

High Precision Surface Form Measurement System

Outline

This system consists of the Laser focus displacement system and the automatic stage. It measures the objective surface in high accuracy.

Laser focus displacement system has been developed based on Con-Focal Laser Scan Microscopy technology. The border plane height of a measurement sample is measured by carrying out the scanning in the direction of the Z-axis. The surface of a sample is measured by scanning a sample in XY direction using an automatic stage.

The low-noise light source and the highly sensitive optical detector are equipped to precisely measure low-reflectance materials.

The PIEZO actuator with a built-in sensor is equipped for the Z-axis scan. Therefore, the measurement is highly precise (resolution is 22.5nm).

Feature

1. The PIEZO actuator with a built-in sensor is equipped for the Z-axis scan. Therefore, the measurement is highly precise (resolution is 22.5nm).
2. The low-noise light source and the highly sensitive optical detector are equipped to precisely measure low-reflectance materials.
3. The attached CCD camera provides you with the picture of the region that is being measured.

The main specification

● wavelength :	850nm
● Height measurement range :	± 45 μm
● Measurement repetition frequency :	30Hz
● The number of measurement channels :	4000, 8000ch
● Resolution / CH :	22.5nm, 11.3nm
● Optical resolution :	about 0.6 μm(*1)/ about 0.9 μm(*2)
● Working distance :	about 0.2mm(*1)/ about 4.7 mm(*2)
● Measurement accuracy :	± 0.5% of F.S.
● measurement point :	a peak point or a center-of-gravity point
● Computer Interface	RS232C

*1: microscope objective 100x, N.A. 0.95 at the time of use

*2: microscope objective 100x, N.A. 0.73 at the time of use

(A object lens is exchangeable with a use)

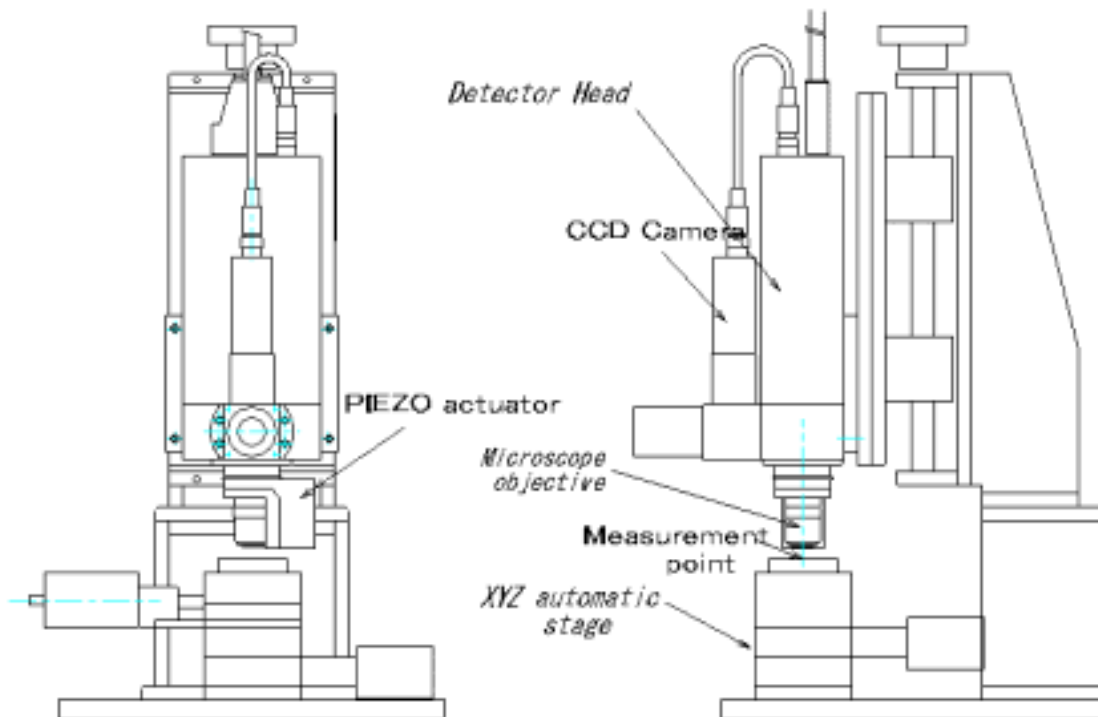
The stage for sample scan

- Table size : 70mm x 70mm
- XY axis scan range : $\pm 10\text{mm}$ (XY axis)
- Z axis scan range : $\pm 2.5\text{mm}$
- Z axis adjustment range : $\pm 50\text{mm}$
- Drive motor : micro-step motor driver
- Load-proof : 5kg

System construction

- Laser focus displacement system 1set
 - sensor head 1set
 - controller 1set
- the stage for the sample scan 1 set
- Control analysis system 1 set
 - Computer 1set
 - Software 1set

Appearance figure



* Specification and a performance may be changed without a preliminary announcement for improvement.

About this system, please contact us.

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