



3D Precision Imaging with Double Helix's E-PSF Phase Mask Technology

Achieve Maximum Control of 3D Depth and Precision

Double Helix Light Engineering™ delivers superior depth-precision imaging and object capture using a library of interchangeable phase masks that modifies the optical transfer function of your optical system—**to convert to 2D to 3D.**

- Capture 3D information in single images, without scanning
- Extend the depth of field up to 30x of conventional objectives in a single plane
- View scenes in real-time
- Control precision and depth of field by selecting the PSF that best matches the application and system's imaging requirements
- Small footprint
- OEM: Customize masks to match your optical imaging system

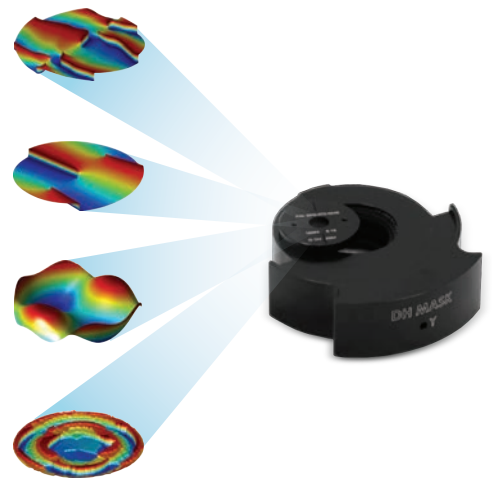
Choose from a library of interchangeable phase masks depending to match your application and optical system set-up

Double Helix: 3D imaging with unprecedented combination of precision and depth of field.

Extended Depth: Ideal for extended focal depth imaging, making it the most suitable mask for extended ranging.


Long Range: For both extended 3D tracking of whole cells in a single plane. For machine vision 3D object capture and gesture recognition.

Multicolor: Simultaneous multi-wavelength tracking and super-resolution imaging in a single optical path.



E-PSF technology converts 2D optical systems to 3D

SPINDLE[®], SPINDLE² and 3DTRAX[™] software function are optimized to work with the Double Helix Optics' phase mask library as one advanced system—delivering unprecedented precision with extended depth, all in an easy-to-use modular upgrade to existing microscope systems.



The diagram illustrates the modular design of the SPINDLE and SPINDLE² systems. A central white microscope is shown with a blue cone of light emanating from its objective lens. Two black cylindrical modules are shown: SPINDLE[®] (top) and SPINDLE² (bottom). The SPINDLE² module is larger and has a red stripe. The SPINDLE² label is positioned below the larger module.

Modular design. Upgrade to any widefield microscope. Built-in bypass mode allows for easy return to non-3D experiments.

- Industrial Inspection
- Biotech
- Life Sciences
- High Content Screening
- Machine Vision
- Gesture Recognition

About Double Helix Optics

Double Helix Optics enables visualization and data capture of objects at an unmatched depth and precision quality. Its Light Engineering[™] point spread function-based technology is advancing the field of 3D imaging, allowing for new discoveries in research and new capabilities of promise to a range of applications. The SPINDLE², SPINDLE[®], engineered phase masks, and 3DTRAX[™] software are currently in use by globally recognized scientists. Double Helix Optics is headquartered in Boulder, Colorado. Discover more at doublehelixoptics.com.

DoubleHelix 
See Like No Other[™]

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