

## VX3000 Flash Measuring Machine



One-key Measurement

### Description

Based on visual measurement principle with precision image analysis algorithms, equipped with double telecentric optical lens with high depth of field, VX3000 series of Flash Measuring Machines achieve fast dimensional measurement by one-key operation. VX3000 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.

### Features

#### 1. Fast, effective

- 1) Place the object at will without any workholder.
- 2) Max 512 features at once.
- 3) Quick and precise measurement for batch workpieces in CNC mode.

#### 2. Accurate, consistent

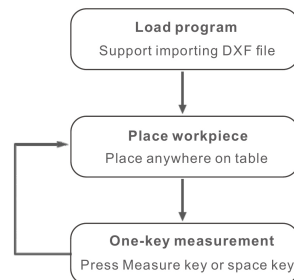
- 1) Anybody can get the consistent results by one-key operation
- 2) Automatic focusing: Avoid deviation because of different focusing.
- 3) Automatic feature identification: Consistent results from different measurement and different operators.

#### 3. Full functions, automatic report

- 1) User-friendly software, powerful functions, simple operation
- 2) In CNC mode, Quick and precise measurement for batch workpieces according to pre-set template by one-key operation
- 3) Automatically output SPC analysis report, which contains statistical values (such as Ca, Cp, Cpk, Pp, Ppk, etc.) and control charts (such as mean and range charts, mean and standard deviation chart, median and range chart, single value and moving range chart).

## Main Advantages

### Simple operation



### Efficient measurement

VX series is equipped with double telecentric optical lens with high depth of field and big field.

**High depth of field:** Without focusing multiple times, accurate measurement at entire of depth of field.

**Big field:** Measure all features of all objects within field in seconds.

512

Once time up to  
512 features

100

Once time up to  
100 pieces

3

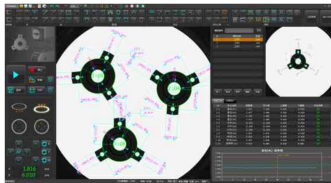
In 3 seconds  
Finish the measurement

# 17

## Application

VisionX 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,  $\sigma$ , 3 $\sigma$ , 6 $\sigma$ , Ca, Cp, Cpk, etc.) will be automatically recorded and archived. Operators can select different filter conditions for history extraction.



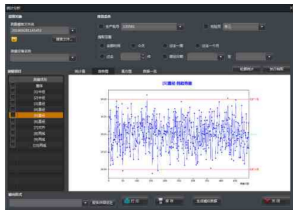
CNC Measurement



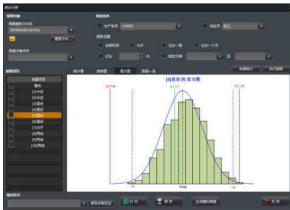
Data

## 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.

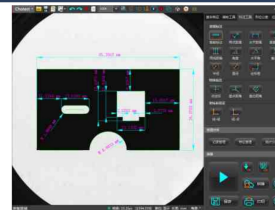


Trend Graph

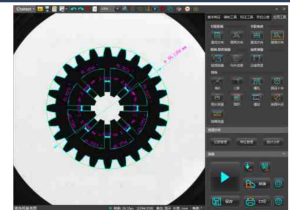


Histogram

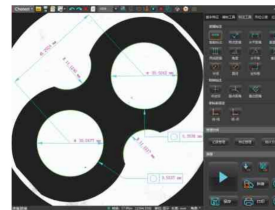
## Application



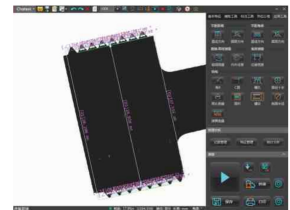
Metal plate



Gear



Metal workpiece



Thread

## Typical Application



Phone accessories



Watch accessories



Stamping parts



Machining



Rubber ring



Plastic Injection Parts

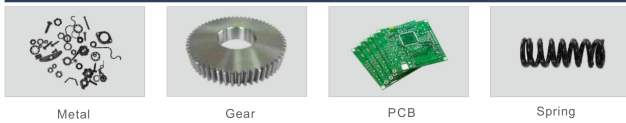


Sheet metal parts



Thread, Shaft

## More Application



Metal

Gear

PCB

Spring

## Parameters

Model No.			VX3030	VX3030D	VX3100	VX3100D
Image Sensor			5M CMOS			
Monitor	Built-in		10.4" LCD (XGA: 1024×768)			
	Outside		24" LCD (XGA: 1920×1080)			
Acceptance Lens			Double Telecentric Lens			
Light	Casting Illumination System		Four-segment illumination(White Light), Beam directivity illumination(Green light)			
	Transmission Illumination System		Telecentric transmission illumination(Green Light)			
Field	Large Field		φ20mm×L130mm		φ100mm×L200mm	
	High Precision		_____ φ6mm×L116mm _____		_____ φ20mm×L130mm _____	
Repeatability of Image Meas.	Large Field	Without Stitching <sup>*1</sup>	±0.5μm		±1μm	
		With Stitching <sup>*1</sup>	±1μm		±2μm	
	High Precision	Without Stitching <sup>*1</sup>	±0.1μm		±0.5μm	
		With Stitching <sup>*1</sup>	±0.5μm		±1.5μm	
Accuracy of Image Meas.	Large Field	Without Stitching <sup>*1</sup>	±2μm		±5μm	
		With Stitching <sup>*2</sup>	±(4+0.02L)μm		±(7+0.02L)μm	
	High Precision	Without Stitching <sup>*1</sup>	±0.7μm		±2μm	
		With Stitching <sup>*2</sup>	±(2+0.02L)μm		±(4+0.02L)μm	
Height Measurement(Physical Probe)			No			
XY Object Table	Resolution		0.1μm			
	X Travel Range		35mm			
	Y Travel Range		_____			
	Loading Capacity		2kg			
Z-Axis Travel Range			75mm(Motorized)			
Size(LxWxH)			(500×280×670)mm			
Weight			30kg	29kg	31kg	30kg
Input			AC100~240V/50~60Hz			
Working Environment			Temp.10℃~35℃ , Humidity30~80% , Vibration<0.002g , Less than15Hz			

Remark:

\*1 is 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).

## Parameters

Model No.		VX3200	VX3200D
Image Sensor		5M CMOS	
Monitor	Built-in	10.4" LCD (XGA: 1024×768)	
	Outside	24" LCD (XGA: 1920×1080)	
Acceptance Lens		Double Telecentric Lens	
Light	Casting Illumination System	Four-segment illumination(White Light), Beam directivity illumination(Green light)	
	Transmission Illumination System	Telecentric transmission illumination(Green Light)	
Field	Large Field	200mm×200mm ( 4 Angles R50 )	
	High Precision	120mm×120mm	
Repeatability of Image Meas.	Large Field	Without Stitching <sup>*1</sup>	±1μm
		With Stitching <sup>*2</sup>	±2μm
	High Precision	Without Stitching <sup>*1</sup>	±0.5μm
		With Stitching <sup>*2</sup>	±1.5μm
Accuracy of Image Meas.	Large Field	Without Stitching <sup>*1</sup>	±5μm
		With Stitching <sup>*2</sup>	±(7+0.02L)μm
	High Precision	Without Stitching <sup>*1</sup>	±2μm
		With Stitching <sup>*2</sup>	±(4+0.02L)μm
Height Meas. (Physical Probe) (Optional)	Measuring Range(X*Y)		60*105mm
	Max Depth		75mm
	Dia. of Probe		Φ1mm
	Measuring Force		0.13N
	Repeatability <sup>*3</sup>		±3μm
	Accuracy <sup>*4</sup>		±(7.5+0.02L)μm
XY Object Table	Resolution		0.1μm
	X Travel Range		100mm
	Y Travel Range		100mm
	Loading Capacity		5kg
Z-Axis Travel Range		75mm(Motorized)	
Size(LxWxH)		(531×386×731)mm	
Weight		48kg	49kg
Input		AC100~240V/50~60Hz	
Working Environment		Temp.10°C~35°C , Humidity30~80% , Vibration<0.002g , Less than15Hz	

Remark:

\*1 is 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 2 kg or less;

\*3 Repeatability ±3μm in 90% measuring area

\*4 The environment temperature is +20 °C ± 1.0 °C, and the load on the table is 2 kg or less; L is the moving range of the table (mm)