

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

And while traditional optical comparators require an overlay (i.e. a template or transparency), with the VisionGauge® Digital Optical Comparator everything is done electronically so that there are no more templates! You will never again have to buy, print, calibrate, verify, identify, trace, manage, and physically store & retrieve another template. No more template-related costs, delays or errors. The VisionGauge® Digital Optical Comparator works directly with your CAD data.

These very easy-to-use systems include a very high-resolution Megapixel digital camera and a wide field-of-view telecentric lens that produce a very high-resolution, undistorted digital image with a very large depth of field. With the VisionGauge® Digital Optical Comparator the edge profiles are extremely crisp and the image of the part has a very high contrast so that – unlike traditional optical comparators - there is no problem viewing it in full daylight. And the image is much more accurate than that of a traditional optical comparator (i.e. no optical distortion!).

VisionGauge® Digital Optical Comparators also include our powerful and easy-to-use VisionGauge® OnLine software. VisionGauge® OnLine projects the very high resolution video images from the camera, along with the part's CAD overlay, in real-time, on a large quad-monitor display. This allows you to view the system's crisp & clear images in full resolution and to make out very fine details.



The VisionGauge® OnLine software automatically and accurately scales the CAD drawing to match the system's optical magnification, in real-time. No operator intervention is required.

The operator can use an external 3-speed joystick to align the CAD drawing with the part (for both rotation and X,Y position). This is a very fast and intuitive way to align the part and its CAD drawing. An on-screen joystick is also available. With our VisionGauge® Digital Optical Comparators you can see, right away, if a part matches its CAD definition. There is no setup or calibration time when you want to inspect and measure a new part.

Our VisionGauge® Digital Optical Comparators also provide all of the benefits of having a very high-resolution digital image of the part, with its superimposed CAD drawing. You can save the image to disk, carry out fast and very accurate measurements (with sub-pixel edge detection), annotate the image, email it to a customer or a supplier, database the images and the measurements along with other data, etc... Our VisionGauge® Digital Optical Comparators allow you to collect [full device history!](#)

Compared with traditional optical comparators, our VisionGauge® Digital Optical Comparators are competitively priced and offer numerous benefits. Our VisionGauge® Digital Optical Comparators:

- Produce a very high contrast image so that there is no problem viewing it in full daylight
- Are much more accurate
- Allow the user to be much more productive and get more work done with a single machine
- Work directly with the CAD data so that no overlays / templates / Mylars™ are required
- Can be used to collect images (either with or without the CAD data overlay and with or without annotations), measurements and data .
- Can also carry out fully automated measurements (like a video CMM)
- Have a smaller footprint and use less floor space
- Can be moved much more easily and without requiring re-calibration (i.e. "rolling cart" configuration is standard)
- Have a much greater optical depth of field, i.e. "everything is in focus all at once"
- Have a longer optical working distance (i.e. more clearance between the part and the lens)
- Allow you to compare a part to its CAD data beyond the optical field-of-view! (because the CAD data tracks the part and follows the stage motion)
- Have LED illumination for very stable illumination over a 10 year life. No more bulbs to change!

Thanks to their advanced patent pending technology, VisionGauge® Digital Optical Comparators are much faster, more accurate and easier to use than traditional optical comparators.

And through their barcode reader and joystick interface, these systems are extremely intuitive and require only minimal operator training. The system can be setup so that when the operator scans the part's barcode, the correct CAD drawing is automatically read-in. The operator then uses the joystick to align the drawing with the part and presses either the PASS or FAIL button. The system can also be setup to allow on-screen measurements, to collect measurement statistics and to save the image of the part with its superimposed CAD drawing, etc, etc, etc...

And because they are fully digital, these systems allow you to collect complete digital records of the inspection and measurement operations.

With a VisionGauge® Digital Optical Comparator it is also possible to have many windows open simultaneous (for example: a window with inspection criteria, another with work-order documents, etc...).

VisionGauge® Digital Optical Comparators are very robust. They are perfect for both the shop floor and the Quality Control lab.



VisionGauge® Digital Optical Comparators are complete, ready-to-run Windows-based solutions and are delivered network-ready.

They are available in both horizontal and vertical configurations, with and without motorized stages. Configurations with motorized stages have power focus and industry standard dovetail mounting grooves for easy part fixturing.

VisionGauge® Digital Optical Comparators are available with transmitted (i.e. back) and / or reflected (i.e. front) illumination. All illumination is LED-based for very stable and repeatable illumination conditions over a very long life (no more bulbs to replace!). Furthermore, the illumination is programmable and computer-controlled. Everything is done through a single simple and intuitive software interface!

VisionGauge® Digital Optical Comparators are available in both desktop and "rolling cart" configurations.

They are available in industry standard 5X, 10X, 20X, 50X and 100X optical configurations. Many other configurations, including multi-magnification configurations, are also available. We can configure a system to meet your specific requirements!

An optional high-resolution LASER module is also available for depth & height measurements.

VisionGauge® Digital Optical Comparators are competitively priced and have a very simple yearly calibration procedure that you can carry out yourself.

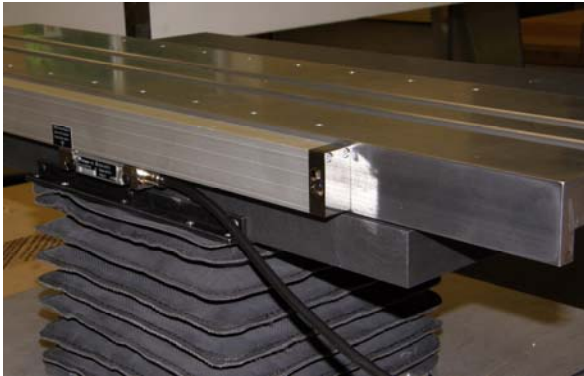
Please contact us for more information.



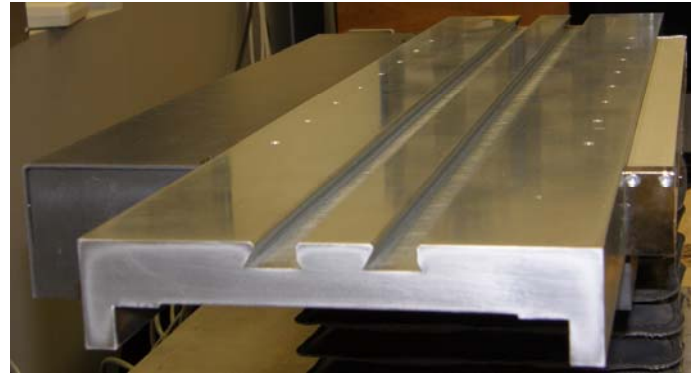
What is the VisionGauge® Digital Optical Comparator?

It is:

1. **A digital optical comparator** (also called "profile projector" or "contour projector"), because it allows you to compare a part to its CAD drawing. And it is fully digital, so that it doesn't use any templates or overlays. It works directly with your CAD data!
2. **A video coordinate measurement machine**, because it allows you to carry out high accuracy measurements, in both manual and fully automated modes. It includes a wide range of powerful edge detection based measurement tools that produce sub-pixel accurate measurements
3. **A machine vision system**, because it includes an extensive set of machine vision tools to carry out pattern matching, color verification, defect detection, etc...
4. **A very high resolution imaging system** that allows you to carry out detailed inspection of subjective properties (for example: verify surface finish), collect very high resolution digital images, annotate, save and email these digital images, etc...



Standard 12" travel X-axis stage with 0.5 micron resolution encoder and protective bellows around the 6" travel Y-axis column. All 3 axes (X, Y and Z) have high-accuracy crossed-roller movements for optimal linearity and positional repeatability and high load carrying capability.



Hard chrome plated X-axis stage, made of hardened tooling steel and with dual standard dovetail grooves for easy part fixturing.



Image of a part using traditional transmitted (i.e. back) illumination. This produces the maximum edge / profile sharpness.

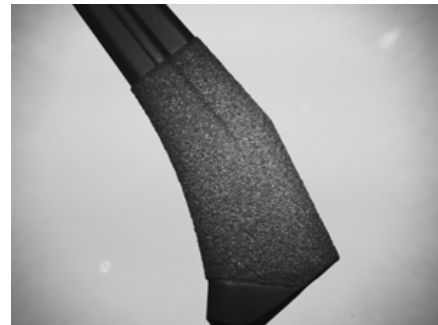


Image of the same part using both transmitted (i.e. back) and reflected (i.e. front) illumination. In this case we can also inspect the surface of the part.

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