Holo Ey Digital holographic measuring system

The digital holographic measurement system is capable of measuring the functional surface of microcomponents in a manufacturing environment, with a production cycle time of 1 second, detecting discontinuities with a precision of $<5\mu$ m.

The system is based on a digital holographic microscope that operates with a working distance of 34mm to the object surface. Due to the large working distance, a wide variety of different component geometries can be captured, making the system adaptable with minimal modifications for very different inspection tasks on areas of approximately 4mm².

The Holo Eye is fully dustproof and designed to be robust for operation in an ongoing manufacturing process.

To eliminate vibration effects from the manufacturing process, the exposure time of the laser illumination used to generate the interferograms has been reduced to 1 ms.

For inspection objects that have height differences within the feed to the measurement area, the system automatically refocuses digitally during evaluation. In the application, despite vibration stress from the manufacturing process, component defects can be reliably detected with a lateral resolution of 5μ m and a depth of at least 2μ m on the functional surfaces.

The Holo Eye can be duplicated for faster production applications and is powered by a single laser with an optical switch connected downstream.

Inspection example: Discontinuity at the tip of a turning tool



The computing power is designed to handle the evaluation algorithms for the parallel operation of 2 systems.

Detailed description of the system and measurement method upon request.

Technical Data: Design protective housing Inspection area Resolution Software Laser Measurement time

: Picture: "open Frame", I approx. 300mm : IP20, approx. 150 x 400 x 300mm : 4mm², customizable depending on the object : lateral 0.7μ m²/ height: 1μ m : parameterizable, according to the application : KI. III, 1s, with shutter : <0.1s





VEW Vereinigte Elektronikwerkstätten GmbH Edisonstraße 19 * Pob: 330543 * 28357 Bremen Fon:(+49) 0421/271530 Fax(+49) 0421/273608 E-Mail: <u>info@vew-gmbh.de</u> / www.vew-gmbh.de