

MD-3DQC distributed by SIBRESS: Highest possible precision in the measurement of Anilox rolls and gravure cylinders

Starnberg, Germany, 20 June 2011 – SIBRESS, of Bressanone, South Tyrol, Italy, manufacturer of measuring and analysis systems for quality assurance in flexographic and packaging printing, has now made a powerful addition to the product range of its own development by taking on the distribution of the MD-3DQC measuring microscope from Microdynamics, USA. The branch in Starnberg, Germany, south of Munich, will be responsible for the business, and the distribution agreement has been concluded for the entire European area and the adjacent countries.

What makes the technology of the system really special is its versatility in use and its precision. For example, white-light interferometry is used in the determination of the measurement results. This process makes use of the interference of a broad-band light as a reference for the scanning of the object. The robustness and mechanical precision of the optical microscope system achieve an exactness of repetition of up to ± 50 nm.

The microscope optics developed and manufactured by Olympus specifically for the system, can be selected between 160 and 1,230-times magnification, depending on the operational requirement, with which resolution of up to 1,524 lpi can typically be achieved. For particularly high demands, the 40-fold optics system can be engaged, which makes it possible to attain a magnification of 2,240 times. A blocking button allows for the optics to be exchanged easily, and thus guarantees perfect mounting and therefore precise optical image transfer. In total, a choice of five different optics systems is available. The user-friendly software enables the user to analyze Anilox cylinders as well as gravure cylinders from the surface. There is no differentiation in the hardware in this respect; one system for both ranges of operation.

Fully-automatic analysis in only two steps

The typical time from take-up to evaluation of all the acquired data, including 3D image, is less than 50 seconds. After one single focusing of the surface which is to be analyzed, all that needs to be done is to press the Scan button, and in less than 50 seconds all the information is available.

All the relevant data is displayed, such as cell depth, volume, individual values of the cells taken up, angles, surface condition/roughness, wall thickness, and opening angle.

The recording of the measurement results afterwards is just as easy. After the evaluation, the result data and the 3D image of the measurement are both ready in the protocol log for storing or printing out. This means that individual measurements can be carried out, or two measurements can be compared, using the integrated deviation analysis. In addition to this, protocol logs can be personalized, for example by a company logo. A direct comparison can be made between cleaned and dirty cylinders, and this very rapidly.

Self-check instead of manufacturers' inspection

The scope of supply of the device includes two calibration standards. With the ball calibrators, the white-light calibration and the depth calibration are checked at the same time. The scan process, which runs fully automatically, repeats several times, and concludes with the display of the calibration values. This not only provides users with the opportunity of checking their microscope themselves, but it also saves on costs which would otherwise be incurred after the purchase.

The system runs under Windows XP and Windows 7 Professional. The recommendation is for at least 1 GB RAM, 2 GB hard disk, and a dual-core computer.

More information about the 3D measuring microscope and the entire product range from Sibress can be found at www.sibress.com.

Picture captions

Picture1: MD-3DQC microscope, side view

Picture 2: Optical system of the microscope

Picture 3: Example of the assessment of an Anilox roll

Picture 4: Measurement comparison of two Anilox rolls

Picture 5: 3D-representation of analysis of a gravure cylinder

Picture 6: Comparison of measurements of two gravure cylinders

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