

## 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 AUTOMOTIVE SEALS (e.g. door trim, weather seals, etc...)

- Automatically compare difficult-to-inspect flexible automotive seals against their CAD data (no more overlays!)
- The system's proprietary CAD-Auto-Align tool automatically lines up the CAD to the part, along one or multiple datums or by doing an overall "best fit".
- The system's proprietary CAD-Auto-Pass/Fail tool automatically produces an operator-independent PASS/FAIL result.
- The system works equally well on both fixtured and unfixtured parts.
- Demonstrated accurate, repeatable and operator-independent results, directly on the shop floor!
- The system supports both uniform and variable tolerances. You can apply tighter tolerances in critical areas and looser tolerances elsewhere.
- Automatically measure and display deviations from nominal and quickly identify out-of-tolerance areas.
- Automatically collect measurements, statistics, images and other data for complete documentation
- Much faster than traditional approaches and completely eliminates operator subjectivity!.
- The system is extremely to use: it can be setup so that for the operator everything is done through the barcode reader.
- The system can easily deal with part distortion. It is perfectly suited to overcome the difficult challenges of flexible automotive seal inspection.

The VisionGauge® Digital Optical Comparator is the new standard for inspecting flexible extruded seals in the automotive industry.





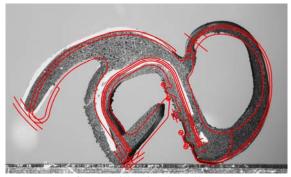


Fast!

- Accurate!
- Repeatable!
- Easy to operate!

The system produces an extremely crisp and clear super-high-resolution image.

You can see all of the fine details on your part!



Front (reflected) illumination allows you to clearly see internal and surface features, along with the part's outer profile



Automatically compare a part to its CAD data and get an accurate, repeatable and operator-independent PASS/FAIL result

### 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:**

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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.