Applied Technical Services

Computed Tomography

We Take A Closer Look

- Aerospace
- Automotive
- Forensic/Legal Investigations
- Military/Defense
- Pharmaceutical
- Pulp and Paper

ATS now proudly offers precision Computed Tomography imaging and metrology services to its clients, using our 225kV micro-focus Zeiss Metrotom scanner. This instrument is optimized for high resolution and calibrated measurements.

Computed Tomography (CT) is an imaging process that captures and compiles a series of X-rays to render a 3D model of objects, both inside and out. Individual projections create a cross-sectional image of the object as if it had been perfectly cut in half. The process, which functions much like when a doctor takes a CAT scan of a patient's brain to look for abnormalities, renders a highly-detailed perspective that allows for unparalleled diagnostic analysis of the object. Even the most minor of structural flaws can be measured for repair or rendered large for study. Multiple X-ray images can be arrayed to create a single, three-dimensional model for a more in-depth consideration.

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Applied Technical Services

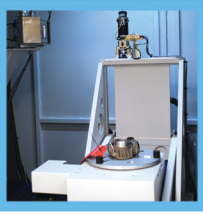
INDUSTRIES SERVICED
ADDITIVE MANUFACTURING - AEROSPACE - AUTOMOTIVE - CHEMICAL
COMMERCIAL PROPERTIES - CONSTRUCTION - DEFENSE/MILITARY
INSURANCE/LEGAL - MANUFACTURING - MEDICAL - NUCLEAR
OIL & GAS - POWER GENERATION - PULP & PAPER - MANY MORE

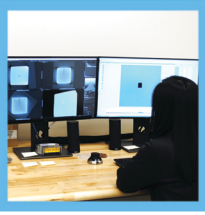
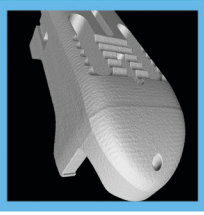
CT Allows for New Possibilities in Nondestructive Testing:

- Joints previously unable to be X-rayed can now be imaged with CT
  - Complicated shapes are no problem
- Greater detail than older imaging methods
  - Tons of information from multiple images make up one model
  - Can pick up minuscule structural imperfections
- Take 3D measurements of flaws in assemblies, castings, additive manufactured parts, forgings, etc.
  - Extremely accurate
  - Measure internal parts without destructive testing
- Complements additive manufacturing
  - New NDT techniques that adjust to new manufacturing methods
- Both Part-to-CAD and P2P comparisons
  - Helps in generating CAD data
    - Great for reverse-engineering
    - Can be used for geometric dimensioning and tolerance (GD&T)
    - Measure GD&T for quality control
  - Rapid prototyping of internal components
    - Don't have to make a CAD from scratch

Major Applications:

- Dimensional
- Engineering
- NDT



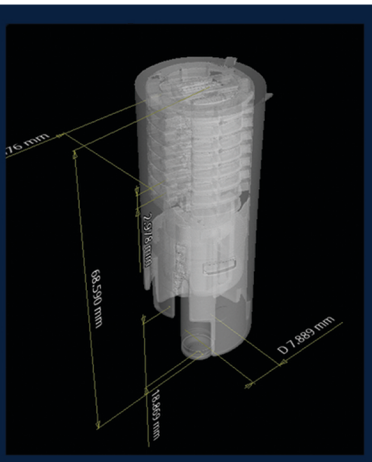
CT Benefits

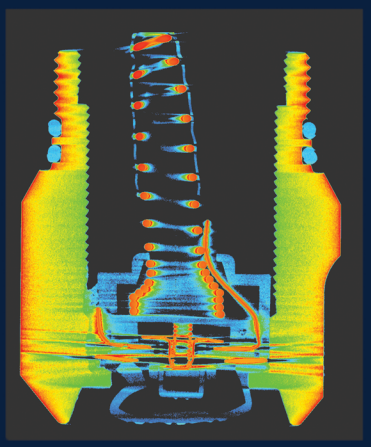
These unprecedented benefits greatly improve quality control and preventative maintenance efforts by our clients, giving them more detailed and earlier insight into potential issues. Knowing that critical parts are standard-compliant down to the most minute measurements affords companies a greater confidence and peace of mind. ATS supplies that to our clients with our industry-standard CT equipment:

- Zeiss Metrotom 1500, 225kV micro-focus
  - Undergoes annual A2LA calibration
  - Currently certified by A2LA to accuracy within 4.5µm
  - Chamber fits specimens up to 11.75 in (300mm) in diameter x 23.6 in (600mm) high; 110lb (50kg) weight limit
- Analysis volume up to 350 mm (13.5 in) diameter x 600 mm (23.6 in) high. 50 kg (110 lbs) weight limit.

More Industries Serviced:

- Construction
- Manufacturing
- Nuclear
- Power Generation






The CT Advantage

Computed tomography, also referred to as CT, generates a comprehensive image of a product, subassembly, or component by producing a 3D X-rayed model. Because the scan takes thousands of X-ray images of the subject from every conceivable angle — each high-resolution image capturing details at the microscopic scale due to the sensitivity of our instruments — the model our technicians create from collating them into a 3D form allows them to visually assess many of the sample's characteristics, including:

Dimensions

- Measure from model
- Both interior and exterior features X-ray element allows measurement of material thickness as well
- Not only nondestructive but non-tactile

Defects

- Detect minute flaws
- Measure them volumetrically
- Categorize them according to size and location

ATS – Your Computed Tomography Lab

Components and subassemblies need testing, so why not get it done all in one place? Contact ATS today to see how the South-East's most reliable industrial computed tomography lab can serve your testing needs — We take a closer look!

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