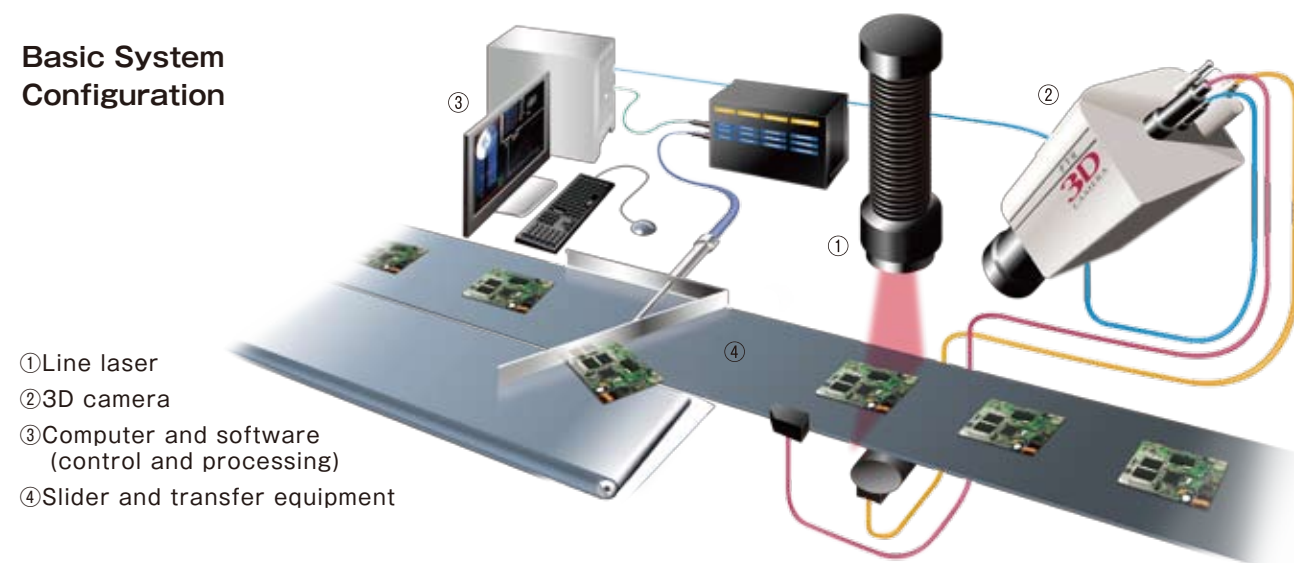


Specifications

	Model	OLIVIA-XYZ				
Camera	Max. 3D processing capacity	35,000 3D profiles/sec				
	Max. color processing capacity	13,000 RGB lines/sec				
	Max. 3D and color processing speed	11,000 scans/sec				
	Standard resolution color scale	1,536 pixels				
	3D shape measurement resolution	1,536 pixels				
	Interface	Gigabit Ethernet				
	Weight (lens excluded)	350 g				
	Dimensions (mm)	125×52×52 (L×W×H)				
	Source voltage	24 V DC ± 20 %				
	Power consumption	7.0 W				
	Optical system	C mount, 1-inch element				
Resolution	Measurement width (mm)	300	100	50	15	3
	Measurement height pitch (μm)	23	4	2	1	1
	Measurement width pitch (μm)	195	65	33	10	5.7
Ambient temperature		0 to 40° C				
Ambient humidity		20 to 80% RH No condensation present				
Installation site		<ul style="list-style-type: none"> ● No flammable or corrosive gases and liquids present ● No water, oil or dust present ● No source of electrical noise close to the site 				

Basic System Configuration



- ① Line laser
- ② 3D camera
- ③ Computer and software (control and processing)
- ④ Slider and transfer equipment



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OLIVIA-XYZ

3D Inspection and Measurement System

FTR
 Fuji Technical Research

Simple Measurement Settings! High-Speed Measurement Processing!
Real-Time Shape Inspection! Flexible Customization.

OLIVIA-XYZ

Setting the measurement conditions.

Displaying images taken with the measurement instrument enables intuitive condition setting.

Image Mode

Calibration Mode

Calibrations.

Our unique calibration jig enables fast easy calibrations.

Four Modes of OLIVIA-XYZ

Processing the 3D measurement data.

A variety of functions available in making full use of 3D data.

Result Mode

Measurement Mode

3D measurements.

The acquired data is displayed on a real-time basis in enabling instant confirmation of the measurement results.

OLIVIA-XYZ meets the needs of 3D measurements in any type of industry.



Automobile industry



Automotive parts test



PCBs



Product testing
(pharmaceutical industry)



Food manufacturing lines

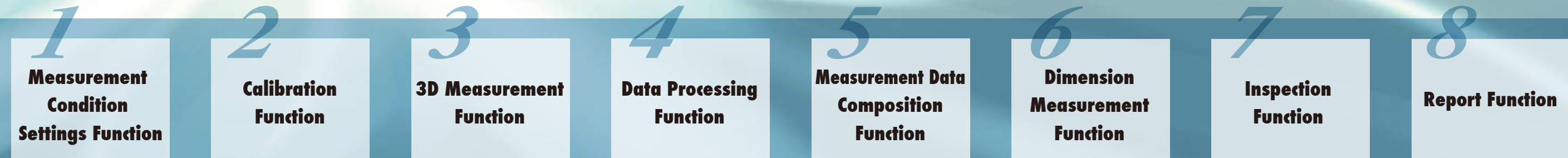


Can manufacturing industry

Various Functions Available in Making Full Use of 3D Measurement Data

The OLIVIA-XYZ has the following functions available in meeting all the diverse 3D measurement needs.

These functions ensure consistent support from the OLIVIA-XYZ software from preparing to make measurements through to the data processing.



1 Measurement Condition Setting Function

The following must be determined when setting 3D measurement conditions:

- Position of the measuring instrument
- Focus and aperture of the measuring instrument
- Position of the laser
- Position of the object to be measured
- Setting of the slider, actuator, and other equipments
- Setting the measurement parameters (e.g. shutter intervals, exposure time)

OLIVIA-XYZ enables all these measurement conditions to be set in an intuitive manner.

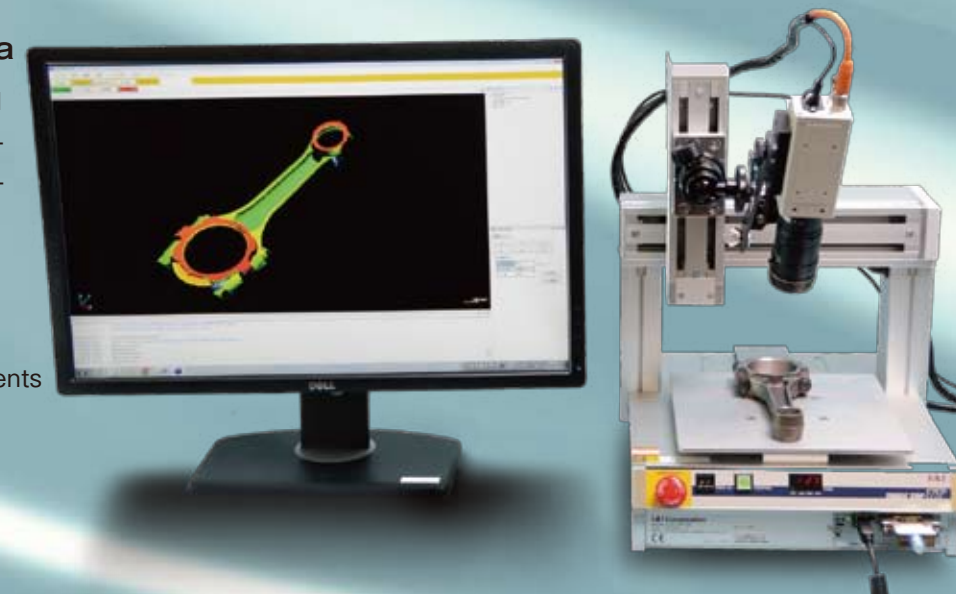
In addition, taking images with the measurement instrument and displaying them on the screen on a real-time basis allows visual confirmation of the measurement conditions.

3 3D Measurement Function

Real-time display of 3D data

The acquired data is displayed almost instantaneously with the measurement, thus allowing quick confirmation of the measured data.

Performing measurements

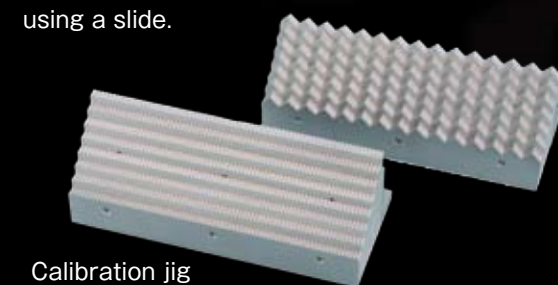


2 Calibration Function



Performing calibrations

Our unique calibration jig has achieved an easy calibration procedure via simply moving the calibration jig using a slide.



Calibration jig

Display of data

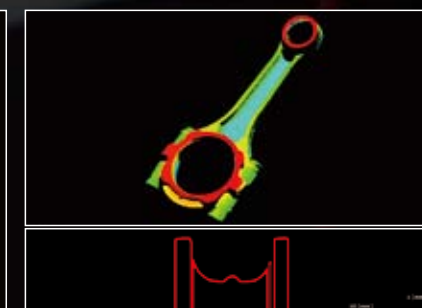
Methods of display that meet different requirements allow detailed confirmation of the data.



Height contour display



Brightness contour display



Cross-sectional display

4 Data Correction Function

During measurements data can be misaligned due to noise, vibrations, or various other factors. The OLIVIA-XYZ easily corrects any misalignments via its various data correction functions.

<p>● Noise impulse removal Automatically recognizes and removes any noise that is momentarily generated by halation or other factors.</p>	<p>● Filtering Evens out the measured data.</p>	<p>● Profile vibration correction Corrects any gaps in the measured data generated by vibrations during measurements.</p>

5 Measured Data Composition Function

Adjusts the positional relationship of measured data and moves them to their correct position. This allows a plurality of measured data to be handled in a unified manner.

<p>Before composition</p>	<p>After composition</p>

6 Dimension Measurement Function

Dimension measurement tools available to satisfy various applications. This facilitates dimensional measurement of 3D data, which was once difficult with actual objects.

Cross-sections

<p>Distance between two points</p>	<p>Gap</p>	<p>Gradient</p>	<p>Angle</p>
<p>Max. height</p>	<p>Average height</p>	<p>Curvature</p>	

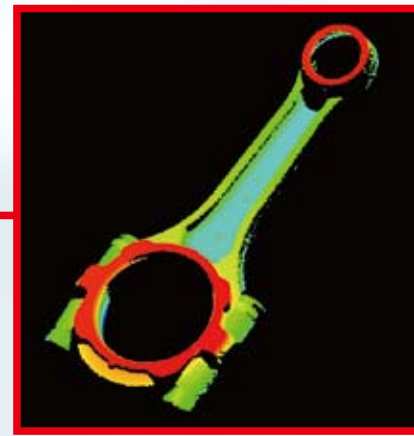
3D data

<p>Distance between two points</p>	<p>Gap</p>	<p>Diameter</p>
<p>Angle made by three points</p>	<p>Angle made by two planes</p>	

7 Inspection Function



Master data



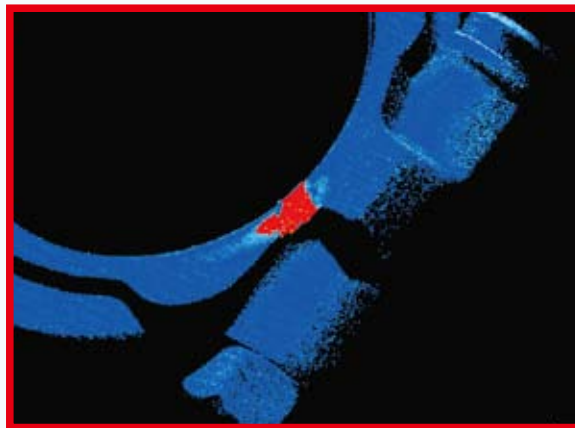
Measured data



Measured data and master data combined

Surface flaws can be quantitatively detected by evaluating the differences between those of the product concerned and those of acceptable products. Any flaws thus detected are highlighted in thereby allowing visual identification of their positions.

This function also allows various types of flaws to be detected according to various judgment conditions, including the length or area of flaws.



Differential contour display

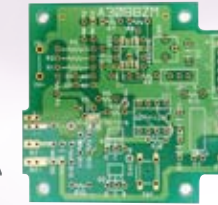


Extracted and highlighted flaw

The OLIVIA-XYZ best suits measuring:



Planar objects like PCBs

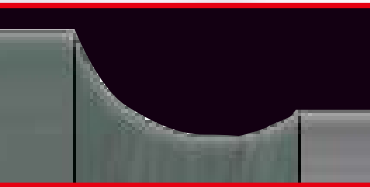
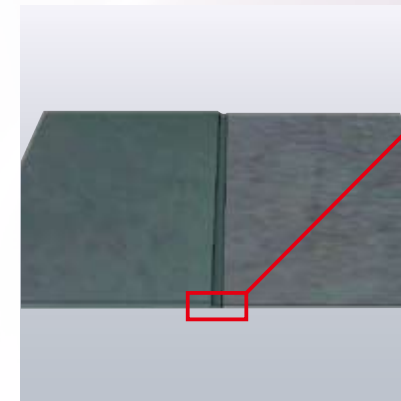


Objects that look like rotators such as gears

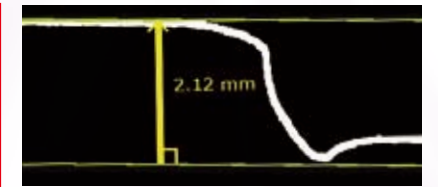


Linear objects like axles

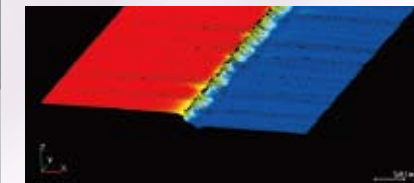
Measurement of sink of tailor welded blanks



Sink of a welded part



A-A' cross-section display (gap measurement)



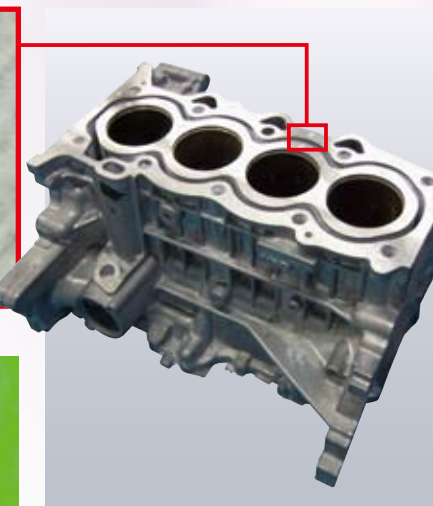
3D data (height contour display)

A function that measures the height of the sink of a tailor welded blank. The height can be quantitatively measured by measuring the gap between the lowermost and uppermost sections.

Flaw inspection of the machined surface of engine blocks

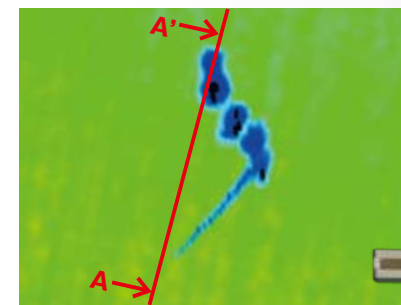


Flaws on machined surface



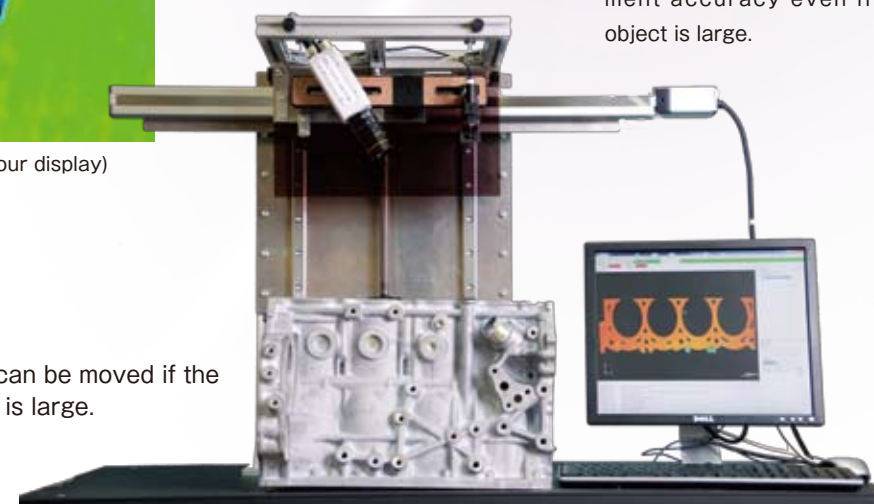
A-A' cross-section display

A function that measures machined surfaces in thereby detecting any surface flaws or cracks. Inspecting a particular section only maintains measurement accuracy even if the target object is large.



3D data (height contour display)

The camera can be moved if the target object is large.



Inspection of camshaft holes

A function that detects any holes on the surface. Utilizes data processing to remove any surface noise and swell from the measured data and highlights any flaws.

Hole

3D data (height contour display)

3D data (flaw highlighted)

A-A' cross-section display

3D data with the hole enlarged (flaw highlighted)

Inspection of gear teeth shapes

A function that allows shape that look like a rotator, such as gears, to be measured by rotating the object. In addition, the radius of a gear tooth can be easily measured using 3D data, something which is difficult to do with an actual gear.

3D data (height contour display)

Cross-section display (curvature measurement)

Inspection on bulb body blow holes

A function that detects blow holes on a bulb body. Surface flaws and blow holes are extracted by comparing them with acceptable products.

3D data (height contour display)

3D data (flaw highlighted)

Master data

Measurement of bump shapes on BGA packages

A function that measures the dimension of BGA packages. The diameter, height, or other dimensions of a bump can be measured.

3D data (height contour display)

Enlarged 3D data bump (diameter measurement)

A-A' cross-section display (height measurement)

How a measurement is made

The use of multiple cameras can acquire 3D data from various angles.

Measurement of PCB coplanarity

A function that measures the coplanarity (warping) of the entire PCB. The height contour allows visual identification of bumps or the direction of any warpage.

3D data (height contour display)

A-A' cross-section display