

DeltaPix

Digital microscopes



- Super high resolution
- 3D topography / 3D measurement
- 2D measurements
- Roughness
- Super depth of field
- Auto stitching and scanning
- Flexible

About DeltaPix

DeltaPix is pioneering the digital microscopy industry and has done so for more than 20 years, introducing many innovative technologies and solutions to meet different requirements. The first innovative product to be released by DeltaPix back in 2003, was the groundbreaking Infinity X, with 21 million real color pixels, setting new standards for microscopy cameras at that time.

DeltaPix develops and markets a wide range of digital imaging solutions for various industrial, forensics and biomedical microscopy applications, and has established a very deep and broad expertise with-in digital image capturing, image handling and processing.

It is the primary strategy of DeltaPix to use these technologies to create innovative new products to be marketed and sold internationally through a selective network of partners.



Product range

Cameras

DeltaPix' camera range is intended for all kinds of microscopy users, for the basic routine use, to the advanced professional researcher, who needs to manipulate the working method of the camera and control every detail. The Invenio cameras range is a series of easy to use cameras, with high resolution, high sensitivity and very low noise.

All DeltaPix cameras are manufactured to scientific standards with an extreme focus on the details; assembled in a dust-free environment, high-quality IR filters, high-grade sensors, low-temperature design, and long durability. All DeltaPix cameras are equipped with the newest high-quality CMOS and Exmor™ sensors.



DeltaPix Digital microscopes

Digital microscopes are becoming a vital part of any well-equipped laboratory. DeltaPix aims to provide a high-quality digital microscope for a wide variety of industries and research labs, with a focus on providing reliable 2D and 3D measurements and material information like roughness, depth and height profiles. Offering a flexible solution for virtually any application and budget, ranging from a fully automatic 2D/3D microscope to a simple inspection microscope.



Accessories

To support our range of microscope cameras, and digital microscopes, DeltaPix offers several accessories such as light sources, Microscope stands, manual stages, motorized stages, calibration sliders, mechanical adapters and much more. Every item offered is carefully selected by a highly skilled and experienced team, to ensure a high and reliable quality.

High-resolution inspection and super accurate results

Inspection/ still images

Inspect the samples in full resolution and capture all the details for documentation with just a click of the mouse.

The images can be saved in various compressed or uncompressed formats like JPEG, JPEG2000, Tiff and BMP

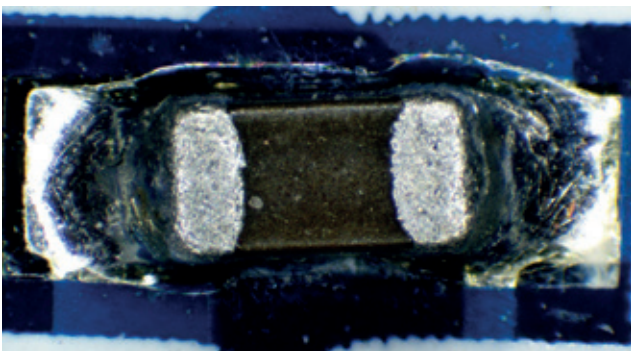
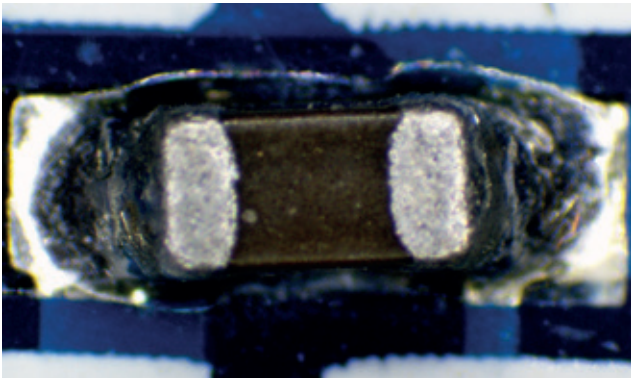
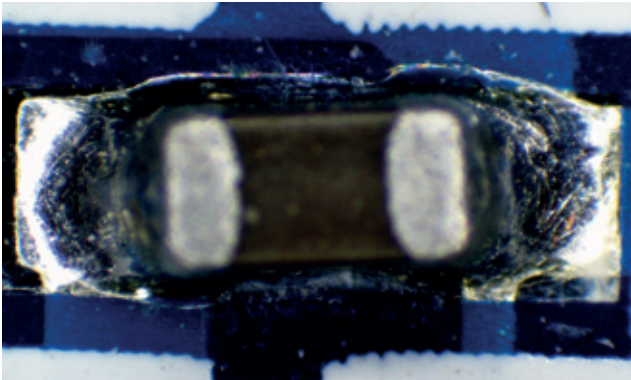


2D measurements

DeltaPix microscopes offer accurate measurements in real-time, or in captured images. The software offers many powerful measuring tools including length, area, angle, diameter and much more. In addition, the actual dimension and measurement results can be saved on the captured image or exported to Excel, CSV or PDF files.

Export to Excel or PDF using the included templates or design a custom template.

Measurements on multiple specimens can be exported to one CSV file for statistical purposes.



Super Depth of Field

DeltaPix microscopes have the ability to produce “Super depth of field”, by capturing images at different focal planes and using the state of the art algorithm which also works on stereo microscopes to stitch a full focus image from the captured images.

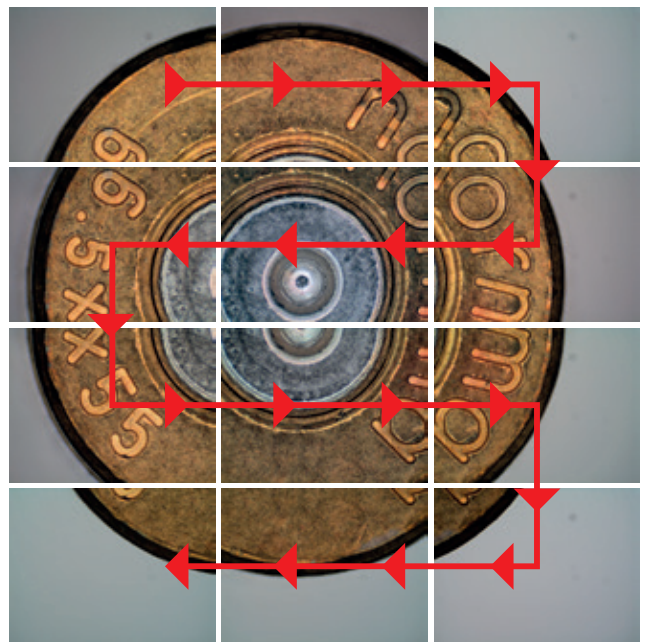
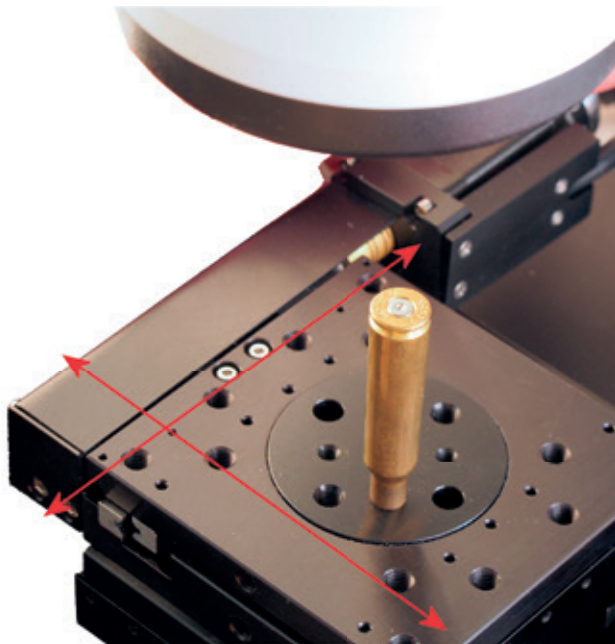
The number of images needed for each extended focus capture, can be automatically calculated from the depth of focus at the actual magnification.



Extended Field of View / Auto stitching

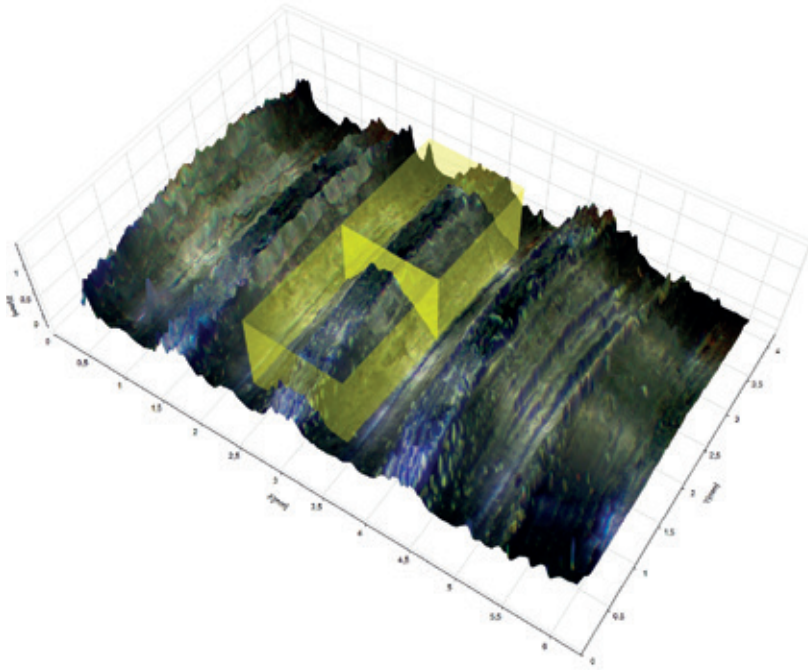
By including a motorized XY stage with any microscope with a DeltaPix camera, the field of view can be extended significantly. This is done without involving the user in complicated calculations, the user just moves the specimen in real time with the joystick or keyboard to two opposite corners of the area of interest, then the software does the rest by itself.

The resulting image combines the overview enabled by a large field of view with unmatched microscopic details. The automatic stitching can be combined with extended depth of field, extended image dynamics and auto focus.



3D Topography

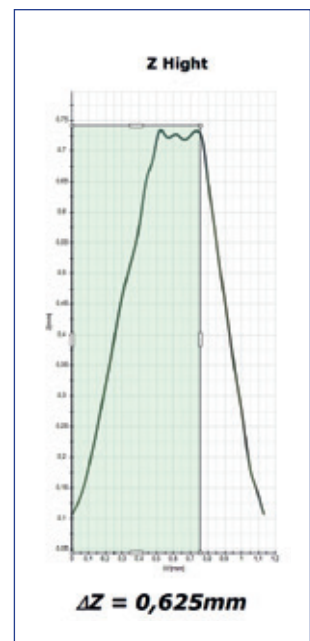
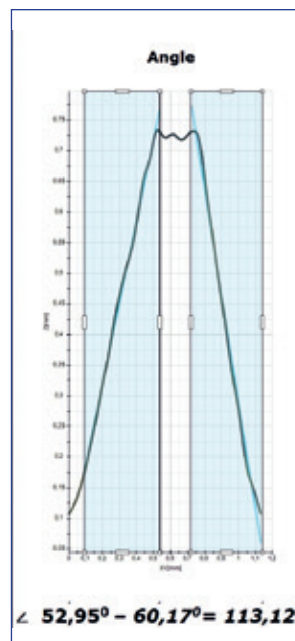
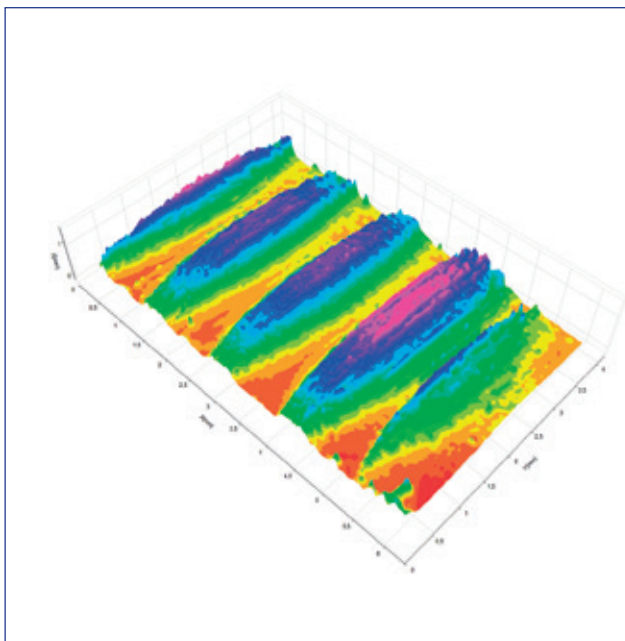
Extend the visualization and measurement from 2D to 3D.



With the 3D module in InSight, it is possible to display a 3D model of the specimen under observation.

Displaying the 3D model in its true color or fake color to better illustrate the height difference in the specimen.

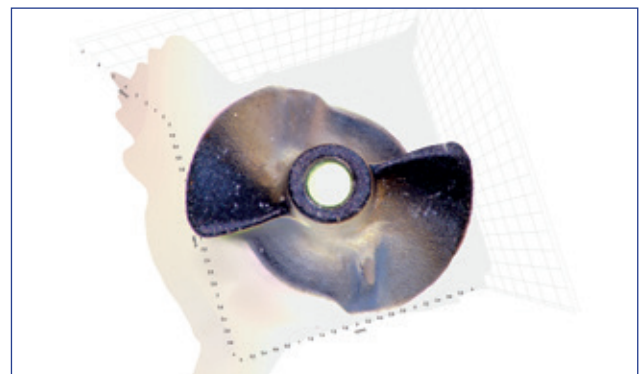
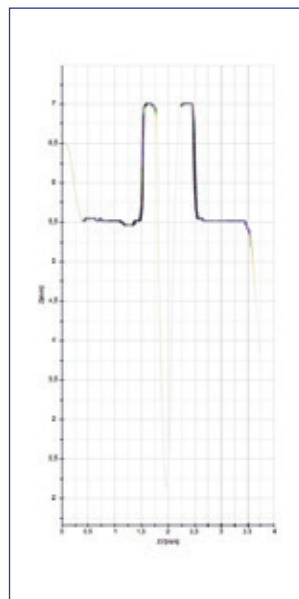
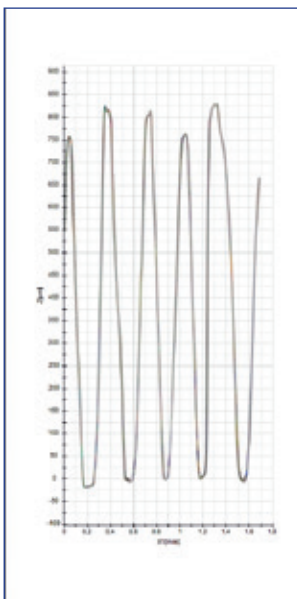
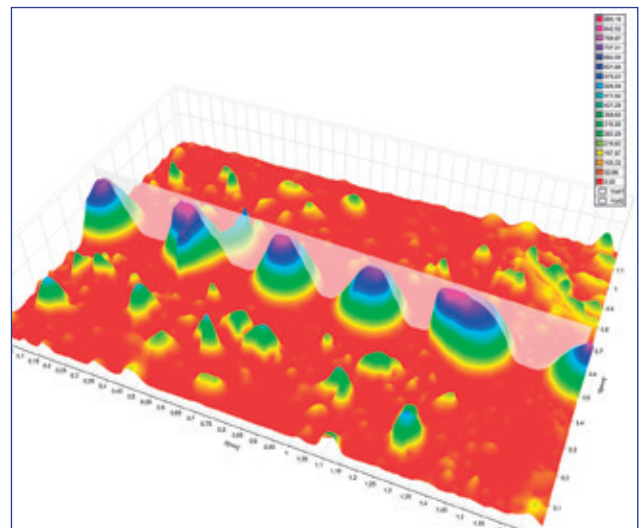
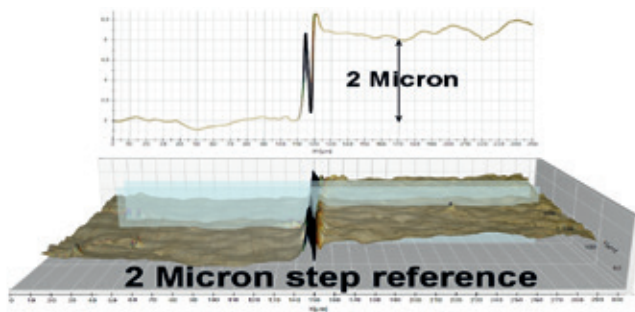
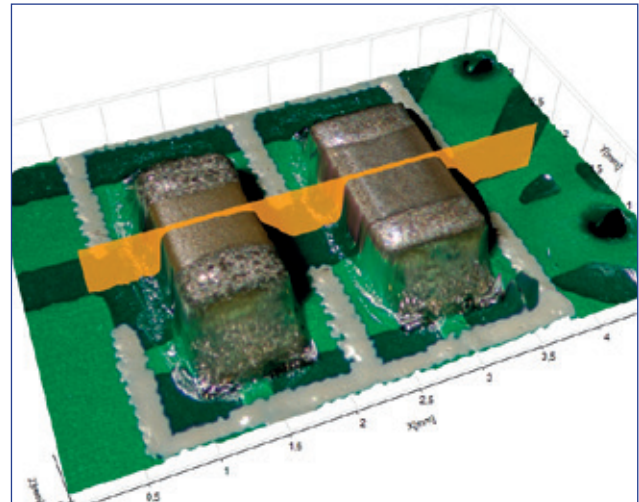
This is a 3D rendering of a chip



3D Measurements

Comprehensive, intuitive 3D measurements.

The Modus systems is a fully capable 3D, surface analyzing, measurement system. 2D parameters like angle, distance, and area can be visualized and measured in 3D without limits as well, and as easy as if it was in only two dimensions. Because of the many options of light sources in combination with high-resolution optics with long working distances, many objects which are normally difficult to visualize in traditional 3D systems like Confocal and Scanning microscopes, the DeltaPix Modus 3D systems, display all complex details in true color, like not seen elsewhere. The 3D capabilities is also available in the XY-scanning function, so detailed 3D images can be captured automatically at pre-saved XYZ-positions for later analyzes.

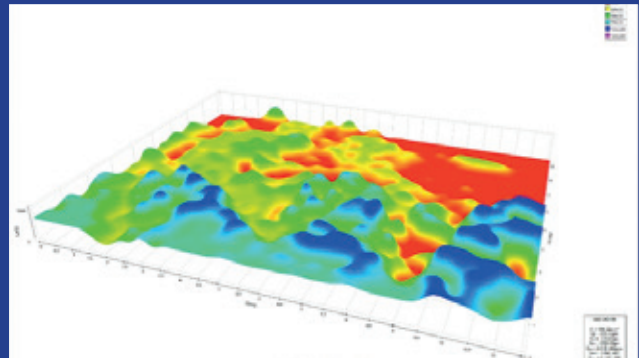
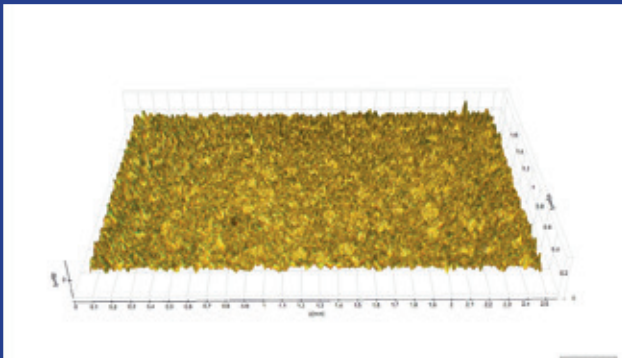


Roughness Measurement

DeltaPix InSight offers a non-contact roughness measurement according to guidelines of ISO 25178-2:2012.

The software can be applied in various applications where surface textures need to be analyzed. The implementation of surface roughness measurement is based on the data collected from topography analysis thus the need for a third party add on software is eliminated for most applications.

Roughness measurement of a sample, in 3D with fake coloring



The data shown in a panel in the lower right corner is the results of the Roughness 3D calculations.

Sq: Root mean square height of the scale-limited surface

Ssk: Skewness of the scale-limited surface

Sku: Kurtosis of the scale-limited surface

Sp: Maximum peak height of the scale limited surface

Sv: Maximum pit height of the scale limited surface

Sz: Maximum height of the scale-limited surface

Sa: Arithmetical mean height of the scale limited surface

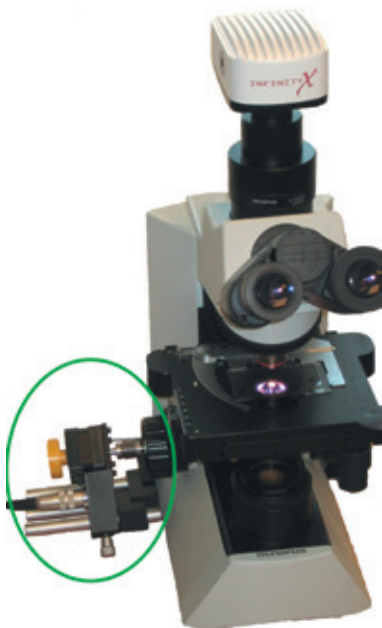
Microscope Automation

A simple and easy solution to convert an old microscope into a 3D microscope

DeltaPix provides solutions for automation of microscopes of all kinds, like motorized focus and motorized XY axis. With DeltaPix automation solutions, it is possible to turn most old microscopes into a modern 3D microscope.

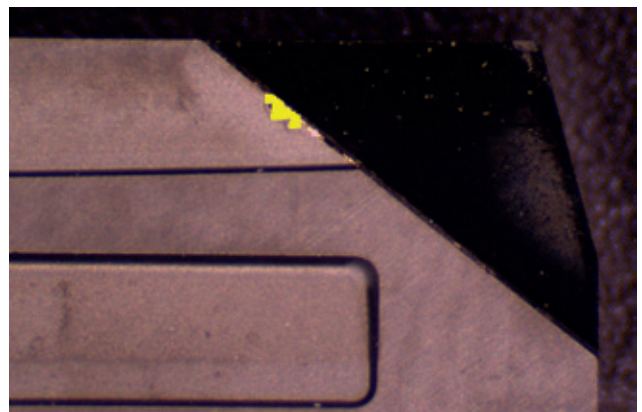
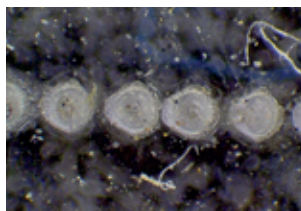
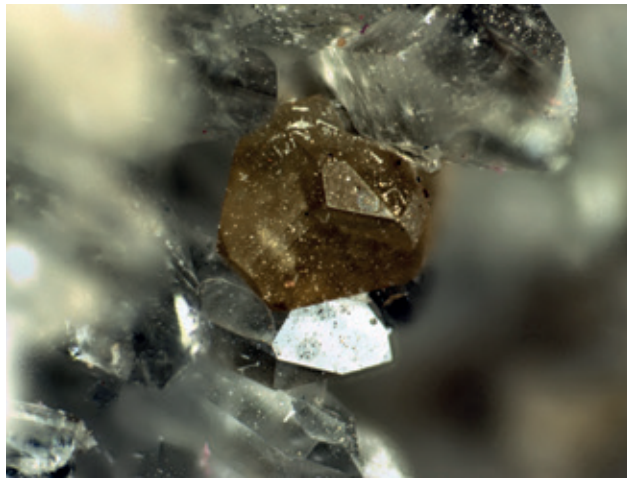
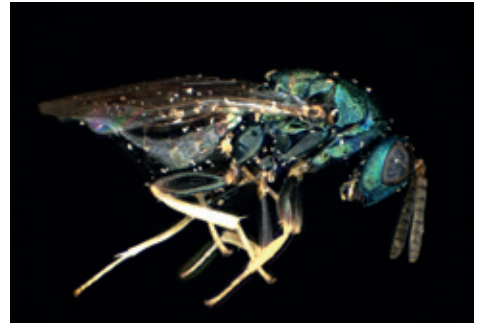
Capture Extended Focus images with up to 250 slides with ease, create a 3D Topography of the sample surface, and allows for Roughness measurement.

With DeltaPix automation solution, there is no need for a new microscope, reuse the old microscope, and achieve the same results as with a new 3D microscope.



Gallery

Various images from DeltaPix image library.



Specifications

12ZS zoom Specifications

Camera model	Function	M12Z-0.42	M12Z-1.25	M12Z-2.5	M12Z-4.16
	NA range	0.01-0.07	0.03-0.2	0.06-0.36	0.1-0.45
	Resolution	33.55-4.79mu	<1.5-11mu	<0.9-5.5MU	<0.7-3.4mu
	Focal depth	+ -2750-56.12mu	7-300mu	2-77MU	1.4-27mu
	Working Distance	45mm	46.2mm	35.25MM	14mm

Invenio 6EIII	Magnification	29x-344x	83 - 1560x	166 - 3120x	305-5740x
	Field of View	21mm-1.772mm	7.2mm-384mu	3.6mm - 192mu	2mm-208mu

Invenio 12EIII	Magnification	27.7x-329.5x	157 - 2964x	315 - 5928x	579-10906
	Field of View	22mm-1.85mm	7.2mm - 384mu	3.6mm - 192mu	2mm-208mu

Invenio 5SIII	Magnification	36x-435x	104 - 1940x	208 - 3880x	382-14700x
	Field of View	16.9mm-1.4mm	5.7 - 306mu	2.8mm- 153mu	1.5mm-83mu

12ZN zoom Specifications

Camera model	Function	5x	10x	20x	50x
	NA range	0.14*	0.28*	0.42*	0.55
	Resolution	2	1	0.7	0.5
	Focal depth	14	3.5	1.6	0.9
	Working Distance	34mm	33mm	20mm	13mm

Invenio 6EIII	Magnification	248x-1693x	495-3386x	999-6773x	3048-15240x
	Field of View	2.45 - 0.36	1.23 - 0.18	0.61 - 0.09	0.20 - 0.04

Invenio 12EIII	Magnification	248x-1693x	495-3386x	999-6773x	3048-15240x
	Field of View	2.45 - 0.36	1.23 - 0.18	0.61 - 0.09	0.20 - 0.04

Invenio 5SIII	Magnification	248x-1693x	495-3386x	999-6773x	3048-15240x
	Field of View	2.45 - 0.36	1.23 - 0.18	0.61 - 0.09	0.20 - 0.04

Invenio 10EIII	Magnification	248-1244x	495-2438x	999-4689x	3048-12192x
	Field of View	2.45mm-0.49mm	1.23mm-0.25mm	0.61mm-0.13mm	0.2mm-0.05mm

Note:

1. All magnification is based on 1.33x adapter.
2. Maximum magnification and minimum FOV are calculated based on a 24" monitor with 1920x1020 pixels, at 100% zoom at maximum still image camera resolution.
3. *NA at highest magnification, NA varies with zoom settings

6ZS zoom Specifications

Camera model	Function	
	NA range	0.069
	Axial Resolution	1 μ m
	Spatial Resolution	11.6 - 4.9 μ m
	Focal Depth	0.13 μ m
	Working Distance	92,3mm

Invenio 10EIII	Magnification	90 - 543x
	Field of View	16.33mm - 2.54mm

Invenio 5SIII	Magnification	85 - 553x
	Field of View	10.18mm - 1.59mm

Note:

1. Maximum magnification and minimum FOV are calculated based on a 24" monitor with 1920x1020 pixels, at 100% zoom at maximum still image camera resolution.
2. *NA at high highest magnification. NA varies with zoom settings

6ZN zoom Specifications

Camera model	Function	5x	10x	20x	50x
	NA range	0.14*	0.28*	0.42*	0.55
	Resolution	2	1	0.7	0.5
	Focal depth	14	3.5	1.6	0.9
	Working Distance	34mm	33mm	20mm	13mm

Invenio 6EIII	Magnification	175x-1128x	352-2257x	708-4354x	2032-12192x
	Field of View	3.48 - 0.54	1.73 - 0.27	0.86 - 0.14	0.30 - 0.05

Invenio 12EIII	Magnification	175x-1128x	352-2257x	708-4354x	2032-12192x
	Field of View	3.48 - 0.54	1.73 - 0.27	0.86 - 0.14	0.30 - 0.05

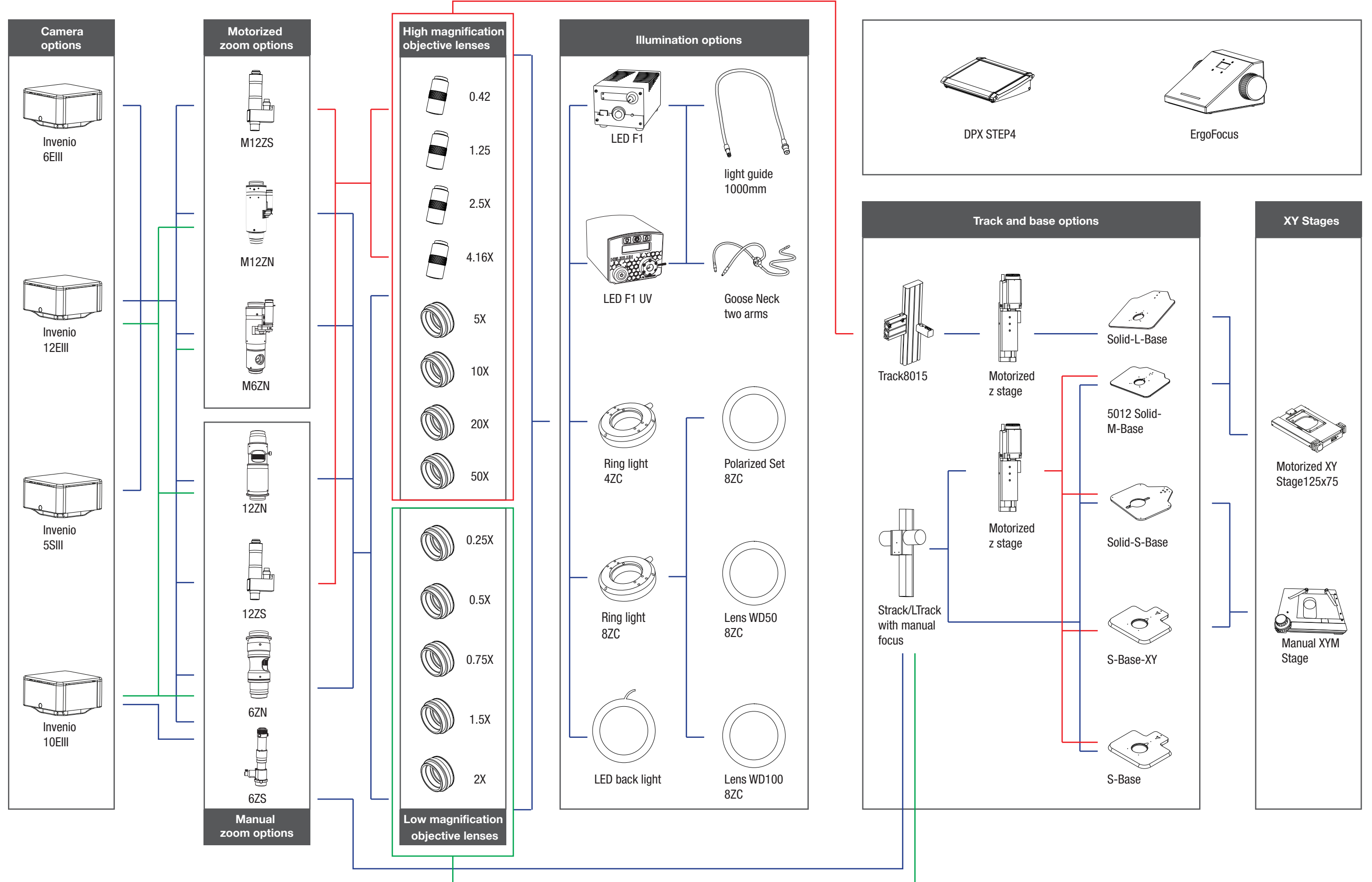
Invenio 5SIII	Magnification	175x-1128x	352-2257x	708-4354x	2032-12192x
	Field of View	3.48 - 0.54	1.73 - 0.27	0.86 - 0.14	0.30 - 0.05

Invenio 10EIII	Magnification	152-823x	290-1647x	609x-3208x	2032-8708x
	Field of View	4.00 - 0.74mm	2.10 - 0.37mm	1.00 - 0.19mm	0.30 - 0.07mm

Note:

1. All magnification is based on 1.33x adapter.
2. Maximum magnification and minimum FOV are calculated based on a 24" monitor with 1920x1020 pixels, at 100% zoom at maximum still image camera resolution.
3. *NA at high highest magnification. NA varies with zoom settings

Microscope diagram





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