

visioneng.us

Eyepiece-less stereo  
zoom microscope  
**Lynx EVO**

Industry experience includes:  
Medical, Electronics & Precision engineering





Lynx EVO is an ergonomic zoom stereo microscope used for inspection, in Quality and Production departments in any industry where accuracy and quality are critical factors.

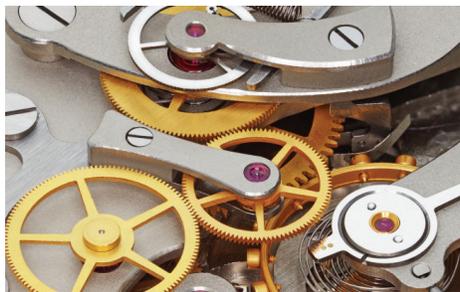
## Lynx EVO benefits your department

- Detect defects - with super clear stereo viewing
- Improve production timing- ergonomic technology reduces user fatigue and strain
- Improve re-work and repair tasks with natural hand-eye co-ordination due to unobstructed peripheral vision
- Reduce production costs and scrap by identifying defects before assembly
- Create accurate documentation and analysis reports



### Electronics

Lynx EVO is ideal for printed circuit board inspection and re-work. Lynx EVO's patented optical viewing head provides unparalleled 3D viewing with significant ergonomic advantages, including simplified eye to hand co-ordination.



### Precision engineering

Precision engineered components are found in a range of industries, including aerospace, automotive, watchmaking and general manufacturing. Lynx EVO improves visual accuracy, minimizing errors caused by user fatigue.



### Plastics and rubber

Rubber seals, packaging, caps and closures are precision manufactured to work effectively meaning that quality inspection is essential process element. Super clear 3D viewing combined with a long working distance makes inspection or re-work tasks such as flash removal easy.



### Medical devices

For a range of medical device components, including stents and catheters, 100% inspection is required to ensure every product meets an exact specification. Lynx EVO's unique package of optical and ergonomic benefits ensures the best possible operator expedience and output, time after time.



### Sterilization inspection

After cleaning, surgical instruments undergo inspection before being packaged for reuse or storage. Lynx EVO's 3D view gives technicians the ability to view all sides of the instrument, essential for spotting areas which harbour residual biological matter.



### Aerospace and Automotive

Inspection of subcontractor supplied components is vital for detecting and removing defective parts before they are assembled. Lynx EVO supports detailed inspection and detailed traceability reporting through high quality imaging and documentation, essential for identifying when faults develop in the manufacturing process.

## Dynascope® inside

Lynx EVO employs an evolution of Vision Engineering's patented Dynascope® eyepiece-less optical projection technology. Dynascope technology removes the need for conventional microscope eyepieces, providing the user with brilliant, high contrast imaging, unrivalled ergonomic performance and ease of use.

## Dynascope® technology explained

Lynx EVO is a true optical stereo microscope. High resolution, true color optical images are viewed through an ergonomic eyepiece-less viewing head.

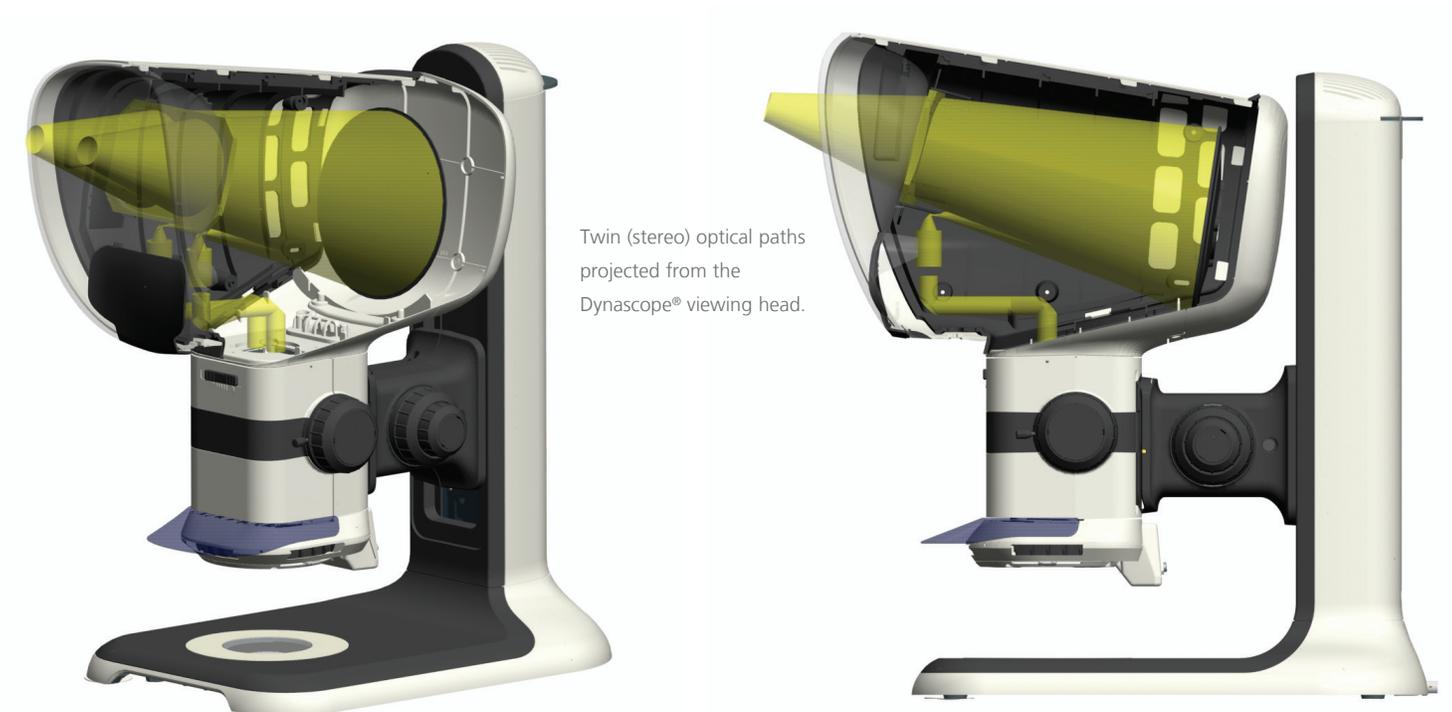
Light reflects from the patented Dynascope optics, exiting the single viewing lens as twin (stereo) light paths. The large diameter of these exit rays means that users do not need to precisely align their eyes with the viewing lens in order to see the image.

**The result is an incredibly easy-to-view, high resolution stereo (3D) image. Without the need for eyepieces.**

## Did you know?

At the heart of Vision Engineering's patented Dynascope® eyepiece-less technology is a spinning multi-lenticular (multi-lens) disc. On the surface of the disk there are more than 3.5 million individual lenses (known as lenticules), which act as independent image-forming surfaces. Each individual lens has a diameter of just a few microns (1 micron = 0.001mm).

The multi-lenticular disk spins at high speed to merge the millions of individual optical paths into a high-clarity image.



Businesses choose **Lynx EVO** because they know their operators are **more efficient, more accurate** and **more productive**. The operator benefits and so does the business.

## Highlights

- Modular design allows tailoring for individual applications.
- 10:1 zoom ratio provides 6x - 60x magnification, increasing to 240x with optional accessories.
- Integrated HD camera/software (option) provides seamless image/video capture and annotation capabilities.
- Long working distance for easy sample manipulation.
- Flexible stand options, ideal for industrial and life science applications.

## Optical excellence

- Lynx EVO incorporates Dynascope® patented optical technology. Dynascope technology optimizes head and body freedom providing 10mm side-to-side and 70mm front-to-back head freedom.
- Iris control within the zoom unit for greater control over the depth of field and contrast.
- Coarse and fine adjustment for fast and precision focusing

## Illumination

- 8-point LED ringlight with intensity control.
- In-built rotating diffuser for contrast adjustment.
- 5-point LED transmitted (substage) illumination (option).

## Smart Cam/ Smart Cam 5 digital camera

- Integrated HD camera/software (option) provides seamless image/video capture and annotation capabilities for documentation purposes, with simultaneous on-screen display (via PC). Ideal for demonstration or training.
- Easy convenient image/video capture while retaining both optical paths for stereo viewing.

## Imaging software

- The included software provides easy annotation and quick reporting of inspected products. Annotations can be loaded as separate files and so can be used for template checking.
- Easy image capture in compressed JPEG, PNG, or uncompressed BMP format.
- Record video in highly compatible AVI format, allowing a high level of control over movie clips.

*Other compatible software solutions are also available.*



## The eyepiece-less advantage

Lynx EVO employs revolutionary Dynascope® technology, improving productivity through unrivalled ergonomics and ease of use.

- Superior ergonomics promotes greater productivity and efficiency.
- A natural view of the subject with easy hand-eye co-ordination.



### 1 Easy sample manipulation

The Lynx EVO advantage begins with stunning 3D (stereo) imaging, viewed through an ergonomic viewing head. Patented eyepiece-less optical technology allows users to move within the optical path of the subject, effectively looking around the subject, further enhancing the 3D view and depth perception.

### 2 Combat eye fatigue and headaches

With conventional 'eyepiece' stereo microscopes, users must position their eyes extremely close to the eyepieces, blocking out ambient light. The intense light exiting the eyepieces causes the pupils to contract. It is this constant opening and closing of the pupils which causes eye fatigue and headaches. With Lynx EVO's eyepiece-less design, users sit back from the viewer, ambient light enters into the eyes, reducing eye fatigue and headaches.

### 3 Ability to wear glasses

With Lynx EVO, operators can wear their glasses (or safety glasses) to use the microscope resulting in minimal adjustment time between users. In addition, you can easily use Lynx EVO in a laminar flow, or safety cabinet.

### 4 Reduced fatigue and strain

An ergonomic working position not only makes Lynx EVO much more comfortable and much less fatiguing, but also much easier to use. Optimal operator ergonomics minimizes the risk of repetitive strain-related injuries. A happy worker is a productive worker.

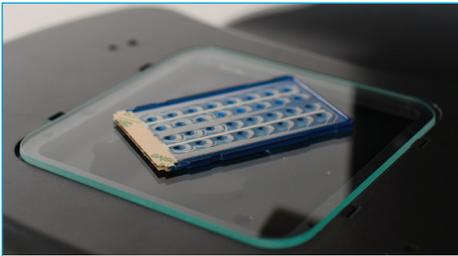
### 5 Operators are comfortable

The eyepiece-less design liberates users from a fixed working position and users do not need to precisely align their eyes with the viewing lens. This freedom of movement reduces neck and back strain associated with a fixed body position required when using a binocular stereo microscope with eyepieces.

### 6 Easy hand-eye co-ordination

Sitting back from the viewing lens provides users with much better peripheral vision, allowing natural hand-eye co-ordination, critical for precision inspection tasks, re-work, repair, dissection and other manipulation activities.





## Floating stage

A floating stage accessory for the Ergo stand provides smooth and precise control, ideal for inspecting sensitive samples, checking uniformity of components, or together with the measuring graticule for scaling or measuring subjects.



## Multiplier

Get more out of your objective with a multiplier. Increase the magnification and zoom range by a factor of 1.5x or 2.0x, significantly extending system magnification capabilities without changing the working distance.



## Fixed wedges

Available in two configurations; 25° tilting up and 25° tilting down. Wedges enable the adjustment of the eye-point providing better ergonomics, and gives the option to use tools via a long working distance objective while working with an oblique view.



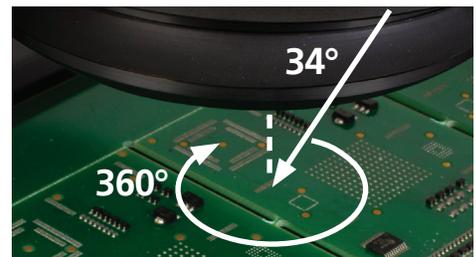
## Transmitted (substage) illumination

Transmitted illumination (option) permits viewing of a wider range of sample types. Provides flexibility as transparent samples can be viewed by transmitted as well as incident light.



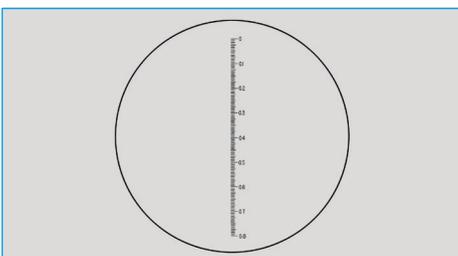
## Digital Camera Smart Cam / Smart Cam 5

Easy and convenient high definition image/video capture while retaining both optical paths (for simultaneous stereo viewing). Imaging software options are available to get the most out of your camera and meet requirements.



## 360° rotating viewer

The 360° rotating viewer for Lynx EVO is the ultimate inspection accessory, permitting a full 360° rotating view of the subject (at an angle of 34°). Operators can simply switch between rotating and a conventional direct view.



## Reticle

Both simple cross hair, and measurement reticle (pictured) with scale are available for the Lynx EVO. The measurement reticle allows quick, simple dimensioning of the subject as it is being inspected. Custom reticles are also available.

## Stand Options

### Ergo stand

- Small footprint for restricted bench space.
- Exceptionally stable for high magnification use.
- Transmitted (substage) illumination (option) permits viewing of a wider range of sample types.



### Multi-axis stand

- Precise and robust, ideal for industrial applications where maximum work space is desired.
- Extended reach permits the inspection of large samples (max. throat depth 439mm).
- Integrated gas strut provides counter-balanced adjustability, making operation quick and effortless. Switch between tall components and flat samples with ease.



## Lynx EVO

Optical data				
Objective lens	Zoom range	Working distance	Field of view at min. zoom	Field of view at max. zoom
0.45x	2.7x – 27x	7" (176mm)	2.2" (55mm)	0.3" (5.5mm)
0.62x	3.7x – 37x	5" (128mm)	1.6" (40mm)	0.16" (4.0mm)
1.0x	6x – 60x	3" (75mm)	1" (25mm)	0.1" (2.5mm)
1.5x	9x – 90x	1.6" (42mm)	0.7" (16mm)	0.06" (1.6mm)
2.0x	12x – 120x	1.2" (29mm)	0.5" (12mm)	0.05" (1.2mm)

## Digital camera

Smart Cam specifications		
	Smart Cam	Smart Cam 5
Sensor type	CMOS	CMOS
Resolution (W x H)	1600 x 1200 pixels	2560 x 1920 pixels
Sensor size	1/3"	1/2"
Pixel size	2.8µm	2.2µm
Color depth	8-bit	12-bit
Refresh rate (fps)	18.3 fps max.	15.2 fps max.
File formats	BMP, JPEG, PNG and AVI	BMP, JPEG, PNG and AVI

## Software

Software features				
	ViCapture (included)	DimensionOne (option)	ViFox (option)	ViPlus (option)
Image Capture	✓	✓	✓	✓
Video Capture	✓			
Annotation	✓	✓	✓	✓
Save/recall settings	✓	✓	✓	✓
Measurement of features		✓	✓	✓
Reporting of measurements			✓	✓
Live image comparison			✓	✓
Measurement of live image				✓
Auto shape detection				✓

## Rotating viewer accessory

360° rotating view				
Zoom range	Working distance	Field of view at min. zoom	Field of view at max. zoom	Viewing angle
4.2x (16x*) – 42x	1.4" (35.5mm)	0.40" (10.2mm)*	0.15" (3.8mm)	34° from vertical

Direct view				
Zoom range	Working distance	Field of view at min. zoom	Field of view at max. zoom	Viewing angle
6.8x (15x*) – 68x	2.22" (56.5mm)	0.47" (12.0mm)*	0.098" (2.5mm)	-

\* Uninterrupted

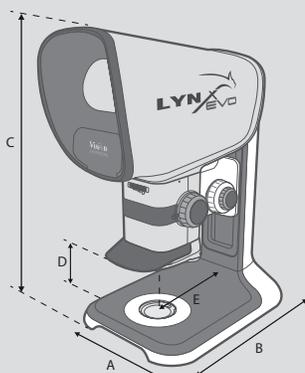
## Multiplier accessory

With 1.5x multiplier				
Objective lens	Zoom range*	Working distance	Field of view at min. zoom**	Field of view at max. zoom
0.45x	2.7x – 40.5x	7" (176mm)	2.2" (55mm)	0.15" (3.7mm)
0.62x	3.7x – 55.5x	5" (128mm)	1.6" (40mm)	0.11" (2.7mm)
1.0x	6x – 90x	3" (75mm)	1" (25mm)	0.07" (1.7mm)
1.5x	9x – 135x	1.6" (42mm)	0.7" (16mm)	0.04" (1.1mm)
2.0x	12x – 180x	1.2" (29mm)	0.5" (12mm)	0.03" (0.8mm)

With 2.0x multiplier				
Objective lens	Zoom range*	Working distance	Field of view at min. zoom**	Field of view at max. zoom
0.45x	2.7x – 54x	7" (176mm)	2.2" (55mm)	0.11" (2.7mm)
0.62x	3.7x – 74x	5" (128mm)	1.6" (40mm)	0.08" (2.0mm)
1.0x	6x – 120x	3" (75mm)	1" (25mm)	0.05" (1.2mm)
1.5x	9x – 180x	1.6" (42mm)	0.7" (16mm)	0.03" (0.8mm)
2.0x	12x – 240x	1.2" (29mm)	0.5" (12mm)	0.02" (0.6mm)

\* Maximum permissible range with multiplier engaged/disengaged.

\*\* With multiplier disengaged.



### Ergo stand dimensions:

A = 11" (280mm)

B = 16.5" (420mm)

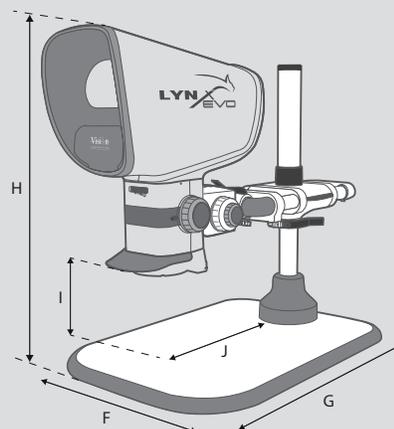
C = 26.4" (670mm) max.

D = 7.9" (200mm) max.  
(less working distance)

E = 7.9" (200mm)

Unpacked weight: 33.75lbs (15.3kg)

Packed weight: 43lbs (19.5kg)



### Multi-axis stand dimensions:

F = 18" (455mm) (7.2" (184mm\*))

G = 27" - 33" (682mm - 830mm)

H = 27" (695mm) max.

I = 11" (285mm) max. (less working distance)

J = 17" (439mm) max.

\* without platform base.

Unpacked weight: 59lbs (26.6kg)

Packed weight: 68lbs (30.8kg)

# 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 authorized distributor, or visit our website: [visioneng.us](http://visioneng.us)

## 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 our customers. Our systems have proved themselves many times over and are chosen by the world's best companies.

## Global

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

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