

## VK-X1100

Measurement head: Violet semiconductor laser



## SPECIFICATIONS

Model	VK-X1100		
Type	Head unit		
Total magnification	Up to 28,800 x <sup>1</sup>		
Field of view (minimum range)	11 μm to 7,398 μm		
Frame rate (laser measurement speed)	4 to 125 Hz, 7,900 Hz <sup>2</sup>		
Measurement principle	Optical system	Pinhole confocal optical system, Focus variation	
	Light-receiving element	16-bit photomultiplier: High-definition color CMOS	
	Scanning method (during general measurement and image stitching)	Automatic upper/lower limit setting, high-speed light intensity optimization (AAGII) , poor reflected light intensity supplement (Double Scan)	
Height measurement	Display resolution	0.5 nm	
	Linear scale		
	Dynamic range	16 bits	
	Repeatability σ	Laser confocal	20 x: 40 nm, 50 x: 12 nm
		Focus variation	5 x: 500 nm, 10 x: 100 nm, 20 x: 50 nm, 50 x: 20 nm
	Height data acquisition range	700,000 steps	
Accuracy	0.2 + L /100 μm or less (L = Measuring length) <sup>3</sup>		
Width measurement	Display resolution	1 nm	
	Repeatability 3σ	Laser confocal	20 x: 100 nm, 50 x: 50 nm
		Focus variation	5 x: 400 nm, 10 x: 400 nm, 20 x: 120 nm, 50 x: 50 nm
	Accuracy	Measured value ±2 % or less <sup>3</sup>	
XY stage configuration	Manual: Operating range	70 mm x 70 mm 2.76" x 2.76"	
	Motorized: Operating range	100 mm x 100 mm 3.94" x 3.94"	
Observation	Observation image	High-resolution color CMOS image 16-bit laser color confocal image Confocal + ND filter optical system C-laser differential interference image	
	Lighting	Ring illumination, coaxial illumination	
Measurement laser light source	Wavelength	Violet semiconductor laser, 404 nm	
	Maximum output	1 mW	
	Laser class	Class 2 laser product (IEC60825-1, FDA (CDRH) Part 1040.10 <sup>4</sup> )	
Power supply	Power voltage	100 to 240 VAC, 50/60 Hz	
	Power consumption	150 VA	
Weight	Approx. 13.0 kg		

<sup>1</sup> When using a 23 inch full-screen display.

<sup>2</sup> At top speed when using a combination of measurement mode/measurement quality/lens magnification. When the line scan has a measurement pitch that is within 0.1 μm.

<sup>3</sup> When measuring a standard sample (standard scale) with a 20 x or greater lens.

<sup>4</sup> The laser classification for FDA (CDRH) is implemented based on IEC60825-1 in accordance with the requirements of Laser Notice No. 50.

## Dimensions

\* Download CAD file or product manual for larger image/text and more detail.

# Measurement unit (VK-X1100)

Unit: mm

