



VK-X3050

Measurement head



Specifications

Model	VK-X3050	
Type	Measurement head	
Total magnification	42 to 28800× ¹	
Field of view	11 to 7398 μm	
Measurement principle	Laser confocal, Focus variation, White light interferometry, Spectral interference	
Laser wavelength	Semiconductor laser, 661 nm	
Max. laser measurement speed	Surface: 125 Hz, Line: 7900 Hz ²	
Max. laser output	0.9 mW	
Laser class	Class 2 (IEC60825-1, FDA (CDRH) Part 1040.10 ³)	
Laser light-receiving element	16-bit photomultiplier	
White light source	White LED	
White-light-receiving element	High-definition color CMOS	
Laser confocal	Height display resolution	1 nm
	Height repeatability σ	10×: 100 nm, 20×: 40 nm, 50×: 20 nm
	Height accuracy	0.2+L/ 100 μm or less ⁴
	Width display resolution	1 nm
	Width repeatability 3 σ	10×: 400 nm, 20×: 100 nm, 50×: 50 nm
	Width accuracy	Measured value $\pm 2\%$ or less ⁴
Focus variation	Height display resolution	1 nm
	Height repeatability σ	5×: 500 nm, 10×: 100 nm, 20×: 50 nm, 50×: 30 nm
	Height accuracy	0.2+L/ 100 μm or less ⁴
	Width display resolution	1 nm
	Width repeatability 3 σ	5×: 400 nm, 10×: 400 nm, 20×: 120 nm, 50×: 65 nm
	Width accuracy	Measured value $\pm 2\%$ or less ⁴
White light interferometry	Height display resolution	0.01 nm
	Width display resolution	0.1 nm
	Surface topography repeatability	0.08 nm ⁵
	Repeatability of RMS	0.008 nm ⁵
Spectral interference film thickness measurement	Repeatability σ	0.1 nm ⁵
	Accuracy	$\pm 0.6\%$ ⁵
Optical observation	Number of pixels	5.6 million
	Revolver	6-hole electric revolver
	Ring illumination lens	2.5×, 5×, 10×
	Optical zoom	1 to 8×
XY stage configuration	Manual operation range	70 × 70 mm 2.76" × 2.76"

	Motorized operation range	100 × 100 mm 3.94" × 3.94"
Power supply	Power voltage	100 to 240 VAC, 50/60 Hz
	Power consumption	150 VA
Environmental resistance	Ambient temperature	+15 to 28°C 59 to 82.4°F
	Relative humidity	20 to 80% RH (No condensation)
Weight		Approx. 13 kg

*1 When using a 23-inch full-screen display.

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

*3 The laser classification for FDA (CDRH) is implemented based on IEC60825-1 in accordance with the requirements of Laser Notice No. 50.

*4 When measuring a standard sample with a 20× or greater lens.

*5 Typical values under the default measurement environment.

Dimensions

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

Measurement Unit (VK-X3050)

Unit: mm

