TRIMOS

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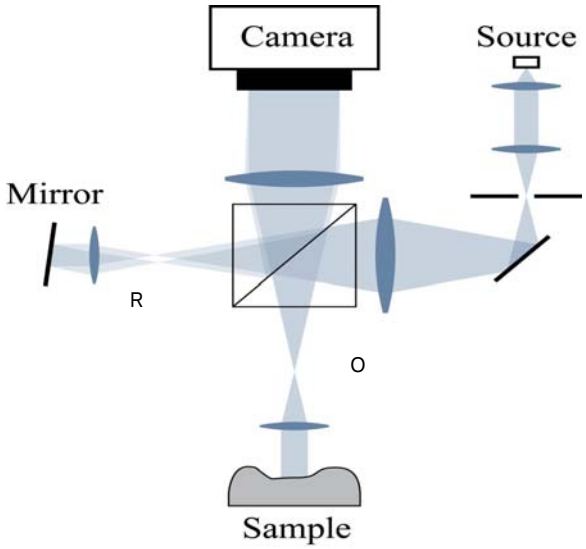
Technology DHM
Digital Holographic Microscopy Technology

Swiss Measuring Instruments

Technical specifications for DHM



Digital Holographic Microscopy (DHM) is the generation of computer images of a sample using holographic techniques.
A hologram results from the interference between the object wave reflected from a sample and magnified by a microscope objective, and a reference wave.
Using a laser source, the small angle between the waves exhibits fringes that carry the phase and amplitude information in a single image - the hologram which is captured on a digital camera in a few microseconds.
The captured image is transmitted to a computer where numerical procedures are applied to reconstruct a 3D image of the sample. This process is called "image reconstruction".
The innovation of the DHM™ patented technology is the intervention of digital processing at a level that had not been reached so far in microscopy.

OPTICAL PROBE	DHMS1	DHMS2	DHMS3
Resolution in Z	0.1 nm	0.1 nm	0.1 nm
Resolution lateral (X/Y)	0.5 µm	0.6 µm	0.6 µm
Vertical range [1)]	3 µm	7 µm	7 µm
Measuring area range X/Y	~250 µm x ~250 µm	~330 µm x ~330 µm	~330 µm x ~330 µm
Optical zoom	10x	7x	7x
Wavelenght Lambda 1	~850 nm	~760 nm	~760 nm
Wavelenght Lambda 2	~665 nm	~665 nm	~665 nm
Working distance	~6 mm	~6 mm	~6 mm
Reflectivity of the sample	< 1% to 100 %	< 1% to 100 %	< 1% to 100 %

1) Values can vary, depending on the texture of the parts.

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