

Video Measuring Machine VX3100D

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Item No.: VX3100D

Product name: Video Measuring Machine

Image Sensor: 5M CMOS

Field of view : $\phi 20\text{mm} \times L130\text{mm}$ & $\phi 100\text{mm} \times L200\text{mm}$

Depth of Field: 3mm & 30mm

Working Distance: 120mm

Accuracy: $\pm 2\mu\text{m}$ (Without Stitching) & $\pm 5\mu\text{m}$ (Without Stitching)

Resolution: 0.1 μm

Loading Capacity: 2kg

Size (LxWxH): 500x280x670mm

Weight: 31kg

Details

§ Description §

Based on visual measurement principle with precision image analysis algorithms, equipped with double telecentric optical lens with high depth of field, VX8000 series of Flash Measuring Machines achieve fast dimensional measurement by one-key operation. VX8000 series are suitable for precise dimensional measurement in the fields of machinery, electronics, molds, injection molding, hardware, rubber, low-voltage electrical appliances, magnetic materials, precision stamping, connectors, connectors, terminals, mobile phones, home appliances, printed circuit boards, medical equipment, watches, cutting tools, etc.

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§ Parameters

Model		VX3100	VX3100D	
Image Sensor		5M CMOS		
Monitor	Built-in	10.4" LCD (XGA:1024×768)		
	Outside	24" LCD (XGA:1920×1080)		
Acceptance Lens		Object Space Telecentric Lens		
Light	Ring	Four-segment illumination (White Light/Green Light)		
	Bottom	Telecentric transmission illumination (Green Light)		
Field of View	Large field	W100mm×L200mm	W100mm×L200mm	
	High precision	/	φ20mm×L120mm	
Repeatability of Image Meas.	Large field	Without Stitching ^{*1}	±1um	±1um
		With Stitching ^{*2}	±2um	±2um
	High precision	Without Stitching [*]	/	±0.5um
		With Stitching ^{*2}	/	±1.5um
Accuracy of Image Meas.	Large field	Without Stitching ^{*1}	±5um	±5um
		With Stitching ^{*2}	±(7+0.02L) μm	±(7+0.02L) μm
	High precision	Without Stitching ^{*1}	/	±2um
		With Stitching ^{*2}	/	±(4+0.02L) μm
Software		Vision X		
Resolution		0.1um		
XY Object Table	X Travel range	110mm (Motorized)		
	Y Travel range	-----		
	Loading Capacity	2kg		
Z-Axis Travel range		35mm (Motorized)		
Size (LxWxH)		(500×280×670) mm		
Weight		30kg	31kg	
Input		AC100~240V/50~60Hz		
Working Environment		Temp.10°C~35°C, Humidity 30%~80%, Vibration<0.002g, Less than15Hz		

Remark:

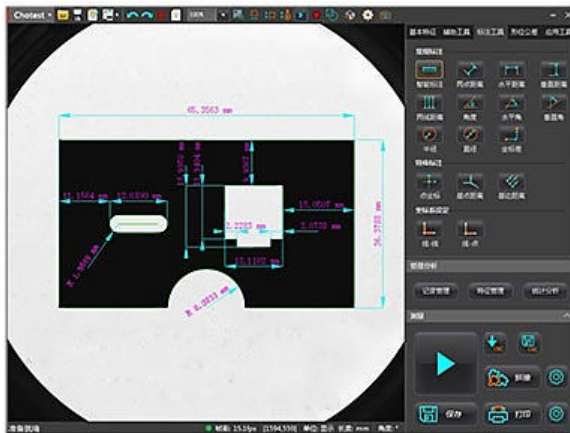
*1 In the focus position, the environment temperature is +20 °C ± 1.0 °C

*2 In the focus position, the environment temperature is +20 °C ± 1.0 °C, and the load on the table is 1 kg or less; L is the moving range of the table (mm)

§ Applications §

Vision X software provides up to 80 extraction analysis tools, including [Feature Extraction] (such as maximum points, centerlines, arcs, peaks, etc.), [Accessory Tools] (such as any dot & line & circle, fitted straight line, Fit circle, tangent, inscribed circle, etc.), [Smart Labeling], [shape tolerance], special [Application Tool] (such as pitch distance, pitch angle, slot, thread, round cross, down Angle, rounded corners, etc.)

The measurement results and their main statistical values (such as average, σ , 3σ , 6σ , Ca, Cp, Cpk, etc.) will be automatically recorded and archived. Operators can select different filter conditions for history extraction.



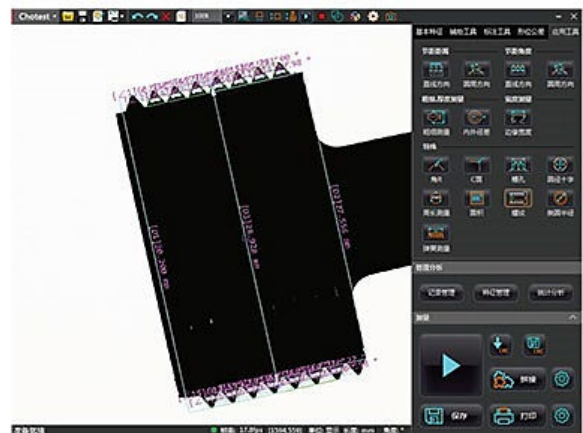
Metal plate



Gear



Metal workpiece

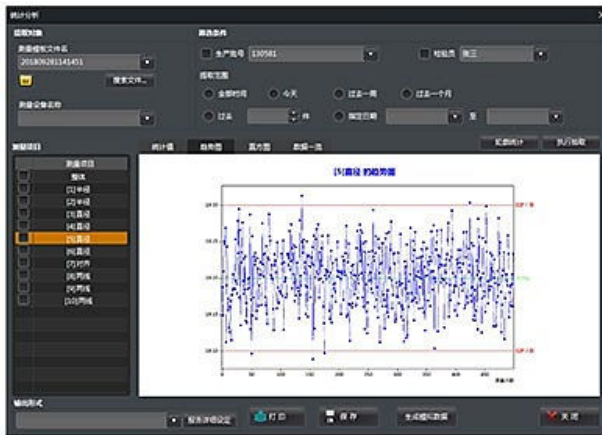


Thread

§ Statistics §

The trend graph displays the regular trend of the measured values, such as the monotonic and periodic change of the measured values, which can be used for monitoring the abnormality of the production process of producing equipment. Reflecting the status and distribution of fluctuations in product quality, the histogram can intuitively expose information about the quality situation in producing process, which can be used to predict product quality and failure rate.

Through quality diagnosis and analysis with statistical methods, SPC can monitor the product quality and changing trend of the producing process. With SPC we can find the preventive solution in the producing process, so that the subsequent inspection and repair are reduced. Consequently, the producing process control and product quality improvement are achieved.



Trend Graph



Histogram

§ More Applications §



Metal



Gasket



PCB



Phone accessories



Magnetic parts



Spring



Bearing



Instrument accessorie