



VR-6100

3D Optical Profilometer Head (Standard model)



*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

Specifications

Model				VR-6100	
Type				Head	
Operating System				Windows 10 Professional / Windows 11 Professional	
Controller				VR-6000	
Field of view	Low magnification (wide field of view)	Magnification on a 15" monitor 12×	Horizontal	24.0 mm 0.94"	
			Vertical	18.0 mm 0.71"	
		Magnification on a 15" monitor 25×	Horizontal	12.0 mm 0.47"	
			Vertical	9.0 mm 0.35"	
		Magnification on a 15" monitor 38×	Horizontal	8.0 mm 0.31"	
			Vertical	6.0 mm 0.24"	
		Magnification on a 15" monitor 50×	Horizontal		
			Vertical	4.5 mm 0.18"	
	High magnification (high resolution)	Magnification on a 15" monitor 40×	Horizontal	7.6 mm 0.30"	
			Vertical	5.7 mm 0.22"	
		Magnification on a 15" monitor 80×	Horizontal	3.8 mm 0.15"	
			Vertical	2.9 mm 0.11"	
		Magnification on a 15" monitor 120×	Horizontal	2.5 mm 0.10"	
			Vertical	1.9 mm 0.07"	
Magnification on a 15" monitor 160×	Horizontal				
	Vertical	1.4 mm 0.06"			
Zoom				1× to 4×	
Height measurement	Display resolution			0.1 μm	
	Height measurement range	Without Z stitching		Low magnification (wide field of view): 10 mm 0.39" High magnification (high resolution): 1 mm 0.04"	
		With Z stitching		Low magnification (wide field of view): 50 mm 1.97" High magnification (high resolution): 30 mm 1.18"	
	Repeatability (σ)	Without Z stitching		0.4 μm *1	
		With Z stitching		1.0 μm *1	
	Measurement accuracy	Without Z stitching		±2.5 μm *1	
With Z stitching		±4.0 μm *1			
Width measurement	Repeatability (σ)			Low magnification (wide field of view): 1 μm High magnification (high resolution): 0.5 μm *1	
	Measurement accuracy			Low magnification (wide field of view): ±5 μm High magnification (high resolution): ±2 μm	

		*1
Stitching function		Manual measurement (XY manual operation + Z automatic control) *2
Stitching function	Motorized rotational unit	Not supported
XY measurable range		92 × 86 mm 3.62" × 3.39" *2
Stage	XY stroke	70 × 70 mm 2.76" × 2.76" (manual)
	Z stroke	69 mm 2.72" (motorized)
	Load capacity	4.5 kg 9.92 lb
Working distance		75 mm 2.95"
Image receiving element		4 megapixel monochrome CMOS
Transmitter lens		Double-telecentric lens × 2
Receiver lens		Double-telecentric lens
Light sources	Observation light source	LED ring light (red, blue, green)
	Measurement light source	White LED
Data processing		Dedicated PC specified by KEYENCE
Power supply	Power voltage	100 to 240 VAC ±10%, 50/60 Hz
	Power consumption	200 VA max.
Environmental resistance	Ambient temperature	+15 to 30°C +59 to 86°F
	Relative humidity	20 to 80% RH (no condensation)
Weight		Approx. 25 kg 55.12 lb *3

*1 Value obtained using KEYENCE's specified standard gauge with measurement in KEYENCE's specified measurement mode (ambient temperature: 23±1°C 73.4±1.8°F)

*2 Measurement expansion module (VR-H4J) required

*3 Weight of only measurement unit: Approx. 11 kg 24.25 lb

Dimensions

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

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Head

