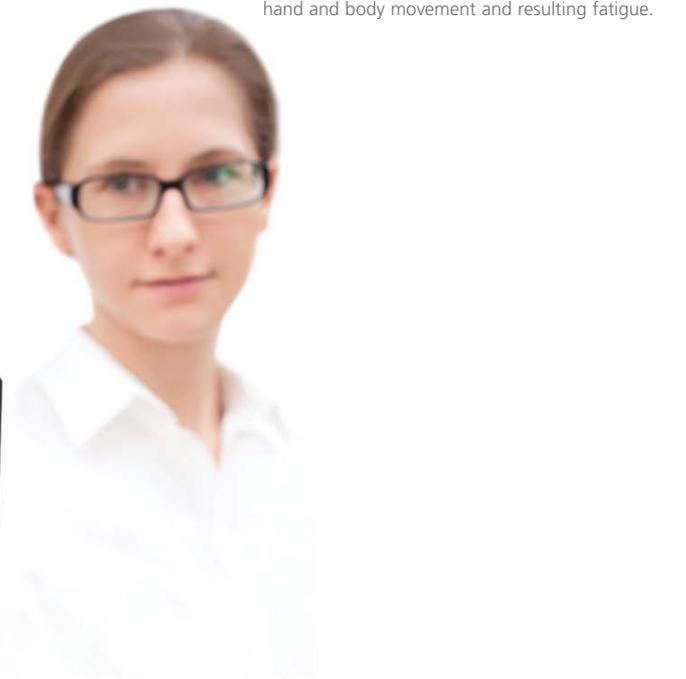
### Precision measuring stage

Swift includes Vision Engineering's proven 150mm x 100mm precision measuring stage. The stage comes complete with factory-set Non-Linear Error Correction (NLEC) calibration to ensure optimum accuracy, traceable to international standards for the purposes of ISO9000.

### Construction and ergonomics

Rugged in construction, the unit has been designed to cope with the demands of a busy production environment. All controls feature a soft-touch silicone finish, ergonomically positioned to reduce head, hand and body movement and resulting fatigue.

= Swift-Duo  
Two measurement systems in one!



Featuring

**touch2measure**  
technology...



## Technical details

### Measurement Uncertainty

Uncertainty formula  $U_{95}2D = 7+(6.5L/1000)\mu\text{m}$ , where L = length in mm, using controlled conditions with 100x magnification at the standard measuring plane.

Increased accuracies may be obtained over shorter measuring lengths.

### Video Camera

High resolution color CCD video camera

### Optics

Patented twin pupil monoscopic, infinity corrected optical system, with pre-centered crossline graticule to both eyes.

- Option of custom designed graticule, pre-centered to one eye

### Magnification Options (System Total)

- Quick change magnification options - 10x, 20x, 50x, 100x

### Measuring Stage

Precision measuring stage, with factory completed Non-Linear Error Correction (NLEC) calibration as standard.

### Measuring Range (X, Y)

- 150mm x 100mm (10kg maximum load)

### Height adjustment

100mm of height adjustment for multiplane measurement.

### Encoder Resolution

X = 1  $\mu\text{m}$       Y = 1  $\mu\text{m}$

### Illumination

Choice of twin semi-coaxial spot lamps, or cool, corrected color temperature LED surface illumination.

- Surface and substage illumination options enable adjustment of lighting to suit any application.
- Substage illumination provides the ability to measure in profile.



Precision manufactured in the EU

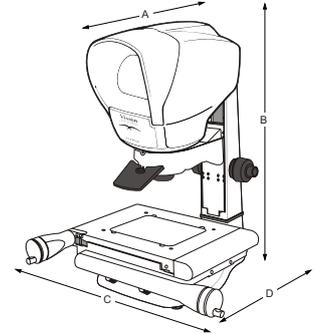
## Dimensions

### Dimensions

A = 490mm  
B = 695mm (with optical head)  
C = 430mm (150mm x 100mm stage)  
D = 390mm (150mm x 100mm stage)

### Weights

	Unpacked
Head (optional)	4kg
Stage	10.5kg
Stand	6kg



## 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 authorised distributor, or visit our website.

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