

# ZOOM MICROSCOPE

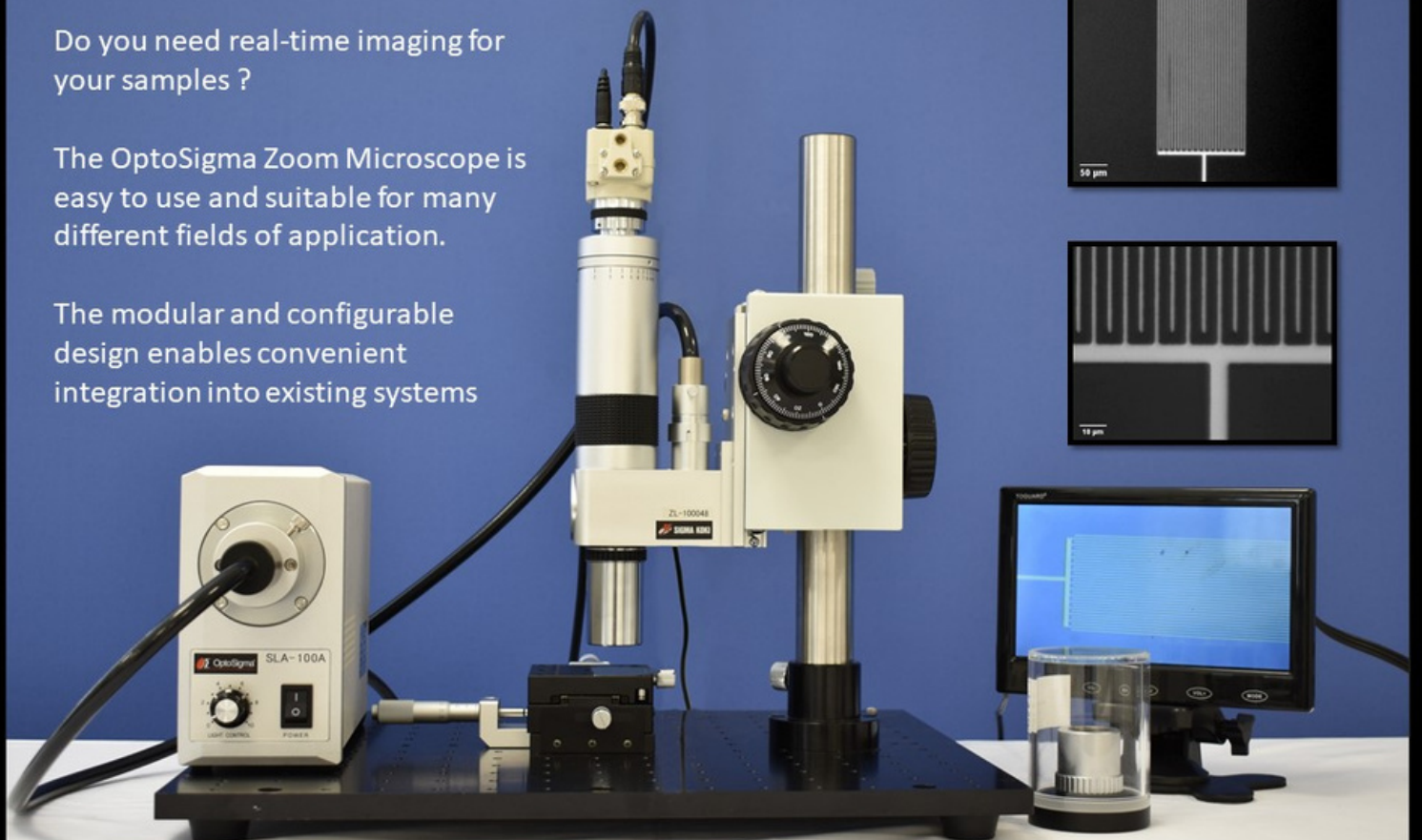
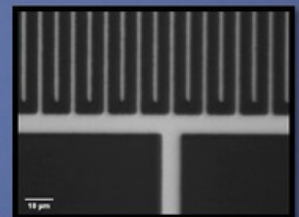
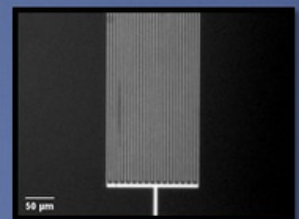
PRODUCT BROCHURE

 OptoSigma®

Do you need real-time imaging for your samples ?

The OptoSigma Zoom Microscope is easy to use and suitable for many different fields of application.

The modular and configurable design enables convenient integration into existing systems



Unique objective lens options enable long and ultra long working distances of up to 500mm, suitable for imaging the inside of high temperature ovens, low temperature ion traps or vacuum chambers.

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 OptoSigma®

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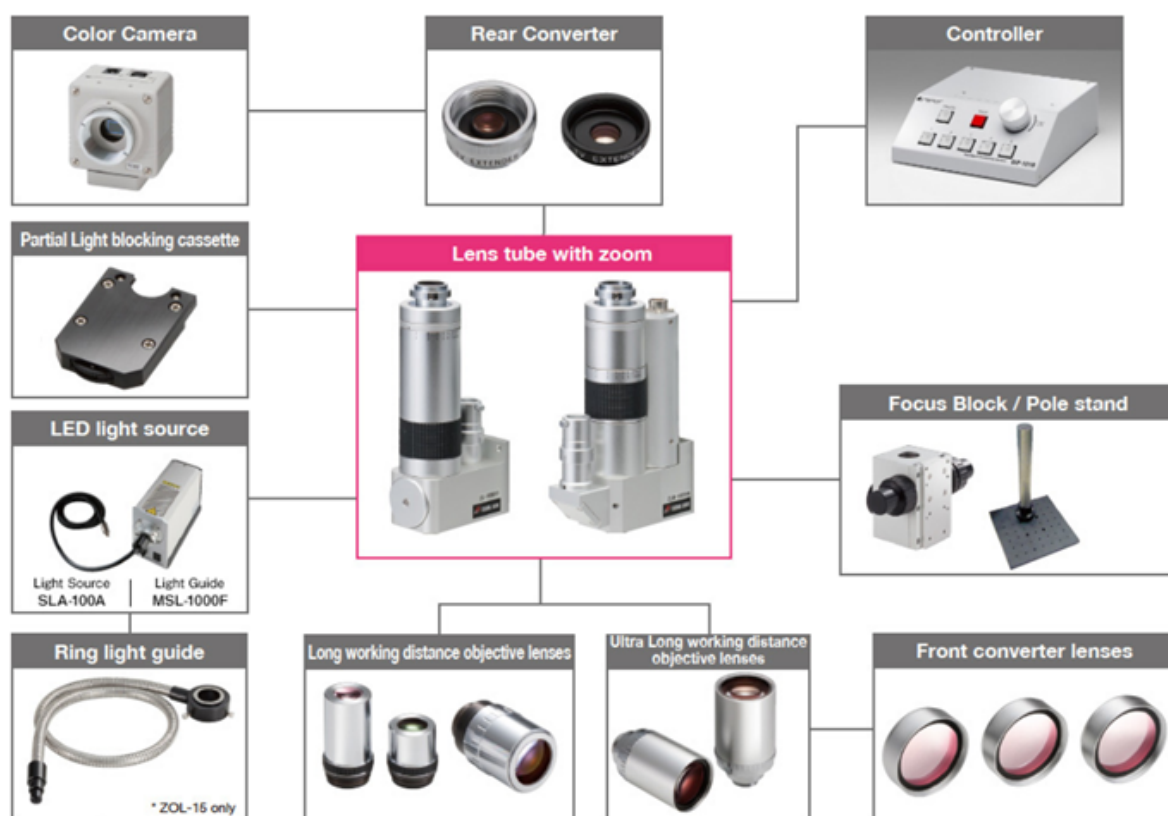
# MODULAR SYSTEM

Do you have multiple imaging applications?

Objective lenses, cameras, LED light sources... We have a wide array of compatible components that will allow you to adapt this system, depending on your use.

One product for many solutions. Unlike traditional microscopes, the special feature of this system is that it can be easily integrated into your systems.

The key feature of this optical zoom microscope is the need to only focus once on a particular area, then adjust the zoom without having to re-focus, a significant time saving advantage as opposed to changing objectives and re-focusing with traditional microscopes.



## TECHNICAL NOTES

- 12x zoom range
- Long and ultra long working distance lenses - from 14mm to 502mm
- Large range of optical magnification - from 0.23x to 50x

# OBJECTIVE LENSES

We have a wide range of objective lenses available.

Quickly select your NA, magnification, and your working distance !

All of our unique objective lenses are made in house, resulting in higher guaranteed care and quality.



## LONG WORKING DISTANCE

- Optical magnification: from 1.25x to 50x
- Working distance: from 14mm to 46.2mm
- Resolution ( $\lambda=0.55\mu\text{m}$ ): from  $11.18\mu\text{m}$  to  $0.75\mu\text{m}$
- Numerical Aperture: from 0.03 to 0.45



## ULTRA LONG WORKING DISTANCE

- Optical magnification: from 0.58x to 15x
- Working distance: from 101mm to 206mm
- Resolution ( $\lambda=0.55\mu\text{m}$ ): from  $24\mu\text{m}$  to  $1.7\mu\text{m}$
- Numerical Aperture: from 0.014 to 0.08

Do you need a longer working distance?

Would you like to increase the magnification without changing the working distance or objective lens?

In addition to our 5 objective lens choices, you can improve some features by adding converters.

Both front and rear converters serve their own purpose without changing the other specifications



## FRONT CONVERTER

- Compatible with UZOL-7 objective
- Optical magnification: from 0.23x to 4.48x
- Working distance: from 305mm to 502mm
- Resolution ( $\lambda=0.55\mu\text{m}$ ): from  $55.9\mu\text{m}$  to  $0.032\mu\text{m}$
- Numerical Aperture: from 0.006 to 0.052



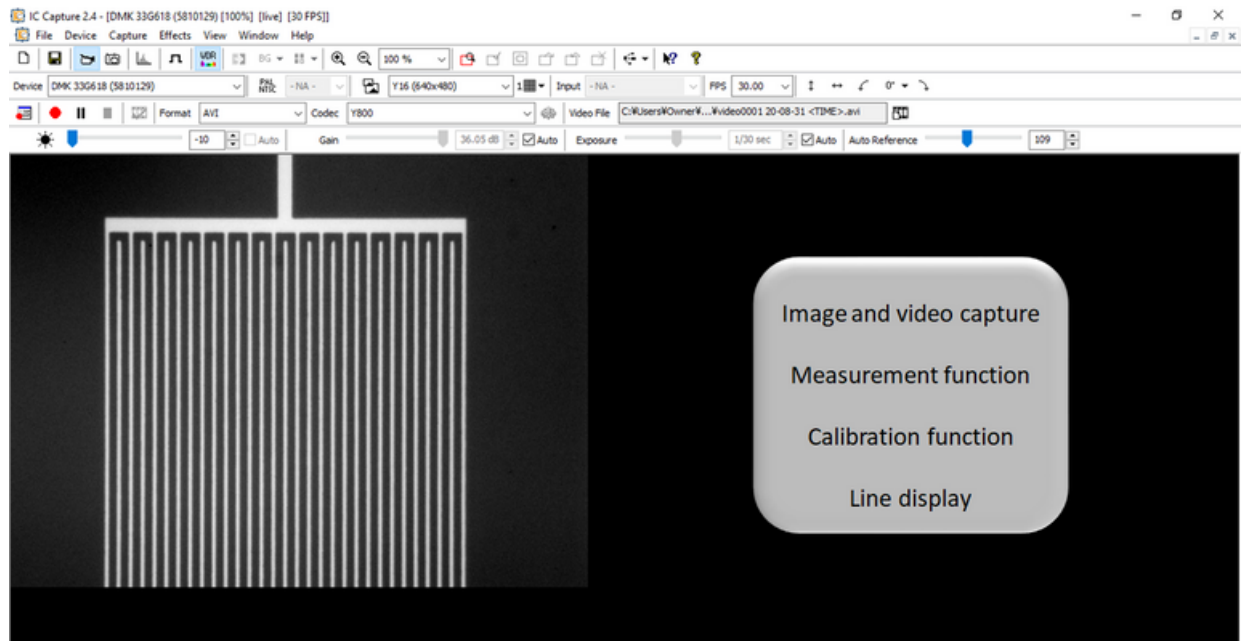
## REAR CONVERTER

- Compatible with each objective
- Magnification increased without changing the working distance or objective
- Magnification: from 1.5x to 2x



# SOFTWARE

Image measurement can be adjusted automatically by using the integrated software and installing the viewer software that is included with the camera.



## MOTORIZED VERSION

The line-up also includes a motorized version suitable for system integration, loop checking or precise movement and speed.

With the motorized version the magnification is changed by use of the controller.

Simply choose the motorized lens tube (SLZM), your choice of objective, light source, camera, including the controller and cables, and you are set to go!



This micro-step driver is ideal for controlling the (SLZM) motorized zoom body.

Compatible with a PC via USB interface

# APPLICATION

In the field of printed electronics, the features to be inspected are highly complex.

Time effective and highly accurate quality control is essential to ensure high performance.

Using optical microscopy is necessary to help insure the highest quality.

Thanks to OptoSigma's Zoom Microscope, you will easily be able to find and identify key areas of interest and zoom your way to high magnification instead of changing objectives and re-focusing.

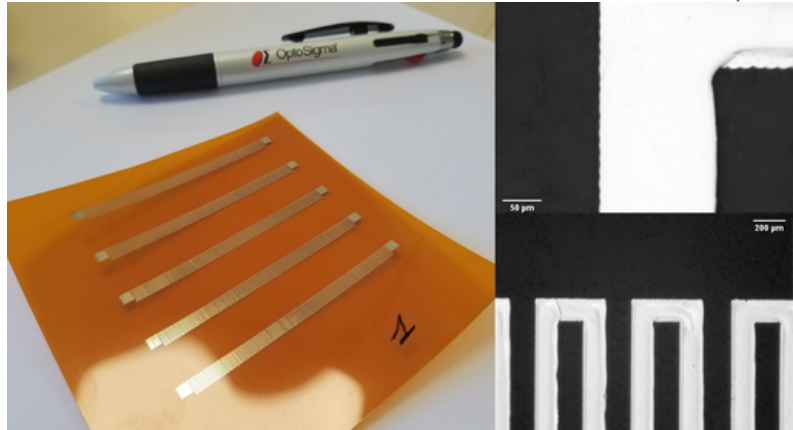
*All the samples are provided by Itodys, a French laboratory specialized in surface and interface chemistry, nanomaterials, nano-system and molecular chemistry for nanoscience*



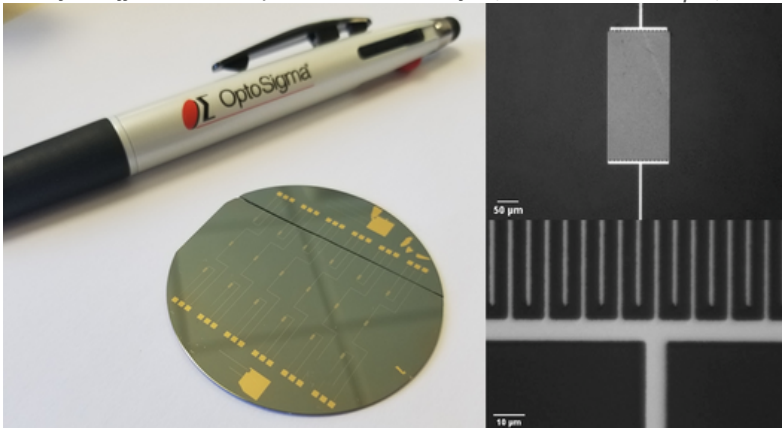
*Gold resistive temperature sensor printed on a flexible substrate (scales: 50 and 200 $\mu$ m)*

*Images taken with the objective ZOL-15*

- Magnification: 1.25 ~ 15x
- Working distance: 46.2 mm
- Numerical aperture: 0.003 ~ 0.2
- Resolution ( $\lambda=0.55\mu\text{m}$ ): 11.18 ~ 1.68 $\mu\text{m}$
- Focal depth ( $\lambda=0.55\mu\text{m}$ ):  $\pm 305.6 \sim 6.9\mu\text{m}$



*Gold field effect transistor printed on silicon wafer (scales : 50 and 10  $\mu$ m)*



*Images taken with the objective ZOL-50:*

- Magnification: 4.16 ~ 50x
- Working distance: 14 mm
- Numerical aperture: 0.1 ~ 0.45
- Resolution ( $\lambda=0.55\mu\text{m}$ ): 3.36 ~ 0.75 $\mu\text{m}$
- Focal depth ( $\lambda=0.55\mu\text{m}$ ):  $\pm 27.5 \sim 1.4\mu\text{m}$

# APPLICATION

Lithography methods are used to achieve precision engravings.

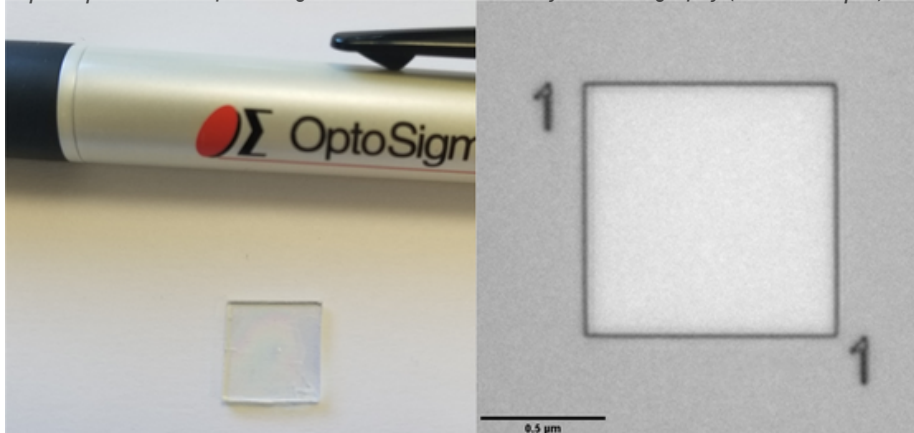
The required resolution varies from micrometer to nanometer levels.

Typically larger items or features are placed near the process area for easier identification.

You can find this mark with the small zoom and then magnify directly onto the interesting areas !

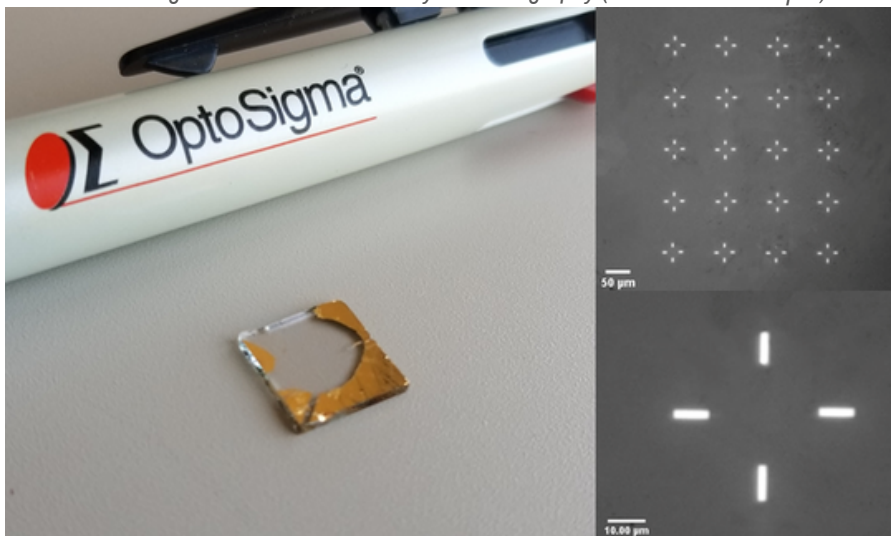
The samples are made by scanning probe lithography (nanolithography) techniques

*1 $\mu$ m x 1 $\mu$ m PMMA square engraved on ITO substrate by nanolithography (Scale : 0.5  $\mu$ m)*



*Images taken with the objective ZOL-50*

*Gold crosses engraved on ITO substrate by nanolithography (scales: 50 and 10  $\mu$ m)*



*Images taken with the objective ZOL-50*





# OptoSigma®

## CONTACT US !



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