



Laser shearography Machine

DMLIS600D120M

DESCRIPTION

Laser Shearography uses the coherent and monochromatic properties of laser light to illuminate the surface of a component under investigation.

The lights reflected by the component surface will generate a speckle pattern. This speckle pattern is then recorded by a digital camera and converted into an image using Fourier analysis. When the component is stressed e.g., by a mechanical load, thermal heating, etc., the speckle pattern will change accordingly as the component deforms. By recording the new speckle pattern and converting into an image by Fourier analysis and subtracting it from the original speckle pattern, a fringe pattern will be produced and can be displayed on a computer screen. This fringe pattern contains information about the relative deformation of the component between its two states (before and after stress).

When there are no features within the component, a regular fringe pattern (usually in the form of uniformly distributed fringes) will be obtained. When there is a subsurface feature such as crack, the regular fringe pattern will be disturbed. This enables the defect to be identified by the operator. Therefore, using this device, defects that are on the back and invisible areas of parts in different shapes and sizes can be identified and measured with sufficient accuracy.

ADVANTAGES

- Rapid, full-field and online inspection
- No segment damages during the inspection
- High performance speed
- High sensitivity
- Non-contact
- Ensure the quality and health of the part while using it

APPLICATIONS

- Detection of internal defects (hole, crack, separation) on the surfaces of parts that have a complex structure.
- Identify the type and size of corrosion
- To extend the life of parts

INDUSTRIAL USERS

- Aircraft and Aviation industry
- Automotive Manufacturing
- Oil, gas and petrochemical industries
- Shipping
- Tires
- Power plant industries

SUPPORT FEATURE

- One-year warranty and full after-sales
- Product delivery with installation.
- Complete training with safety tips by expert trainers.
- Maintenance of all products in case of technical issues.
- Product guide with detail explanation.

TECHNICAL SPECIFICATION

Laser type	Diode laser, 120 mw, 600 nm
CCD-resolution	1500*1100 pixels
Loading unit	Thermal lamp 2000 w
Working distance	30-100 cm (other size can be customized)
Operation modes	Manual, 2D and 3D operation
Date interface	TIFF, ASCII
Date acquisition speed	Online Measurement & 60 sec per inspections
Dimensions of sensor head	40 cm*15 cm*15 cm (without illumination arms)
Dimensions of control unit	110 cm*60 cm*60 cm
Weight	5 kg (sensor)
Control and evaluation unit	Portable head with controller unit
Operation system	Windows 7