Perform Profile and Roughness Measurements on Nearly Any Material

The new KEYENCE VK-X Series 3D Laser Scanning Microscopes combine the capabilities of SEMs and non-contact roughness gauges with the simplicity of an optical microscope. This newly released system now boasts an unprecedented 0.5 nanometer Z-axis resolution with a magnification range spanning 200x – 24,000x. The usability and ease-of-use have been further improved with the addition of the AI-Scan function, allowing users to image and measure a target with just a click of the mouse.
With high-resolution color imaging and nanometer-level profile measurement functions, the VK-X Series Laser Scanning Microscopes have been designed to overcome the inadequacies of conventional imaging and profiling technologies. A short-wavelength laser scans across a target to provide non-contact profile, roughness and thickness measurements, even on targets with highly-angular surfaces. By combining the laser with an industry-leading, 16-bit photomultiplier, the VK-X can obtain an image and measurement on nearly any type of material, as well as thickness measurements on transparent films and coatings.

In order to simplify the operation of the VK-X, the AI-Scan function was developed to automate the scanning process. Users can simply place their sample on the stage, and by clicking a single button, the system will automatically adjust the sensitivity of the photomultiplier, set the upper and lower limits of the scan range and re-scan the target as needed to make sure all of the necessary information was captured. By using this function, even inexperienced users can quickly and easily obtain accurate measurement data and high-resolution images.

Additional features include a new WIDE-Scan function that is 8x faster than conventional laser scanning microscopes, while also improving the quality of the

captured image. A high-speed auto-focus algorithm has been incorporated into the system, and images can be captured at up to 21.6 megapixels. All of the measurement functions from our previous VK Series product line have been extended to the VK-X, including the ability to measure the thickness or profile/roughness of transparent materials.

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