



THE X-RAY PEOPLE
V.J. TECHNOLOGIES

Aerospace X-ray Inspection



For over 15 years V.J. Technologies, Inc. has been a world leader in the provision of x-ray inspection systems for the aerospace industry and all military branches. These systems are primarily used for radioscopic inspection of aerospace components to detect defects that include cracks, corrosion, inclusions, and water intrusion. These systems are used to inspect various components of helicopters, control rod ends, aircraft propeller blades, and aircraft engine turbine blades.

The x-ray images are acquired either through the use of an Image Intensifier (II) or the use of an amorphous silicon digital detector. An II has the ability to see a live image of the sample being examined. For example, the liquid meniscus can be viewed moving as the manipulator moves the sample in real time. An amorphous silicon digital detector can generate images in a digital 16-bit format yielding over 65,000 gray scales for analysis. Five axis manipulators are purpose designed for each solution we provide. Collision avoidance, to prevent damaging the component being inspected, is a detail our engineers have given special attention to.

The computer workstation and image acquisition and analysis software provide a comprehensive interface for data processing and archival. The workstation receives inputs from the image detection equipment that enables an inspector to acquire, enhance, and analyze images captured by the x-ray detection equipment. With the advent of Automatic Defect Enhancement (ADE) technology, acquisition and analysis of data is easier than ever. V. J. Technologies' proprietary ADE technology is a sophisticated image-processing tool for automatically adjusting the local contrast and brightness for each region of the x-ray image. This directly leads to substantial cost reduction, as the inspection time for each part is significantly decreased.

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