

# STEAM GENERATOR TESTING - TRUSTIE™

(TINY ROTATING ULTRASONIC TUBE INSPECTION EQUIPMENT)

*DETERMINE ASSET CONDITION - OPTIMIZE UTILIZATION AND LIFE*



## Expert solutions

Nuclear plants with a steam generator or heat exchanger with degrading / damaged small diameter tubing need an effective system, backed by proven technical capability, to assist in inspecting and monitoring tubing where Eddy Current techniques cannot supply the required information and accuracy.

Kinectrics experts developed the TRUSTIE™ (Tiny Rotating Ultrasonic Tube Inspection Equipment) system for ultrasonic inspection of thin-walled, small diameter tubing.

TRUSTIE™, now industry standard technology, consists of an ultrasonic inspection head, a high-speed rotary / axial drive mechanism, and Winspect™ advanced software for data analysis and display. TRUSTIE™ technology has also been expanded to include thicker-walled and larger diameter tubing. Kinectrics can custom design and build a TRUSTIE™ system to meet your specific tubing and piping inspection requirements.

## Proven technology and expertise

The TRUSTIE™ system's pit sizing, which is significantly more accurate than that of Eddy Current, may eliminate the need to plug a number of major utility steam generator tubes.

The accurate flaw sizing provided by TRUSTIE™ can be used to efficiently monitor growth rates of low-level pit and fret indications for units remaining in service. Accurate circumferential crack depth profiling has been demonstrated in laboratory and field inspections. Kinectrics has done extensive performance demonstrations on determining indications due to fretting damage.

Kinectrics has also designed many other non-destructive evaluation (NDE) systems, including **OPIT** (*Optical Profilometry Inspection Tool*) and **EPIC** (*End Plate Inspection for Cracks*) to meet specific customer needs.

### Nuclear / Non-nuclear Applications

TRUSTIE™ can be custom-built to meet the unique inspection specifications of high-value components in the nuclear, aerospace, and petrochemical industries.

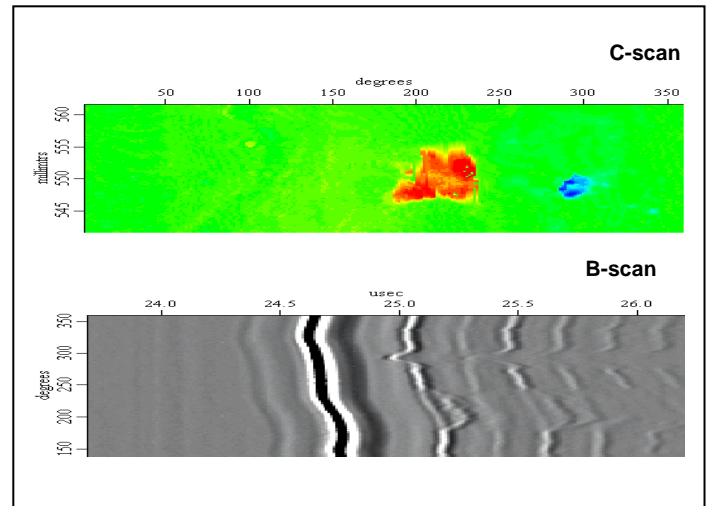
## TRUSTIE™ Inspection Capabilities

### Probe Types

- Normal beam (wall thickness and ID profilometry)
- Shear wave (axial and circumferential crack)
- Multiple mode combination (normal beam, circumferential and axial shear waves)

### Analysis Methods

- A, B, C and full waveform scans
- Line plots, colour plots, isometrics
- Echodynamics
- Integrated signal processing (i.e. filtering, spectral analysis)



## Cost-effective client benefits

Kinectrics' TRUSTIE™ system provides clients with several important benefits, including:

- Enables effective plant life management
- Minimizes repair and replacement expenditures
- Optimizes inspection and maintenance scheduling
- Improves prediction of expenses
- Protects investment

## TRUSTIE™ Specifications

- Tube IDs from as small as 8 mm (0.310")
- Tube lengths up to 15 m (50')
- Ultrasonic inspection frequencies from 5 to 25 MHz
- Rotation speeds up to 1,000 rpm
- Typical data collection speeds:
  - 120 mm/min @ 0.2mm resolution (5"/min @ 0.008" resolution)
  - 600 mm/min @ 1 mm resolution (2'/min @ 0.040' resolution)
  - U-bend inspection on 40 cm (16') radius for 10 mm (0.400') ID tubes
- Remote operation up to 600'

For more information, contact

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