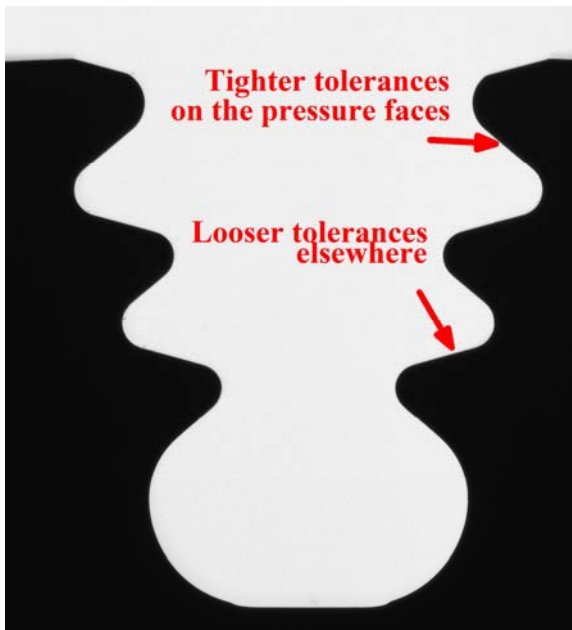*The Fastest, Easiest, Most Accurate Way to Compare a Part to a CAD File™*

THE PERFECT SOLUTION FOR CHECKING TURBINE DISKS

There are many reasons why the VisionGauge® Digital Optical Comparator is widely used by manufacturers in the aerospace and power generation industries to check turbine disks:
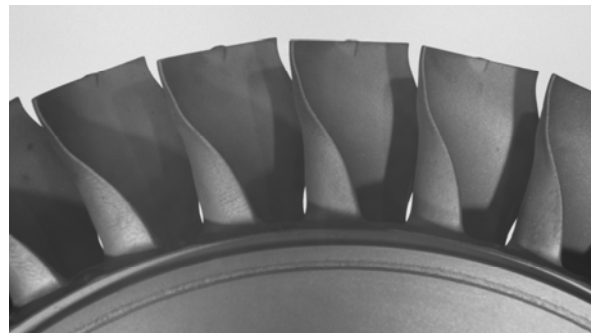
- Automatically compare turbine disk fir trees against their CAD data (no more overlays!)
- With its proprietary CAD-Auto-Align and CAD-Auto-Pass/Fail tools (Patents Pending), the system can check turbine disks completely automatically!
- Demonstrated accuracy down to +/-0.0001" in real-world applications, directly on the shop floor!
- The system supports both uniform and variable tolerances. You can apply tighter tolerances on pressure faces and looser tolerances elsewhere. Tolerances can be made to vary gradually between different zones.
- Eliminate operator subjectivity!
- Much faster than traditional approaches.
- Automatically collect measurements, statistics, images and other data for complete documentation
- The system is not limited to the camera's field-of-view; It can compare a part to its CAD data across the entire stage travel. So even large parts can be checked at high magnification.
- With its extended optical depth-of-field and Auto-Focus tool, the system is perfectly suited to deal with the challenges of turbine disk inspection.
- Automatically measure and display deviations from nominal and quickly identify out-of-tolerance areas.

The VisionGauge® Digital Optical Comparator is rapidly becoming the new standard for inspecting turbine disks in the aerospace and power generation industries.
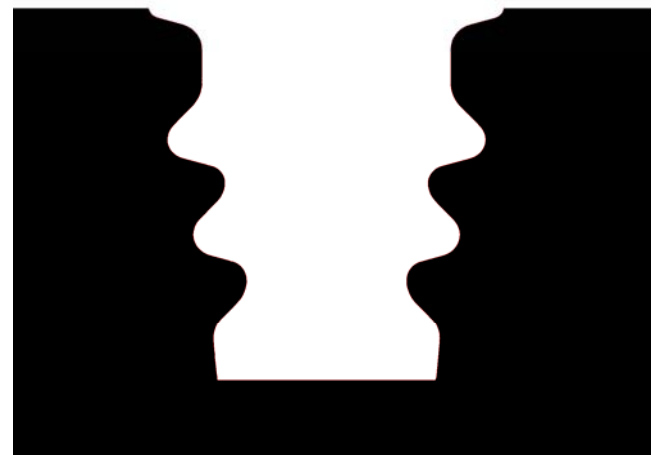

Also Ideal for the Inspection of
Blisks and EDM Slots

Variable Tolerances Support is Ideal
for Turbine Disk Fir Trees

- **Fast!**
- **Accurate!**
- **Easy to operate!**

PASS

Proprietary CAD Auto-Align and
CAD Auto-Pass/Fail tools

VisionGauge® Digital Optical Comparator 500 Series - Principal Specifications

Available configurations	Both horizontal and vertical
Standard optical magnifications (equivalent to traditional comparators)	5X, 10X, 20X, 50X and 100X [1]
Image viewing area (diagonal)	38"
Motorized X, Y & Z axes	Yes
X, Y & Z stage movement	High-accuracy crossed-roller movement
Auto-Focus	Yes
X & Y axis encoder resolution	0.5 micron [2]
LASER module (for Z-axis measurement)	Optional
High-accuracy rotary axes	Optional
Extended stage travels	Optional (along all 3 axes)
External 3-axis, 3-speed joystick to control the stage	Yes
Illumination	- LED-based (for very stable illumination conditions, with a very long life) - Programmable and computer-controlled (for repeatable illumination conditions) - Both reflected (i.e. front) and transmitted (i.e. back) illumination modules are available
Lens	Very low distortion telecentric, with long working distance and extended depth-of-field
Real-time mathematical image processing, enhancement and correction	Yes
Multi-monitor display	Yes [3]
Overall Quad-Monitor size	35" (wide) x 27" (high)
Auto Pass / Fail (to determine if the part matches the CAD data)	Yes, with user-selectable bi-directional tolerances
CAD Auto-Align	Yes: automatically align the CAD data to the part (either XY or XY & Rotation alignment) along an arbitrary number of user-specified datums.
Extended set of high-accuracy measurement tools	Yes
Sub-pixel accurate edge detection	Yes
Quickly carry out on-screen measurements using either the mouse or joystick	Yes
Joysticks	3-axis, 3-speed industrial grade
Image annotation tools	Yes
Quickly and easily save images of parts, either with or without the CAD overlay, and either with or without measurements as well as time & date information	Yes
Built-in SPC capabilities, with automatic numerical charts & PASS / FAIL graphs	Yes
Automatic data export to Excel™	Yes
Automatic data export to other applications	Yes (through Windows™ DDE or other mechanisms)
Built-in Dynamic Data Exchange (DDE) support	Yes
Easy file data import & export	Yes
Supervisor-level / operator-level password protection	Yes
Operating System	Windows™ 7 [4]
Built-in "F1 Help"	Yes
Fan & filter unit on main cabinet	Yes (to create a positive pressure and keep dust out)
Power requirements	Either 110V or 220V, 15 Amp (single cord)
CE Markings	Available upon request
Operating temperature	10 °C - 35 °C
Clear and easy-to-use documentation (both printed and electronic "pdf" format)	Yes
Support (by phone, fax & email)	Included for a full year
Warranty	1 year (complete)

[1] Available in both single magnification and multi-mag configurations. Other optical magnifications available on request.
[2] Other encoder resolutions available on request.
[3] Basic system configuration includes a quad-high-resolution-monitor display that allows real-time viewing of the live video image in full 1:1 resolution.
[4] Other operating systems available on request.

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