

UTVIS 4000

Ultrasound-excited thermography for detecting cracks and interface defects



Reveal defects selectively through localized heat

generation. UTvis 4000 is a powerful inspection system for non-destructive detection of cracks, delaminations and bonding defects using ultrasound-excited thermography. High-power ultrasound mechanically excites the component. At defect locations, local friction generates thermal hot spots that are captured by an infrared camera and evaluated using dedicated software.

With an excitation power of up to 4 kW and a frequency range of 15 to 25 kHz, UTvis 4000 is suitable for metallic materials as well as CFRP, GFRP and other composites. Typical applications include crack inspection of cast, forged and structural components, inspection of adhesive and bonded joints, and detection of delaminations, impact damage and inclusions.

For more information about UTvis, visit the [edevis website](http://www.edevis.com).

YOUR ADVANTAGES AT A GLANCE

Defect-selective inspection: Cracks and interface defects generate localized heat and become thermographically visible

High inspection sensitivity: Suitable for detecting cracks, delaminations, bonding defects and inclusions

Versatile material inspection: Applicable to metallic materials as well as CFRP, GFRP and other composites

Flexible measurement modes: Burst, lock-in and frequency sweep measurements allow adaptation to different inspection tasks

Suitable for complex components: Thermographic detection supports inspection of challenging geometries and surfaces

Automated evaluation: DisplayImg supports system control, data evaluation and integration into automated inspection processes

TECHNICAL INFORMATION

INSPECTION METHOD:	Ultrasound-excited thermography
ULTRASOUND POWER:	Up to 4 kW
FREQUENCY RANGE:	15 to 25 kHz
EXCITATION:	Pulsed or modulated
ULTRASOUND GENERATOR:	Digital high-power ultrasound generator
TRANSDUCER:	Piezoelectric ultrasonic transducer
DETECTION:	Infrared camera
CAMERA DETECTOR:	Optional InSb or MCT
MEASUREMENT MODES:	Burst, lock-in and frequency sweep measurements
MODULATION:	Simultaneous amplitude and frequency modulation
EVALUATION:	Amplitude and phase image analysis
SOFTWARE:	DisplayImg Professional, UTvis module
SOFTWARE INTEGRATION:	DisplayImg Automation and DisplayImg API
SYSTEM INTEGRATION:	Laboratory, quality assurance and automated inspection processes

ACCESSORIES



EDECAM

High-speed LWIR infrared camera for active thermography



DISPLAYIMG SOFTWARE

Modular software platform for thermography and automated inspection

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