

# Digital Optical Comparator (PATENTS PENDING)

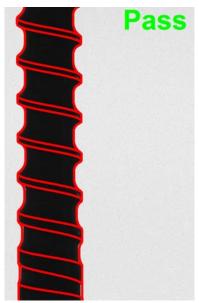
### **Application Note**

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

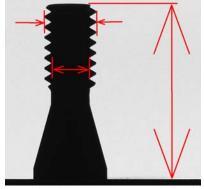
#### THE PERFECT SOLUTION FOR CHECKING BONE SCREWS

There are many reasons why the VisionGauge® Digital Optical Comparator is widely used by medical device manufacturers to check bone screws:

- Automatically compare bone screws against their CAD data
- With its proprietary CAD-Auto-Align and CAD-Auto-Pass/Fail tools (Patents Pending), the system can check screws completely automatically, regardless of their orientation!
- Eliminate operator subjectivity!
- Automatically collect measurements, statistics, images and other data for complete device history information
- Thanks to the system's extended depth-of-field, the entire screw can be in focus even at the helix angle (no need to constantly refocus)!
- Measure the screw's major and minor diameters and other characteristics, completely automatically and to a very high accuracy
- With the optional rotary stage, you can automatically measure the helix angle, very accurately!
- The system is perfect for checking bone screws directly on the shop floor



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

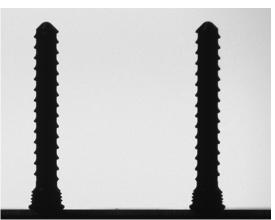


Automatically measure screw dimensions



Check all the features of interest on the screws

- Fast!
- Accurate!
- Easy to operate!



Load multiple screws onto the system to have them all checked completely automatically

## 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 <sup>1</sup>		
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 <sup>2</sup>		
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		
External 3-axis, 3-speed joystick to control the stage	LED-based (for very stable illumination		
	conditions, with a very long life)		
Illumination	Programmable and computer-controlled (for reportable illumination conditions)		
	repeatable illumination conditions)		
	Both reflected (i.e. front) and transmitted (i.e.  book) illustriant modules are surjuded.		
	back) illumination modules are available  Very low distortion telecentric, with long working distance		
Lens	and extended depth-of-field		
Real-time mathematical image processing, enhancement and correction	,		
	Yes Yes <sup>3</sup>		
Multi-monitor display  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 Alien	Yes: automatically align the CAD data to the part (either		
CAD Auto-Align	XY or XY & Rotation alignment) along an arbitrary		
Estandad act of black accommon act to da	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	Yes		
joystick Joysticks	2 puis 2 pand industrial grade		
	3-axis, 3-speed industrial grade Yes		
Image annotation tools  Quickly and easily save images of parts, either with or without the CAD	res		
overlay, and either with or without measurements as well as time & date	Yes		
information			
Built-in SPC capabilities, with automatic numerical charts & PASS / FAIL			
graphs	Yes		
Automatic data export to Excel™	Yes		
Automatic data export to excer	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 Operating System	Yes Windows <sup>™</sup> 7 4		
Built-in "F1 Help"	Yes		
Fan & filter unit on main cabinet			
	Yes (to create a positive pressure and keep dust out)  Either 110V or 220V, 15 Amp (single cord)		
Power requirements  CE Markings	Available upon request		
CE Markings			
Operating temperature	10 °C - 35 °C		
Clear and easy-to-use documentation (both printed and electronic "pdf"	Yes		
format)			
Support (by phone, fax & email)	Included for a full year		
Warranty	1 year (complete)		

Available in both single magnification and multi-mag configurations. Other optical magnifications available on request.

Other encoder resolutions available on request.

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### **Developed By:**

 VISIONx Inc.
 Tel: (514) 694-9290

 210 Brunswick
 Fax: (514) 694-9488

Pointe-Claire, QC Email: info@visionxinc.com
Canada H9R 1A6 Web: www.visionxinc.com

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.

Other operating systems available on request.