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

VisionGauge® Digital Optical Comparator 400 Series
Compact Desktop System with Manual X, Y, Z Stage

- **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**

Vertical configuration

The 400 Series VisionGauge® Digital Optical Comparator is a state-of-the-art inspection and measurement system. It's a compact desktop system that still 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.


Horizontal configuration

VisionGauge® Digital Optical Comparator 400 Series - Principal Specifications

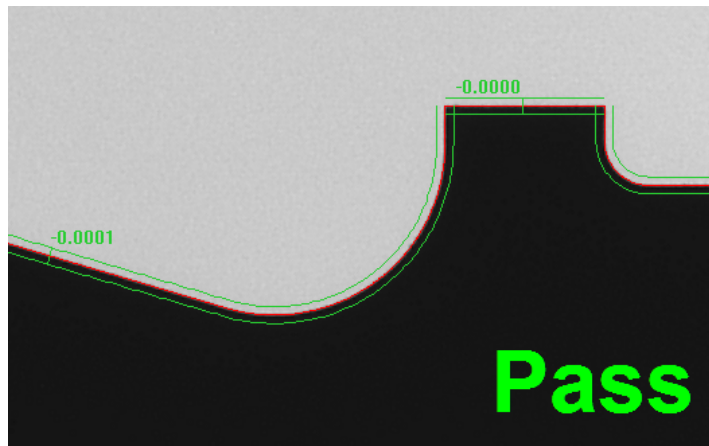| Model #	VG400DOC-30H-20X	VG400DOC-30V-20X
Machine Configuration	Compact Desktop Unit	
Optical Axis	Horizontal	Vertical
Number of axes	3 (X, Y & Z)	
Axes Movements	All 3 axes (X, Y & Z) have high-accuracy preloaded crossed-roller bearings The axes are all manually operated	
Closed-loop encoder feedback	X and Y axes have 0.25µm resolution closed-loop encoder feedback. (0.25µm resolution Z axis encoder available as an option)	
LASER module (for Z-axis measurement)	Available as an option	
Standard travels — X Axis:	12" (300 mm)	12" (300 mm)
Standard travels — Y Axis:	6" (150 mm)	12" (300 mm)
Standard travels — Z Axis:	4" (100 mm)	4" (100 mm)
Part fixturing configuration	Dual standard dovetail grooves	Threaded mounting hole pattern
Optical magnification	20X (equivalent)	
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) diag.	
Optical system accuracy	<= +/- 0.00015" (4 µm)	
Illumination	All Illumination is fully computer-controlled & programmable and uses our ultra-bright, all-LED modules (for stable and repeatable illumination conditions & 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 & click") Advanced software corrections with full mapping across the 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)	
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	
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 stage travel	Yes	
Real-time mathematical image processing, enhancement and correction	Yes	
Image display	High-resolution single monitor	
2nd monitor	Available as an 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 & 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, 15 Amp (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 & 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.

PASS

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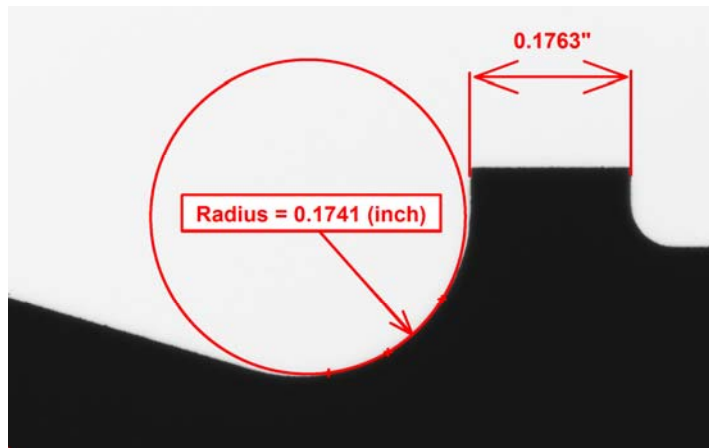accurate and operator-independent results

-0.0000

-0.0001

Pass

The perfect solution for checking profile tolerances!
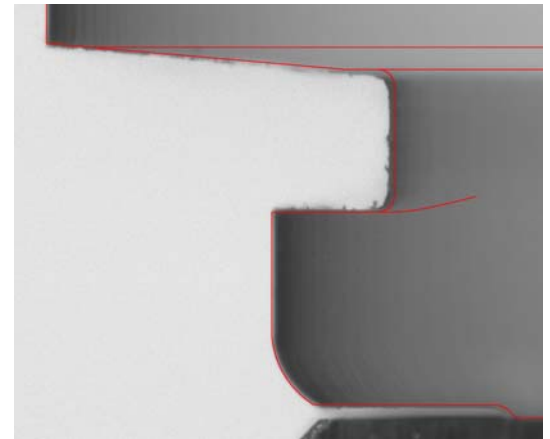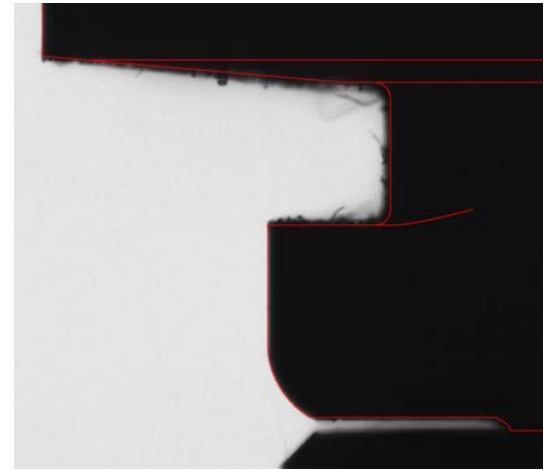
Both front- and back-illumination
are available

Works very well on different surfaces and materials,
including metals & plastics

0.1763"

Radius = 0.1741 (inch)

The system has a broad set of high-accuracy measurement tools
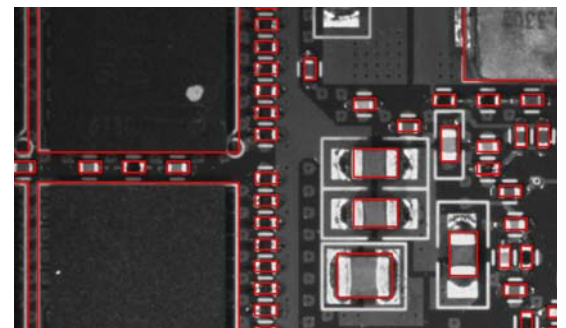
Applicable across a wide range of industries!

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