

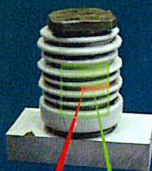
# Laser Ultrasonic Visualizing Inspector

## LUVI-LL2



### Noncontact Inspection via Watching Ultrasound

## LASER X LASER

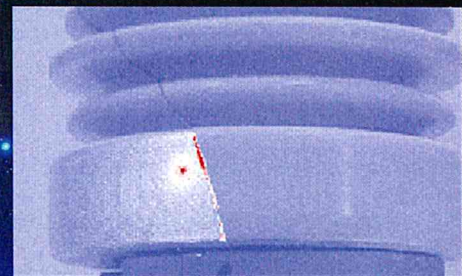


Reception Laser

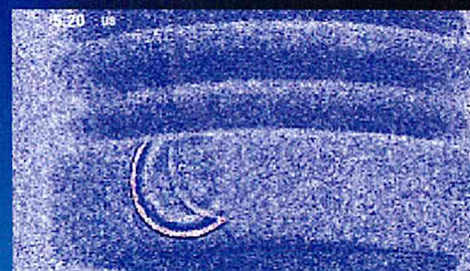
Generation Laser



Fully Noncontact Measurement with Laser Probe



Stationary Image of Ultrasonic Maximum Amplitude

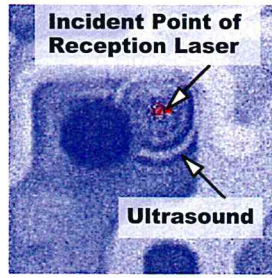
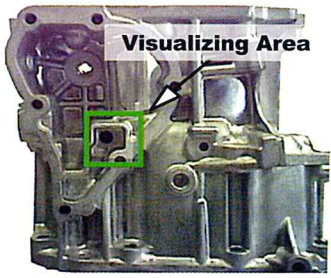


Video Image of Ultrasonic Propagation

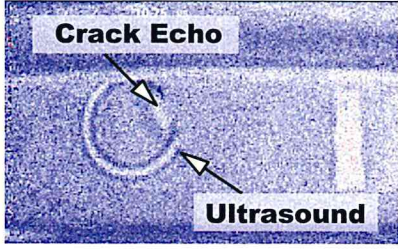
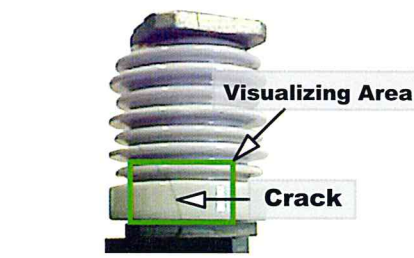


産総研技術移転ベンチャー





## Transmission case



## Insulation



Measurement of microscopic parts, hot surfaces, elevated spots, narrow sections, conveyor belt equipped moving parts and etc., are possible with fully noncontact inspection.

### Feature

- [Instant Flaw Detection by Watching Video]**  
Watch video image of ultrasound propagated in test object and detect flaw instantly, by irradiating and scanning laser to the test object.
- [Available for Complex-shaped Objects]**  
Due to noncontact scanning, defect detection of complex-shaped objects such as curved surfaces, gaps, and narrow sections is possible.
- [Fast Visualizing Inspection and Defect Detection for Wide Area]**  
Fast visualization for wide area is possible with fast scanning by the combination of laser and galvanometer scanner.
- [No Optical Adjustment]**  
Easy measurement as no optical adjustment is necessary.
- [Principal Application]**  
NonDestructive Testing in industry sector of automobile, airplane, training, ship, steelmaking, oil plant, gas plant, and power plant, material such as Fiber Reinforced Plastic; Elucidation of wave propagation mechanism; Performance evaluation of ultrasonic probe; Evaluation of structural integrity, etc.

### Specification

- Visualizing Range : Within 55° ±5°
- Distance to object : 0.1m ~ 2m ( ~ 5m with additional lens)
- Scanning Frequency : Max. 2kHz ( 200×200 point in 20 sec.)
- Scan Laser Power : Max. 2mJ@1kHz (Pulse YAG Laser with wavelength 1064nm)
- Pulse Width : 2ns
- A/D Sampling Rate : Max. 250MS/s (2GS/s : Option)
- Display Image : Ultrasonic Propagation Image, B-Scope Image (Speed Image), A-Scope Waveform, etc.
- Inspection Object : Crack, Corrosion, Void and Separation of Compound Materials, Metal, Ceramics and Resin, etc.
- Max. Thickness : about 100mm (Metal)
- Min. Size of Defect : 0.1mm ( 5mm Thick Metal)
- Display : Touchscreen (640×480dot)

### Laser Doppler Vibrometer

- Laser Wavelength : 633nm, Visible
- Laser Classification : Class 2 Helium-neon , <1mW
- Displacement Measurement : 50nm/V,
- Max. Frequency : 20MHz

### Software

- Automatic Creation of Inspection Report
- Web Camera Image Superimposition
- Image Analysis

### Option

- Robust Against Ambient Temperature
- Dust Protection
- Battery Unit

### Configuration

Power Unit Dimensions : W×H×D (mm) 275×140×345 Weight : 6.7kg Max. Electricity Consumption : AC100V/350W	Laser Unit 275×225×375 14.2Kg	Scan Unit 290×160×85 2.5Kg	Vibrometer Control Unit 450×360×150 10Kg	Vibrometer Sensor Head Dimensions : 120×80×345 Weight : 3.4Kg
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つくばテクノロジー株式会社

Tsukuba Technology Co., Ltd

Headquarters: Sengen1-14-11, Tsukuba city, Ibaraki 305-0047, Japan  
Tokyo Office: Nihonbashi 1-2-10, Chuo-ku, Tokyo, 103-0027, Japan  
E-mail: info@tsukubatech.co.jp URL: http://www.tsukubatech.co.jp

Tel: +81-29-852-7777 Fax: +81-29-886-5528  
Tel: +81-3-5204-2268 Fax: +81-3-5204-2269