Digital Optical Comparator Series

The Fastest, Easiest, Most Accurate Way to Compare a Part to a CAD File™ Using Advanced, Patented Technology.

VisionGauge® 500 Series

VisionGauge® Digital Optical Comparators allow you to quickly, easily and very accurately compare a part with its CAD drawing.

The VisionGauge®
Digital Optical Comparator (Patented & Other Patents Pending) is a fully-digital drop-in replacement for traditional optical comparators. It works directly with your part's CAD data and doesn't require any overlays.

The system is extremely easy to use, and thanks to its advanced, patented CAD Auto-Align™ and CAD Auto-Pass/Fail™ tools, operators can compare parts to their CAD data completely automatically, directly on the shop floor.

The VisionGauge® Digital Optical Comparator eliminates operator error and can automatically collect complete electronic documentation including measurements, statistics, Pass/Fail results, a high-resolution image of the part with its CAD overlay, etc.
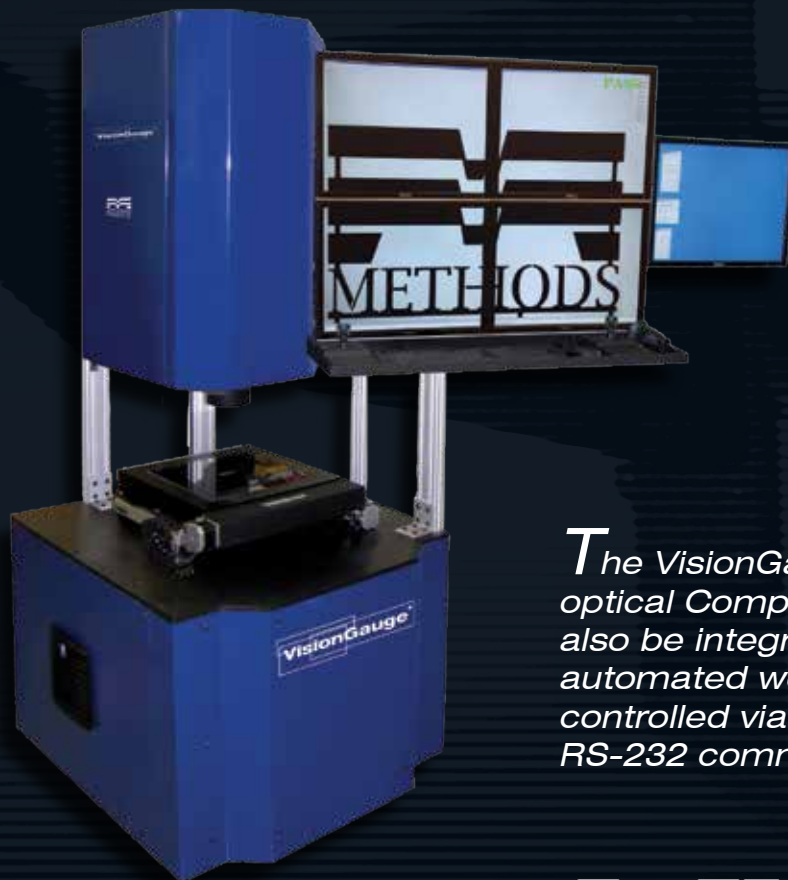
The VisionGauge® Digital optical Comparator can also be integrated into an automated work cell and controlled via Ethernet or RS-232 communications.

Vision

The main benefits of the VisionGauge® Digital Optical Comparator are:

- Increased accuracy

- Higher throughput

- Eliminate operator-dependent variations

- Advanced patented "CAD Auto-Align™" tool to automatically line up the CAD file to the part along one or multiple datums or carry out an "overall best fit"

- Advanced patented "CAD Auto Pass/Fail™" tool to automatically compute the deviation from nominal and compare it to bi-directional tolerances, in real-time, and produce a high-accuracy fully automated Pass/Fail result.

- Works directly with your existing CAD data/Doesn't require any overlays

- Automatically collect complete electronic documentation/device history

- Reduced floor space requirements/Smaller footprint

- Carry out inspections & measurements directly on the shop floor

- Allows you to compare parts to their CAD data beyond the optical field-of-view (across the entire stage travel)

- Much greater depth of field (i.e. "everything is in focus at once")

- Can be moved very easily and without requiring re-calibration

Gauge

Methods

Supplementary Rotary Axes
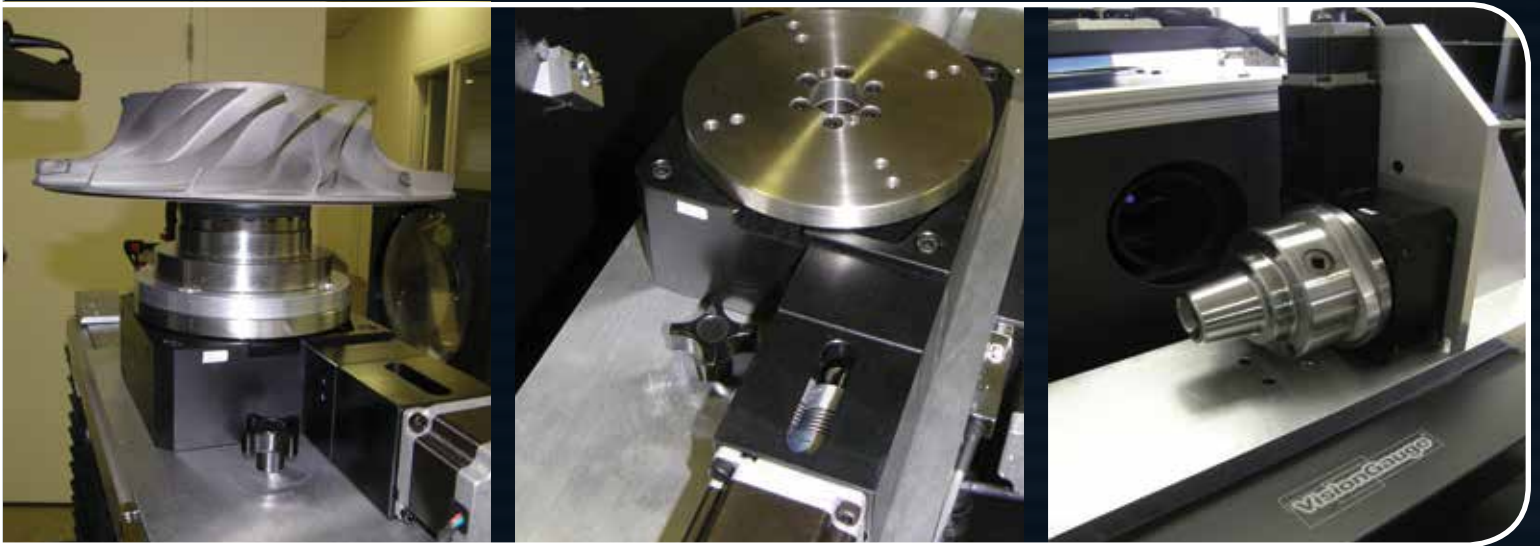
*M*ounted with rotary axis aligned either vertically or horizontally. Note that multiple rotary stages can also be used (to provide "Pan & Tilt" capability, for example). Custom fixturing is also available for turnkey projects.

Methods

Single Magnification Configurations

| Model Number	Field-of-View			Working Distance inches (mm)	Depth of Field inches (mm)
	Horizontal inches (mm)	Vertical inches (mm)	Diagonal inches (mm)		
VGDOC-30H-5X VGDOC-30V-5X	4.7 (119.4)	3.5 (88.9)	5.9 (148.8)	15.67 (398.0)	13.34 (339.0)
VGDOC-30H-10X VGDOC-30V-10X	3.1 (78.7)	2.3 (58.4)	3.9 (98.0)	11.00 (279.5)	5.71 (145.0)
VGDOC-30H-20X VGDOC-30V-20X	1.7 (43.2)	1.2 (30.5)	2.1 (52.9)	8.98 (228.0)	1.77 (45.0)
VGDOC-30H-50X VGDOC-30V-50X	0.52 (13.1)	0.38 (9.7)	0.64 (16.3)	1.78 (45.3)	0.20 (5.0)
VGDOC-30H-100X VGDOC-30V-100X	0.21 (3.9)	0.15 (3.9)	0.26 (6.5)	2.48 (63.0)	.04 (1.0)

Multi-Magnification Configurations

Model Number	Field-of-View					
	Horizontal inches	Vertical inches	Diagonal inches	Horizontal mm	Vertical mm	Diagonal mm
VGDOC-30H-5/10/20X VGDOC-30V-5/10/20X	4.7 3.1 1.55	3.5 2.3 1.09	5.9 3.9 1.89	119.4 78.7 39.37	88.9 58.4 27.66	148.8 98.0 48.12
VGDOC-30H-10/20/50X VGDOC-30V-10/20/50X	2.42 1.21 0.61	1.82 0.92 0.46	3.03 1.52 0.64	61.5 30.73 13.13	46.2 23.37 9.73	76.9 38.61 16.34
VGDOC-30H-20/50/100X VGDOC-30V-20/50/100X	1.55 0.52 1.55	1.09 0.38 1.09	1.89 0.64 1.89	39.37 13.13 39.37	27.66 9.73 27.66	48.12 16.34 48.12

| Model Number	Working Distance		Depth-of-Field	
	inches	mm	inches	mm
VGDOC-30H-5/10/20X VGDOC-30V-5/10/20X	11.8 11.8 11.8	300 300 300	13.3 4.5 1.3	339.0 114.8 31.9
VGDOC-30H-10/20/50X VGDOC-30V-10/20/50X	6.5 6.5 6.5	166.2 166.2 166.2	4.5 1.3 0.4	114.8 31.9 9.7
VGDOC-30H-20/50/100X VGDOC-30V-20/50/100X	4.8 4.8 4.8	122.3 122.3 122.3	1.5 0.2 0.03	37.0 5.0 1.0

Note: specifications subject to change without notice.

Specialized Illumination Modules

Specialized illumination modules are also available to make features of interest stand out and eliminate glare and reflections.

Glare

No Glare

50X Magnification
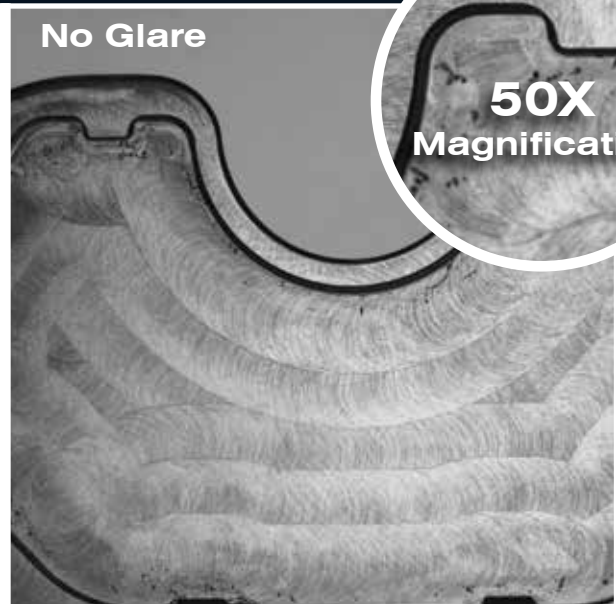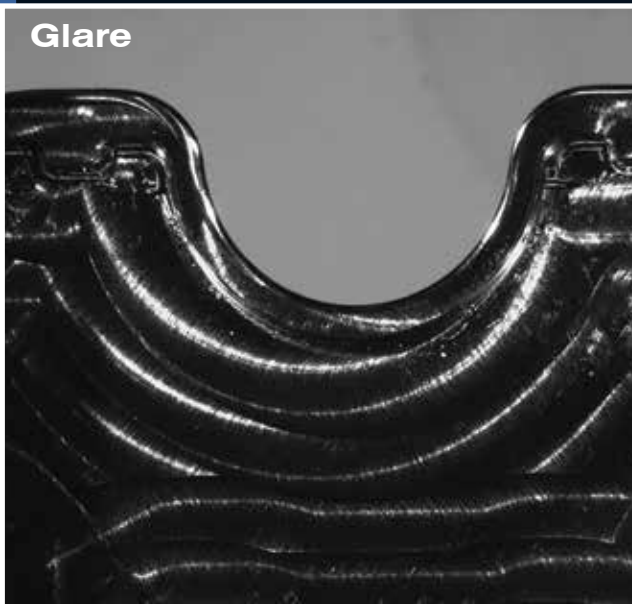
Vision
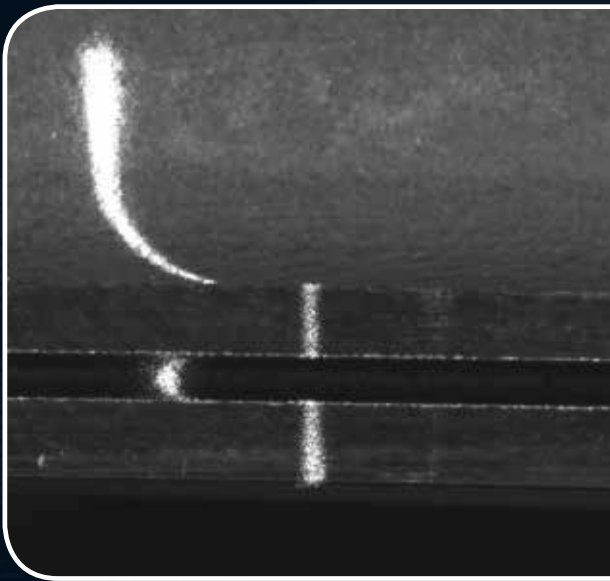
Optional Laser Module

For fast and accurate depth and height measurements (either manual or fully-automated), the LASER's software interface is seamlessly integrated with all of the systems other tools.

Fast, accurate and easy-to-use reverse engineering tools - when you have a part and want to create its CAD file.

PASS

The **ideal solution** for checking profile tolerances!

Gauge

VisionGauge® 500 Series Options

Available Options

Part Number	Description
VGDOC-30-RI	High-intensity LED reflected illumination module (programmable and computer-controlled) fully integrated with VisionGauge® Digital Optical Comparator
VGDOC-30-CAL	Adapted NIST-traceable stage micrometer with certificate of calibration (this will allow you to carry out the yearly re-calibration yourselves). Note: this stage micrometer is especially designed for the VisionGauge® Digital Optical Comparator
VGDOC-30-01XY	Upgrade of the X- and Y-axis encoders from 0.5 um resolution to 0.1 um resolution. Applicable for either the horizontal or vertical configuration of the VisionGauge® Digital Optical Comparator
VGDOC-24XH	Extended (i.e. 24") X-axis travel stage upgrade (from the standard 12" travel) for Horizontal configuration VisionGauge® Digital Optical Comparator
VGDOC-12YH	Extended (i.e. 12") Y-axis travel column upgrade (from the standard 6" travel) for Horizontal configuration VisionGauge® Digital Optical Comparator
VGDOC-24X24YV	Extended (i.e. 24" x 24") X-axis and Y-axis travel stage upgrade (from the standard 12" x 12" travel) for the Vertical configuration VisionGauge® Digital Optical Comparator
VGDOC-12Z	Extended (i.e. 12") Z-axis travel. Applicable for either the horizontal or vertical configuration of the VisionGauge® Digital Optical Comparator
VGDOC-30-XMON	"5th monitor option" to automatically load and display inspection instructions & criteria or other related documents when the work order barcode is scanned to automatically load the appropriate CAD file
VGDOC-30-COAXRI	On-axis reflected LED illumination module (programmable and computer-controlled) fully integrated with VisionGauge® Digital Optical Comparator. This reflected (i.e. "front") illumination module produces a very different type of front illumination that is very "flat" (i.e. "shadow free" and low glare) that is more appropriate for certain types of parts. This illumination module is mounted on a "swing arm" to allow the operator to easily put it in position & retract it when it is not needed.

Available Options

Part Number	Description
VGDOC-30-RS	4th motorized axis with encoded rotary stage (i.e. to rotate the part), including: • All required motion control hardware for 4th motorized axis (for part rotation). This motion control hardware is completely and seamlessly integrated with the system's existing motion control hardware • Motorized encoded high-accuracy rotary stage • Fixture to mount the stage to the system's dovetail grooves • All required cables & power supplies
VGDOC-30-LASER	LASER module for Z-axis measurements, including: • High-accuracy structured LASER module • LASER controller hardware (to completely control the LASER's operation from within the software) • Adapted fixture to mount the LASER module onto the Z axis stage • Software upgrade • All required cables & power supplies
VGDOC-SASWL	Optional standalone "desktop" software license (to allow you to remotely view your CAD files, setup tolerances, create automated inspection and measurement programs, etc...)
VGDOC-ASUP-Renewal	VisionGauge® Annual Support and Update Program Membership Renewal (which provides users with unlimited technical support and free software updates for a full 1-year period). Note that unlimited technical support and free software updates are included for the 1st year with every VisionGauge® Digital Optical Comparator (Patent Pending) system.
VGDOC-EW2	2nd year hardware warranty for the VisionGauge® Digital Optical Comparator (i.e. the VisionGauge® Digital Optical Comparator comes with a complete 1 year hardware warranty and this optional item extends it to the 2nd year).
VGDOC-RAF	Replacement air filter

Other accessories, system configurations, fixturing, etc. available upon request. Please inquire.

Methods

500 Series Specifications

	Horizontal Configurations	Vertical Configurations
Standard Optical Magnifications (equivalent to traditional comparators)	5X, 10X, 20X, 50X and 100X [1]	
Image view area	33.5" wide x 25.75" high (= 42" diagonal)	
Software Interface	Intuitive, Windows-based graphical user interface (i.e. "point & click")	
Motorized X-, Y- & Z-axes	Yes	
X-, Y- & Z-stage movement	High-accuracy crossed-roller movement	
X-axis travel	12" [2]	
Y-axis travel	6" [2]	12" [2]
X- & Y-axis encoder resolution	0.25 micron [3]	
Z stage travel	4" [2]	
Auto-Focus	Yes	
Part fixturing configuration	Dual standard dovetail grooves	Threaded mounting hole pattern
Encoded Z-axis	Optional [4]	
LASER module (for Z-axis measurement)	Optional [4]	
High-accuracy rotary axes	Optional [4]	
Fully programmable 3D motion	Yes	
Camera	High-resolution, digital (9 MegaPixel)	
Illumination	• LED-based (for very stable illumination conditions, with a very long life) • Programmable & computer-controlled (for repeatable illumination conditions) • Both reflected (i.e. front) & transmitted (i.e. back) illumination modules are available	
Lens	Very low distortion telecentric, with long working distance & extended depth-of-field	

VisionGauge® 500 Series Specifications

|	Horizontal Configurations	Vertical Configurations
Real-time mathematical image processing, enhancement and correction	Yes	
Patented CAD Auto-Align™ tool	Yes, with user-specified bi-directional tolerances	
Patented CAD Auto-Pass/Fail tool	Yes, with user-specified bi-directional tolerances	
Extended set of high-accuracy measurement tools	Yes, with sub-pixel-accurate edge detection	
Image annotation tools	Yes	
Automatic electronic documentation	Yes	
Built-in SPC capabilities, with automatic numerical charts & PASS/FAIL graphs, etc...	Yes	
Automatic data export to Excel™ and other applications	Yes	
Compare a part to its CAD data across the entire stage travel	Yes	
Quick CAD data and settings change over & recall	Yes ("1-button recall")	
Supervisor/operator password protection	Yes	
Operating System	Windows™ 7 [5]	
Built-in "F1 Help"	Yes	
Fan & filter unit on main cabinet	Yes (to create a positive pressure and keep dust out)	
Power requirements (North America)	110V, 15 Amp (single cord)	
Operating temperature	10 °C - 30 °C	
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 stage travels available on request.
3 Other encoder resolutions available on request.
4 Because of the system's extended depth of field, the Z-axis stage is used simply as a focusing stage. However, a Z-axis encoder is included in the optional LASER module for Z-axis measurement
5 Other operating systems available on request.

Note: specifications subject to change without notice.

Methods

Methods

VisionGauge

VisionGauge® 700 Series

The 700 Series VisionGauge® Digital Optical Comparator is the Perfect Solution for Checking EDM- and LASER-Drilled Holes and Slots

- 5 axes of motion (X, Y, Z, Rotary Tilt) to properly view parts from all sides & angles

- Fully-automated operation

- No operator-to-operator variation

- Easy to program (can use your CAD data directly)

- Fast, accurate & easy-to-use

- Extensive set of measurement tools

- Straightforward operator interface: barcode-reader and joystick

- Intuitive software

- Patented & patent-pending technology

- Powerful & innovative software tools for robust feature detection

- Sharp, clear & ultra-high resolution image!

- Ultra-bright all-LED computer controlled multi-angle and multiquadrant illumination is standard!

- High-resolution precision optics to make out very fine details with great clarity

- Extended optical depth of field and extended working distance for maximum flexibility

- Automatically create reports and collect measurements, statistics, images and other data for complete documentation

- Automatic image & data collection with built-in SPC and data-exchange capabilities

- Fast and intuitive "operator review" mode to quickly revisit out-of-tolerance areas

- Robust shop-floor design
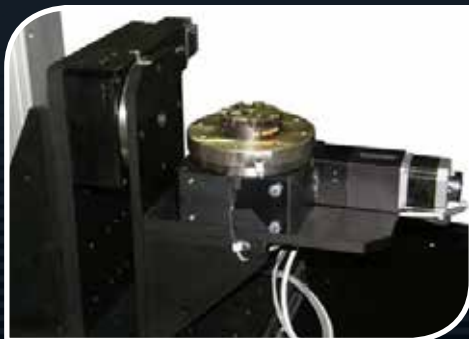
Automatically Verify Hole Presence and Location

The 700 Series VisionGauge® Digital Optical Comparator is the Perfect Solution for Checking EDM-Drilled Holes

There are many reasons why the VisionGauge® Digital Optical Comparator is widely used by manufacturers across a broad range of industries (including aerospace and power generation) to check EDM-drilled holes:

- Automatically verify hole presence & accurately measure hole location

- Supports both round and shaped holes

- 5 axes of motion (X, Y, Z, Rotary, Tilt) to properly view parts from all sides & angles

- Quickly, easily and accurately inspect 100% of the holes on your parts

- Robust shop floor design

- Can output the hole offsets which can be used to modify EDM drilling programs

- Mounting system allows your parts to go directly from the EDM drilling machine to the inspection system without re-fixturing (quick & easy and also minimizes stack-up error, etc...)

- The system can be supplied with the same working envelope as your EDM drill. If you can drill it, we can check it!

- Holes can be checked either one at a time, looking straight down each hole's nominal axis (ideal for coated parts, to minimize errors due to coating thickness variations) or multiple holes can be checked at once, viewing them at an angle (which is even faster and well suited for uncoated parts or parts with a uniform coating thickness)

- The system has an extended depth of field, so that everything is perfectly in focus regardless of the part's geometry (even in areas of very high curvature) as well as a very long working distance (so that there is lots of clearance between the part and the entire optical system to comfortably accommodate large and unusually-shaped parts)

- Extremely powerful "adaptive" feature-detection software tools are able to accurately find and locate EDM drilled holes on different surfaces, with different reflectivity, at different viewing angles, etc...

- Specialized software tools are especially well suited to deal with burrs and splatter

- Automatically create reports and collect measurements, statistics, images and other data for complete documentation

- Fast and intuitive "operator review" mode allows the operator to quickly revisit out-of-tolerance areas, etc...
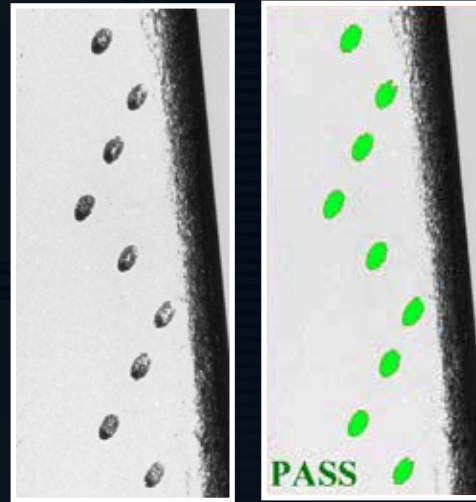
The VisionGauge® Digital Optical Comparator is a very cost-effective, perfectly adapted solution for checking EDM-drilled holes. It is rapidly becoming the new standard in the industry!

700 Series Specifications

Number of motorized axes 5	(X, Y, Z, Tilt & Rotary)	
Standard travels (note: extended travels available upon request)	**VG700DOC-30V-20X**	**VG700DOC-30V-XT1-20X**
	X-axis travel = 12" (300 mm) Y-axis travel = 12" (300 mm) Z-axis travel = 12" (300 mm)	X-axis travel = 24" (600 mm) Y-axis travel = 24" (600 mm) Z-axis travel = 24" (600 mm)
	A (tilt) axis range from - 100° to +100° B (rotary) axis range from 0° to +360°	
All axes have closed-loop encoder feedback	X-axis encoder resolution = 0.25 μm Y-axis encoder resolution = 0.25 μm Z-axis encoder resolution = 0.25 μm A-axis encoder resolution = 0.005° B-axis encoder resolution = 0.005°	
Stage movement	X-, Y- and Z- axes: high-accuracy preloaded crossed-roller movement precision worm gear with high-accuracy preloaded crossed-roller movement	
End-of-travel limits	Optical (for high repeatability)	
Mounting system	System 3R Macro Chuck (p/n 3R-600.24-S) (Other mounting systems available upon request)	
High-resolution optical system	20X equivalent optical magnification (approx.) Working distance = 9.0" (228 mm) Depth-of-field = 1.8" (45 mm) Field of view = 1.7" (43mm) x 1.2" (30 mm) = 2.1" (53 mm) Ø Optical system accuracy: better than +/- 0.00015" (4 μm)	
General-purpose dual-source reflected (i.e. front) LED illumination	Ultra-bright, all-LED based (for stable and repeatable illumination conditions & results as well as long life) Fully computer-controlled & programmable Produces very high brightness to easily handle even difficult-to-image areas The system's dual-source illumination module provides lighting at different angles of incidence (i.e. both near-vertical and low-oblique) for wide applicability across a very broad range of part geometries.	
VisionGauge® Software	Powerful and easy-to-use Intuitive, windows-based graphical user interface (i.e. "point & click") Full 5-axis transforms Advanced software corrections with full 3D mapping across the system's entire work envelope Includes a wide range of powerful inspection and measurement tools Robust & field-proven, with a broad installed base (over 3500 license in use worldwide)	
5-axis corrections	Chuck offset, fixture height and fixture center-of-rotation (X,Y) offset	
Software feature-detection tools	Extremely powerful "adaptive" software feature-detection tools are able to accurately find and locate features of interest (such as EDM-drilled holes) on different surfaces, with different reflectivity, at different viewing angles, etc.	

*Specifications subject to change without notice

VisionGauge® 700 Series Specifications
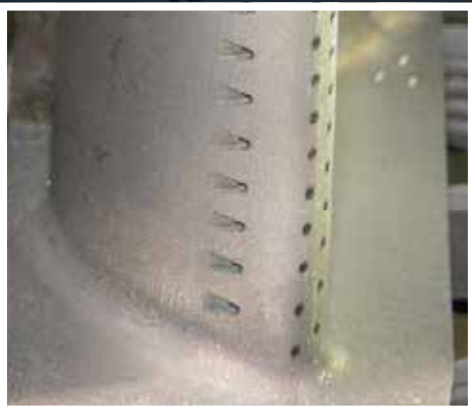
Supports Both Round and Shaped Holes, Anywhere on the Part!

Digital Read-Out (i.e. DRO)	Yes (on-screen)
Auto-focus	Yes (with programmable region-of-interest)
Camera	High-resolution, digital (9 Megapixel)
Live video "refresh"	Real-time
Real-time mathematical image processing, enhancement and correction	Yes
Multi-monitor display	Yes
Extended set of high-accuracy measurement tools	Yes
Sub-pixel accurate edge detection	Yes
Image annotation tools	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 and other mechanisms)
Built-in Dynamic Data Exchange (DDE) support	Yes
Easy file data import & export	Yes
Automatic operation & program launch using the system's barcode reader	Yes
Barcode reader Honeywell, industrial grade Supervisor-level / operator-level password protection	Yes
Operating System	Windows™ 7
Built-in "F1 Help"	Yes
Power requirements	110V, 15 Amp
Operating temperature	10 °C - 30 °C
Clear and easy-to-use documentation (both printed and electronic "pdf" format)	Yes
Support (by phone, fax & email)	Included for a full year
Free software updates	Included for a full year
Warranty	1 year (complete)

*Specifications subject to change without notice

VisionGauge® 400 Series

The 400 Series VisionGauge® Digital Optical Comparator is a state-of-the-art inspection and measurement system.

It's a compact desktop system, but at the same time it provides a large working envelope. The 400 Series is a very cost-effective, full-featured system that has all of the advanced, patented VisionGauge® software capabilities. This system is especially well suited for lower volume applications.
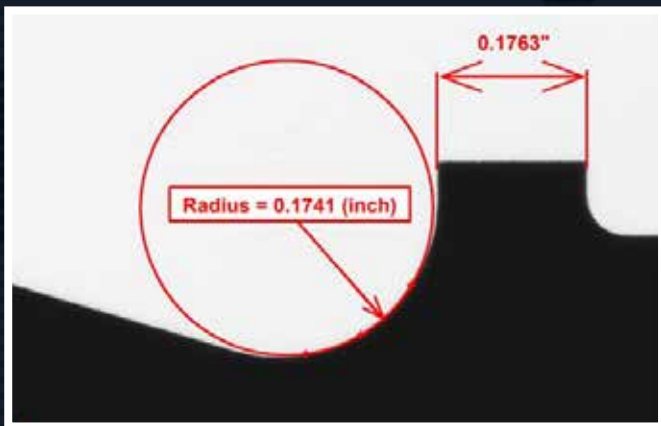
- Compact desktop system with large measurement envelope (up to 12" x 12")

- 3 axis inspection and measurement system with manual stage movements

- X- and Y-axes have 0.25 micron resolution encoders

- Optional LASER module for Z-axis measurements

- Single high-resolution monitor display. A 2nd monitor is available as an option

- Sharp & clear high resolution image

- Ultra-bright all-LED computer-controlled illumination

- High-resolution precision optics

- Single magnification optics with extended depth-of-field and long working distance for maximum flexibility

- Optical accuracy better than +/-0.00015" (i.e. 4 μm)

- Patented CAD Auto-Align™ and CAD Auto-PASS/FAIL™ software tools for fast, accurate and operator-independent Part-to-CAD Comparison

- Compare parts to their CAD file beyond the optical field-of-view, across the entire stage travel!

- Fast, accurate & easy-to-use

- Extensive set of measurement tools

- Intuitive software with a straightforward operator interface

- Automatically create reports and collect measurements, statistics, images and other data for complete documentation

- Automatic image & data collection with built-in SPC and data-exchange capabilities

- Robust design with no consumable parts

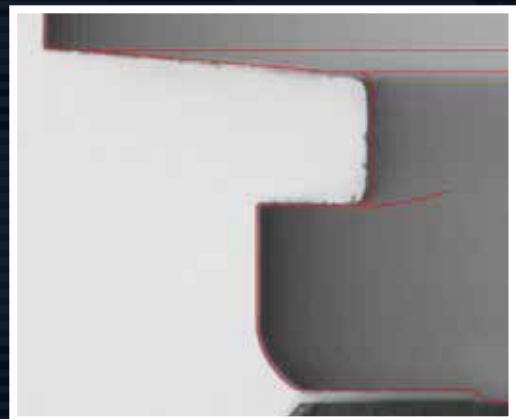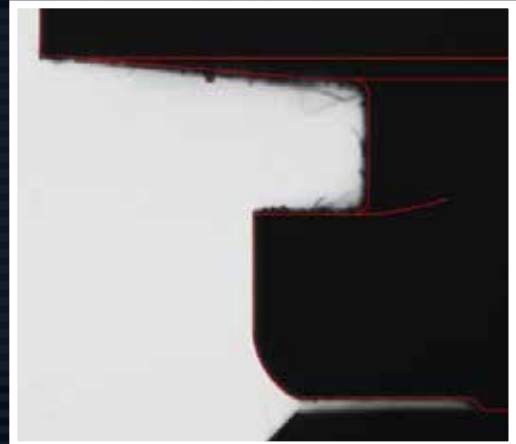- Available in both Horizontal and Vertical Configurations!

Patented VisionGauge® CAD Auto-Align™ and CAD Auto-Pass/Fail™ tools provide fast, accurate, and operator-independent results

The perfect solution for checking profile tolerances!
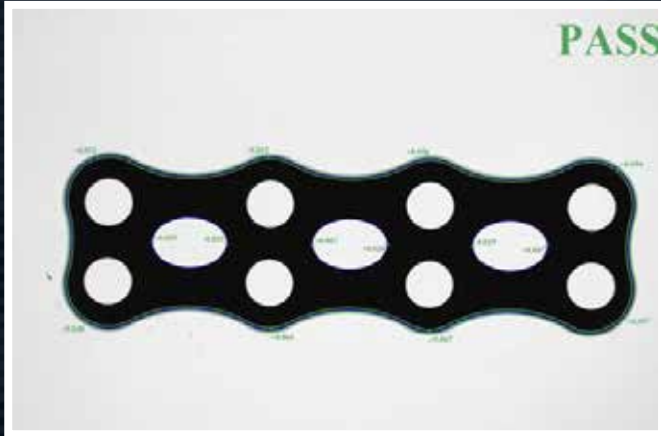
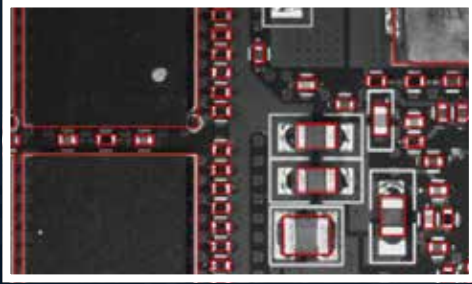Front and back illumination are available. Works on different surfaces and materials, including metals and plastics.

The system has a broad set of high-accuracy measurement tools.

400 Series Specifications		
	Horizontal Configurations	**Vertical Configurations**
Machine Configuration	Compact Desktop Unit	
Number of Axes	3 (X, Y, Z)	
Axes Movement	All 3 axes (X, Y, Z) have high-accuracy preloaded crossed-roller bearings. The axes are all manually operated.	
Closed Loop Encoder Feedback	X- and Y-axes have 0.25μm resolution closed-loop encoder feedback. (0.25μm resolution Z-axis encoder available as option.)	
LASER Module (For Z-Axis Measurement)	Available as option	
Standard Travels: X-Axis Y-Axis Z-Axis	12" (300mm) 6" (150mm) 4" (100mm)	12" (300mm) 12" (300mm) 4" (100mm)
Part Fixturing Configuration	Dual Standard Dovetail Grooves	Threaded Mounting Hole Pattern
Optical Magnification	20x (Equivalent)	
Working Distance	9.0" (228mm)	
Depth-of-Field	1.8" (45mm)	
Field of View	1.7" (43mm) x 1.2" (30mm) = 2.1" (53mm) diag.	
Optical System Accuracy	< = ±0.00015" (4μm)	
Illumination	All illumination is fully computer-controlled and programmable, and uses our ultra-bright, all-LED modules (for stable and repeatable illumination conditions and results, as well as long life)	
Collimated Back (Transmitted) Illumination	Included	
Standard Front (Reflected) Illumination	Available as an option	
Specializes On-Axis Front (Reflected) Illumination	Available as an option	
VisionGauge® Software	Powerful and easy to use. Intuitive, Windows-based graphical user interface (i.e. "point and click"). Advanced Software corrections with full mapping across the entire work envelope. Includes a wide range of powerful inspection and measurement tools. Robust and field-proven, with a broad installed base (over 3500 licenses in use worldwide).	
Digital Read-Out (i.e. DRO)	Yes (on screen)	
Camera	High-resolution, digital (9 Megapixel)	
Live Video "Refresh"	Real-time	
Patented CAD Auto-Align™ Tool	Yes	
Patented CAD Auto-Pass/Fail™ Tool	Yes	

VisionGauge® 400 Series Specifications

Applicable across a wide range of industries!

3-Axis 3- Speed joystick to quickly move and align the overlay (X, Y movement, as well as rotation)	Included (industrial grade, with protective boot)
Ability to compare the CAD File beyond the optical field-of-view, across the entire stave travel	Yes
Real-time mathematical image processing, enhancement and correction	Yes
Image Display	High resolution single monitor
2nd Monitor	Available as option
Extended set of High Accuracy Measurement Tools	Yes
Sub-Pixel Accurate Edge Detection	Yes
Image Annotation Tools	Yes
Built-In SPC Capabilities, with automatic numerical charts and PASS/FAIL Graphs	Yes
Automatic Data export to Excel™	Yes
Automatic Data export to other applications	Yes (through Windows™ DDE and other mechanisms)
Built-in Dynamic Data Exchange (DDE) support	Yes
Easy File Data Import & Export	Yes
Barcode Reader	Available as an option (Honeywell Industrial Grade)
Automatic Operation & Program Launch using the system's barcode reader	Yes
Supervisor-level / Operator-level password protection	Yes
Operating System	Windows™ 7
Built-in "F1 Help"	Yes
Power Requirements	110V, 15Amp (also available in 220V configuration)
Operating Temperature	10 °C - 30 °C
Clear and easy-to-use documentation (both printed and electronic pdf format)	Yes
Support (by phone, fax and email)	Included for a full year
Free software updates	Included for a full year
Warranty	1 year (complete)

Methods

VisionGauge

VisionGauge® 300 Series

The VisionGauge® 300 Series Digital Optical Comparator is is extremely fast, easy-to-use, and ideal for smaller parts.

The 300 Series VisionGauge® Digital Optical Comparators are extremely cost effective Field-of-View Systems that are ideal for smaller parts.

They have an extended depth-of-field for tall parts and a long working distance that provides ample clearance and room to work between the part and the lens. They produce a stunning super-high-resolution image to carry out fine, detailed inspections.

Three different types of LED illumination are standard: collimated back, front off-axis (i.e. "dark field") and front on-axis (i.e. "bright field"). This allows the system to produce crisp, sharp edges and perform beautifully even when working with hard-to-image materials (for example: shiny, reflective or even translucent surfaces) and difficult geometries (such as deep holes).

VisionGauge® Digital Optical Comparators are complete, ready-to-run Windows-based solutions. They are delivered network-ready and include on-site installation, NIST-traceable calibration and training.

The 300 Series Field-of-View Systems are desktop instruments that have all of the functionality of the 500 Series VisionGauge® Digital Optical Comparators, with the sole exception that they are limited to smaller parts.

PASS

PASS

Methods
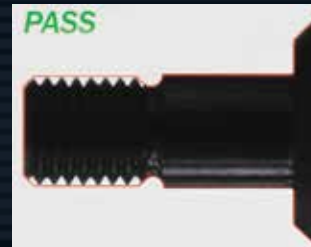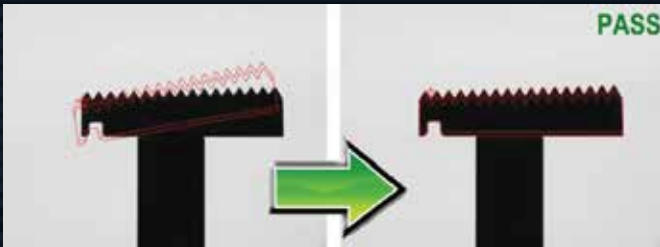
- Automatically compare parts to their CAD data with our patented CAD Auto-Align™ and patented CAD Auto Pass/Fail™ tools, in seconds

- Instantly computes and displays deviations-from-nominal and   out-of-tolerance areas

- No operator-to-operator variation
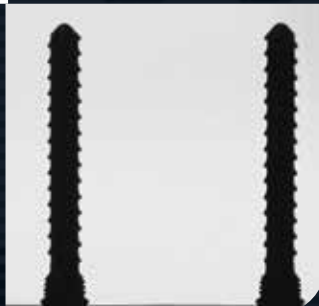
- Needs no overlays, templates or Mylars™

Easy-to-use reverse engineering tools to create a CAD file from a part
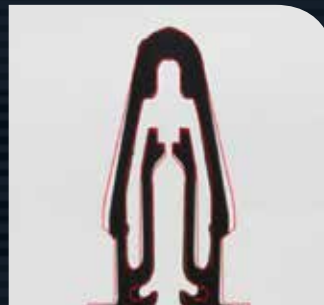
Quickly and easily check flexible and other hard-to-inspect parts against their CAD data

The proprietary system can check multiple screws completely auto-matically, regardless of their orientation!

Full automated measurement capability. Accurate to +/- 0.0001" (2.5 µ)

0.5433"

The best, highest resolution, sharpest image available!

Perfect for both the shop floor and the quality control lab!

- Intuitive software interface

- Innovative patent pending technology

- Joystick & bar code reader driven

- Automatic image & data collection

- Built-in SPC capability

- All-LED computer-controlled multi- illumination modules (back, front square- on and front oblique) are standard!

- High-resolution precision optics

- No moving parts

- No consumable parts

- Convenient desktop configuration

- Automatically collect measurements, statistics, images and other data for complete device history information

300 Series Specifications

	VG300DOC-30V-40X	VG300DOC-30V-20X	VG300DOC-30V-10X
Maximum part size (i.e. field-of-view dimensions)	0.85" (horizontal) x 0.60" (vertical) (i.e. 1.0" diagonal)	1.7" (horizontal) x 1.2" (vertical) (i.e. 2.0" diagonal)	3.1" (horizontal) x 2.3" (vertical) (i.e. 3.9" diagonal)
Maximum part height	0.2"	0.8"	3.0"
Vertical clearance (between the working surface and the lens)	4.1"	6.5"	8.9"
Equivalent optical magnification (approx.)	40X	20X	10X
"Desktop" configuration	Yes		
Image viewing area	33.5" wide x 25.75" high (=42" diagonal)		
Software interface	Intuitive, Windows-based graphical user interface (i.e. "point & click")		
Part fixturing configuration (if desired)	Tapped hole pattern on main working surface surface (#10-24)		
Camera	High-resolution, digital (9 MegaPixel)		
Illumination	• LED-based (for very stable illumination conditions, with a very long life) • Programmable and computer-controlled (for repeatable illumination conditions) • Includes 3 different illumination modules: collimated transmitted (i.e. back), on-axis reflected (i.e. front) and oblique reflected (i.e. front) illumination modules are standard		
Lens	Very low distortion telecentric, long working distance & extended depth-of-field		
Real-time mathematical image processing, enhancement & correction	Yes		
Patented CAD Auto-Align™ tool	Yes: automatically align the CAD data to the part along an arbitrary number of user-specified datums		
Patented CAD Auto Pass/Fail™ tool	Yes, with user-specified bi-directional tolerances		
Extended set of high-accuracy measurement tools	Yes, with sub-pixel-accurate edge detection		
Image annotation tools	Yes		
Automatic electronic documentation	Yes		
Built-in SPC capabilities, with automatic numerical charts & PASS / FAIL graphs, etc...	Yes		
Automatic data export to Excel TM and other applications	Yes		
Quick CAD data and settings changeover & recall	Yes ("1-button recall")		
Supervisor & Operator password protection	Yes		
Supervisor & Operator password protection	Windows™ 7		
Built-in "F1 Help"	Yes		
Power requirements (North America)	110V, 15 Amp (single cord)		
Operating temperature	10 °C - 30 °C		
Support (by phone, fax & email)	Included for a full year		
Free software updates	Included for a full year		
Warranty	1 year (complete)		

Note: specifications subject to change without notice.

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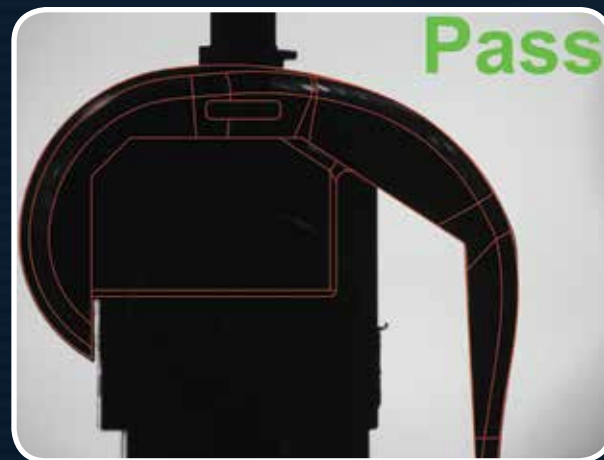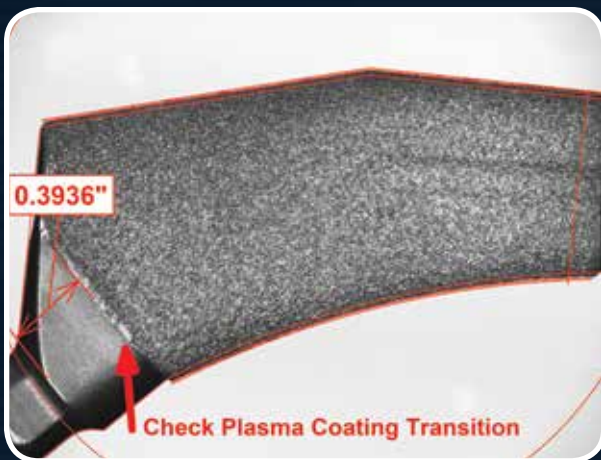
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