

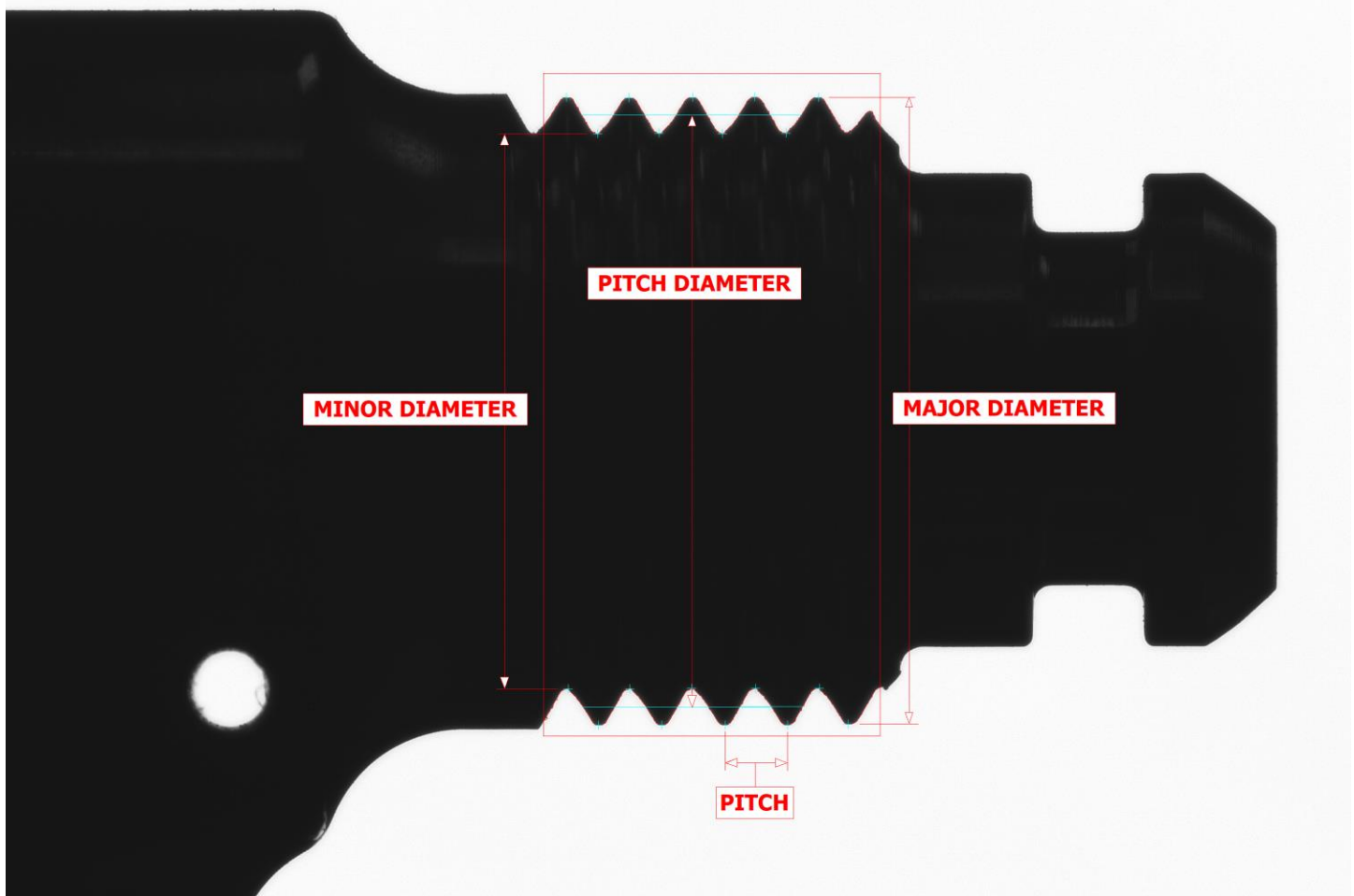
The Fastest, Easiest, Most Accurate Way to Compare a Part to a CAD File™

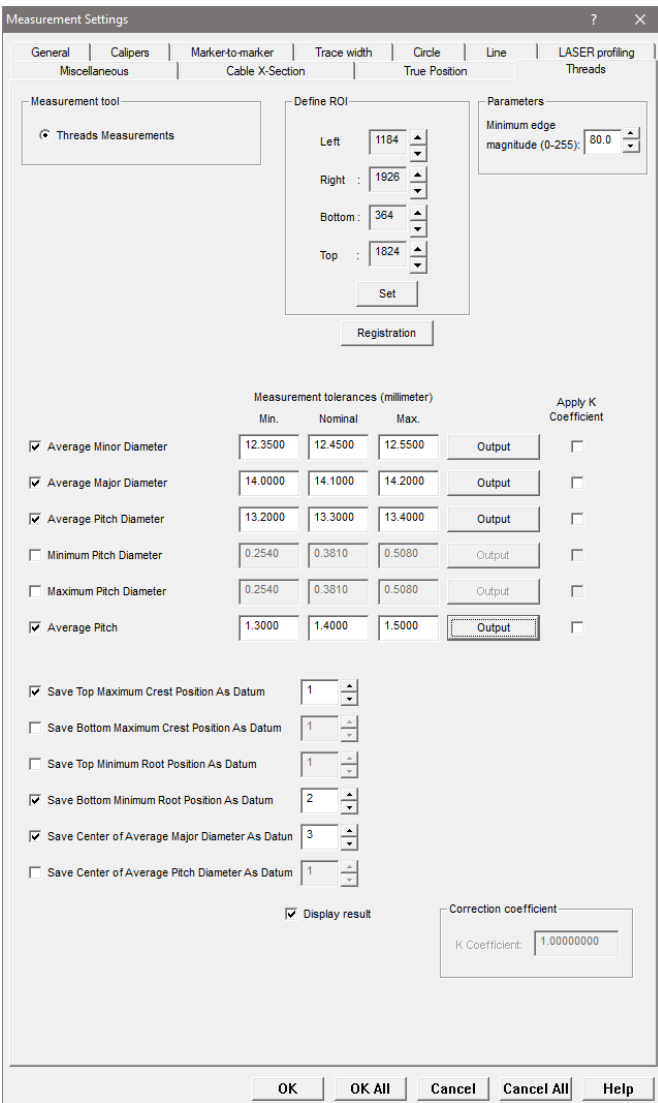
NEW THREAD MEASUREMENT TOOL – FAST, EASY, AND ACCURATE!

The mechanical advantage of threads is seen every day in millions of applications. The most evident application is how threads are used as a primary fastening solution (i.e., screws, bolts, nuts, etc.). However, threads are not limited to simply fasteners, as they exist in far more challenging applications.

Threads are so widely used, and it is clear they have become the most vital fastener in most industrial equipment. As threaded fasteners can undergo such high amounts of stress, engineers rely heavily on these simple helical grooves, where in certain applications failure can lead to disaster. For example, pipe fittings in the oil and gas industry require a precise fit to ensure the integrity of these connections, as leaks in these cases can cause environmental contamination and poses potential health and safety risks. As threads become even more complex, they concurrently become even more challenging to machine as tighter tolerances are continuously demanded by design engineers. Manufacturers are thus challenged with maintaining tighter tolerances all the while keeping up with throughput, hence thread inspection is becoming ever more important.

The VisionGauge® Digital Optical Comparator's new [Thread inspection tools](#) are designed to meet strict quality inspection requirements with automatic measurements on various types of parts with threads. Measurement results are produced extremely quickly and to very high accuracy. This new inspection tool can be included as part of an automated program or as a manual measurement by an operator. The tool is reliable and robust, without requiring the use of mylars or overlays to complete measurements!





Completing thread measurements is as simple as selecting which measurements need to be obtained, then drawing a region of interest on the image that includes the top and bottom threads. Easily customize measurement tolerances for each dimension to obtain Pass/Fail values, and output complete results to various channels (collected in Data Groups, sent to Excel, SPC software, text file, etc.).

Supports various Thread feature measurements:

- Average minor diameter
- Average major diameter
- Average pitch diameter
- Minimum pitch diameter
- Maximum pitch diameter
- Average pitch

Specific points calculated from the measurements can also be saved as Datums for re-use in further inspections:

- Top/Bottom maximum crest/root positions
- Center of average major/pitch diameter

Additionally, with our supplementary rotary stage, thread runout measurements can be obtained easily using the saved centers as datums.

- Replaces thread ring gages, three-wire method, traditional optical comparators, and more...

- Fast, Easy, and Accurate!

Simple to setup and operate! Report on multiple thread characteristics and features in a single inspection step!



VisionGauge® Digital Optical Comparator 500 Series - Principal Specifications

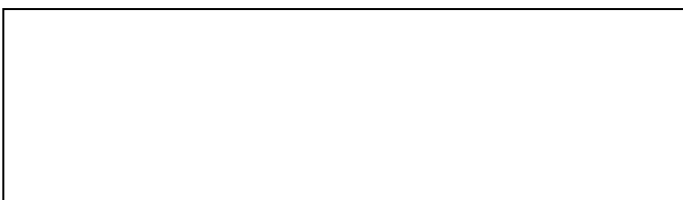
Available configurations	Both horizontal and vertical
Standard optical magnifications (equivalent to traditional comparators)	5X, 10X, 20X, 50X and 100X ¹
Image viewing area (diagonal)	38"
Motorized X, Y & Z axes	Yes
X, Y & Z stage movement	High-accuracy crossed-roller movement
Auto-Focus	Yes
X & Y axis encoder resolution	0.25 micron ²
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
Illumination	<ul style="list-style-type: none"> • LED-based (for very stable illumination conditions, with a very long life) • Programmable and computer-controlled (for repeatable illumination conditions) • Both reflected (i.e. front) and transmitted (i.e. back) illumination modules are available
Lens	Very low distortion telecentric, with long working distance and extended depth-of-field
Real-time mathematical image processing, enhancement and correction	Yes
Multi-monitor display	Yes
Single Monitor size (Diagonal)	43"
Auto Pass / Fail (to determine if the part matches the CAD data)	Yes, with user-selectable bi-directional tolerances
CAD Auto-Align	Yes: automatically align the CAD data to the part (either XY or XY & Rotation alignment) along an arbitrary 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 joystick	Yes
Joysticks	3-axis, 3-speed industrial grade
Image annotation tools	Yes
Quickly and easily save images of parts, either with or without the CAD overlay, and either with or without measurements as well as time & date information	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 or other mechanisms)
Built-in Dynamic Data Exchange (DDE) support	Yes
Easy file data import & export	Yes
Supervisor-level / operator-level password protection	Yes
Operating System	Windows™ 10/11 ³
Built-in "F1 Help"	Yes
Fan & filter unit on main cabinet	Yes (to create a positive pressure and keep dust out)
Power requirements	Either 110V or 220V, 15 Amp (single cord)
CE Markings	Available upon request
Operating temperature	10 °C - 35 °C
Clear and easy-to-use documentation (both printed and electronic "pdf" format)	Yes
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 encoder resolutions available on request.

³ Other operating systems available on request.

Distributed By:



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