

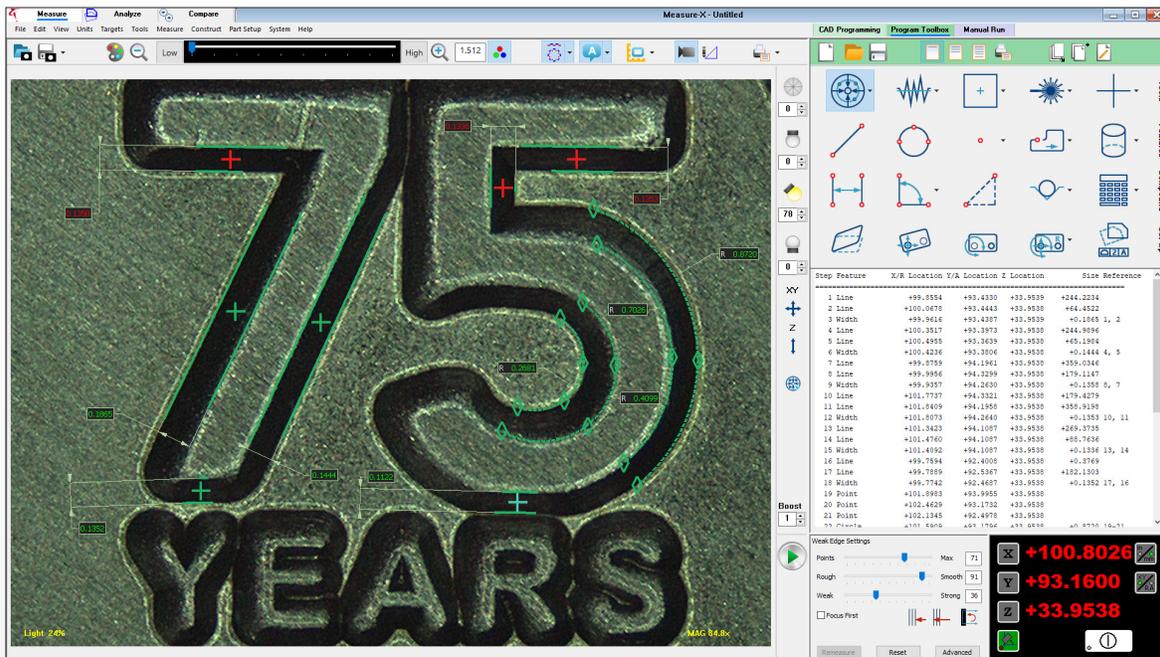


# Measure-X

Simple Powerful Metrology Software



# Measure-X – The Easy Way to High-Powered Measurements



From creating part measurement routines to operating an OGP® system in a production work environment, **Measure-X®** metrology software offers power without intimidation. Measure-X features a full set of image processing and autofocus tools, geometric functions, ANSI/ISO tolerances, easy editing, and contour fitting analysis. Measure-X is the ideal choice for general-purpose video and multisensor metrology.

## Easy to Use

The screen layout of Measure-X is simple to learn and use. Measure and see results directly in the real-time video display window. The Program Toolbox is logically designed with large easily identifiable icons for direct access to measurement, construction, and analysis functions.

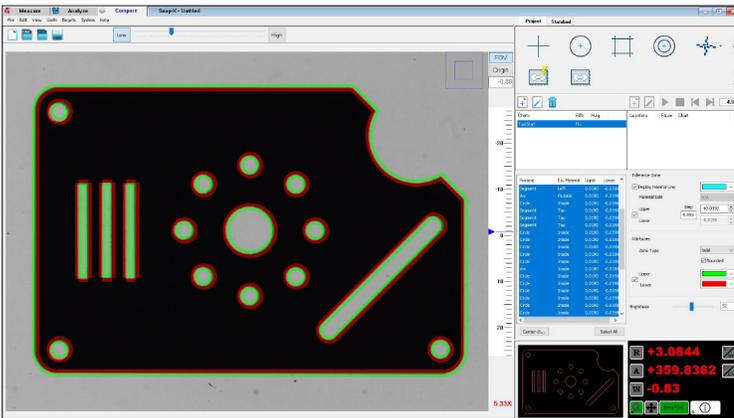
## Walk-Up and Measure

Position, focus, and measure a part feature in the video window. Set axis alignments and define datums. Create constructions to define relationships between discrete part features. Each action becomes a step in a part routine you can save to repeat later automatically.

## Program from CAD

Import DXF and other popular 2D CAD file formats for automatic generation of measurement routines. Simply load the CAD file and select features to be measured. Measure-X does the programming for you!

# Measure-X Functions

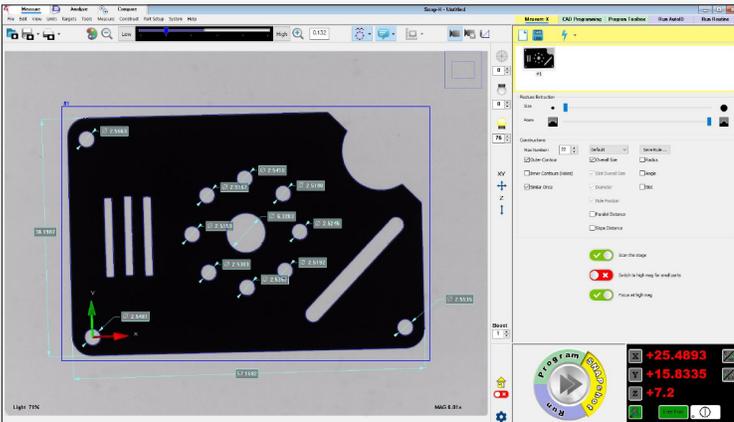


## Compare

The most basic measurement. No variable data, a widely accepted method of quickly assessing part acceptability.

The Compare Tab is selected, a DXF file is imported, and the operator is able to fit the part image to the CAD overlay on the monitor.

This allows the user the ability to use effective surface illumination, easy to maintain CAD overlays, and the option to change mag with the same overlay.



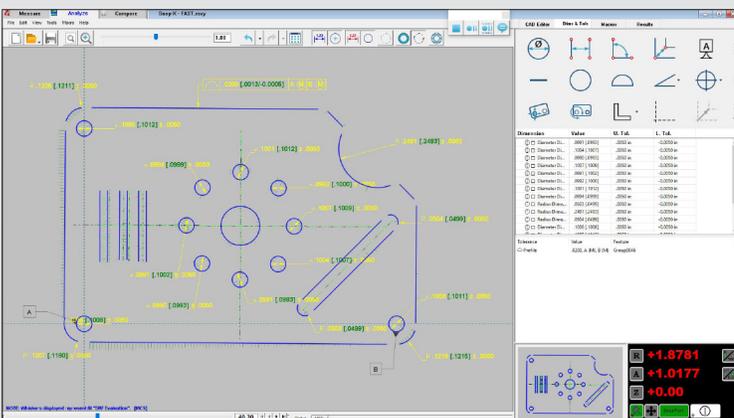
## Measure

With the Measure Tab selected, various measurement tasks can be performed, depending on the mode selected:

**Snapshot™ Mode:** Place the part on the stage, press Go. The image is scanned and Feature Extracts all discernible features. Images may be viewed with no further action, or the features can be turned into measured steps for a program.

**Program Mode:** Measurements can be taken, and programs can be created. An operator can create a program from extracted features of SnapShot Mode by making the measurements as usual with a video measurement system, or from a CAD file of the part.

**Run Mode:** A pre-set selection of a desired routines is available for the operator to select.



## Analyze

Users have the ability to address more complex GD&T requirements such as profile, true position of features when datum features of size allow mobility on the feature and the datums.

The capabilities of Analyze provide both graphical, color coded whiskers of deviation, and GD&T callouts on the part CAD.

Analyze works seamlessly with Measure functions.

# Multisensor Programming

Additional sensors provide the flexibility to make more measurements within a single routine. Depending upon the characteristic needed, an additional sensor may provide shorter measurement times, or measure a feature that cannot be imaged optically.

Measure-X supports the following sensors on SmartScope® Metrology Systems:

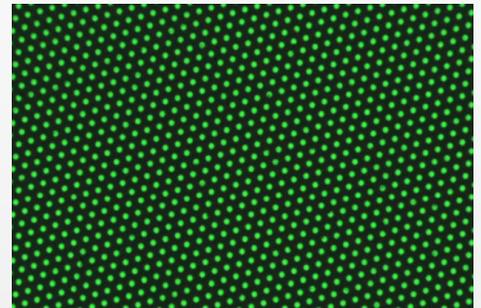
## Video Sensors

Fast, non-contact video measurement provides high accuracy and repeatability for defined dimensions. Three standard light sources – backlight, coaxial through-the-lens surface light, and the programmable SmartRing™ light ensure that optimal lighting is used for each measurement. Video autofocus provides for accurate Z-height measurements and ensures the best focus when taking edge measurements with a variety of tools offered by Measure-X including the versatile FeatureFinder tool.



## Grid Projector

Systems are designed so the surface of the part can be in focus when the projected grid pattern is in focus. Mirror-polished and transparent parts have no surface structure to bring into focus. Grid Projector projects a contrast pattern on reflective surfaces for easy, accurate focus – even on mirror polished metal.



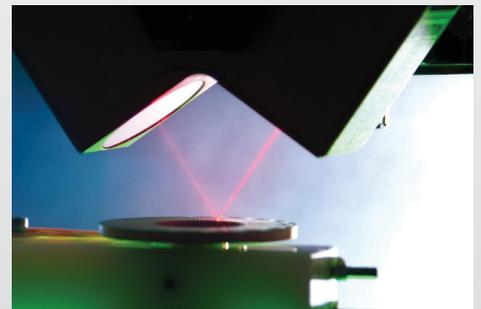
## Touch Probe (TP20/TP200)

Single point touch trigger probing extends the measurement versatility of the SmartScope system. A touch trigger probe measures features are inaccessible to optics. To increase versatility of a measurement system, add a 2, 4, or 6 position change rack to hold the most used probes.



## Triangulation Laser

Laser sensors excel at fast and accurate Z-axis point acquisition. Use a laser for height, depth, and planar measurements – or for surface profiling on complex curves and surfaces. Triangulation lasers are either through-the-lens, or mounted in mechanical deployment mechanisms so they can be retracted when not in use.



## Rotary Indexers

Symmetric parts and parts with important features on many sides can be fully characterized with a rotary indexer. Available with different capacities and resolutions, rotaries allow complete measurement in a single setup.



# Large Field-of-View Tools



On **SNAP™** Large Field-of-View Video Measurement Systems, a variety of unique tools exist that take advantage of the large FOV to quickly obtain measurements. These capabilities make it easier for the operator by simplifying measurement tasks to instantly provide results.

## SnapShot™

Use Feature Extraction to automatically identify, measure, and construct features on any unknown part that is visible in the FOV. No programming is required! Simply place one or more unknown parts on the stage and when ready press the GO button. After SNAP measures the part, you can further adjust the extracted features by turning on and off dimensions to change the generated constructions in the image window. At the end, either output these results or let Measure-X automatically generate measurement steps and create a part routine.

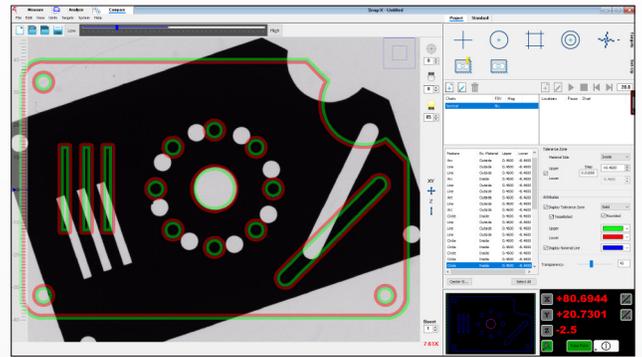
## AutoID

Use AutoID to measure parts quickly with the push of a button. Simply place one or more registered parts on the stage and press the GO button to have SNAP automatically find and then run the part routines associated with those parts. SNAP analyzes the image of each part on the stage in order to identify parts by comparing their outlines to the thumbnail images of registered parts. If registered part routines are found for the sample part(s), the default part routine for each part is automatically executed.



# Optical Comparator Video Measurement

Measure-X is the perfect companion for both traditional and video comparators. The software provides all the capabilities of a fully automated measurement system, while offering the simplicity of basic walk-up measurements and overlay comparison. Virtual chart gages display standard charts, as well as custom overlay charts from DXF CAD files. Virtual charts eliminate the need to store and maintain physical overlay templates.



**VidiProbe** transforms the traditional optical comparator into a fully automatic video inspection system using Measure-X software. An internal video camera is positioned to view the image formed by the comparator optics, allowing the image to be digitally analyzed and measured instantly using automatic edge detection.



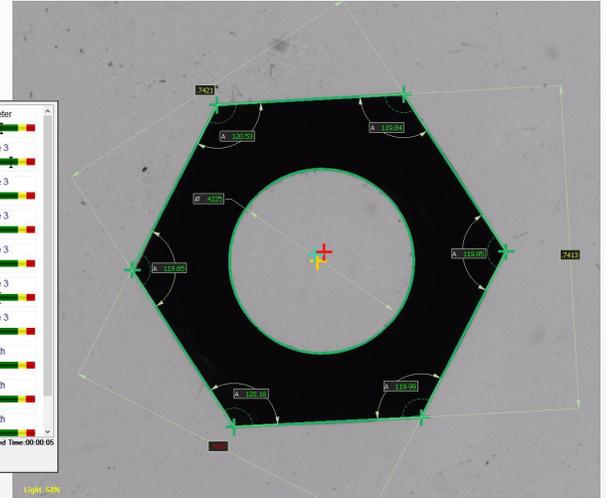
# Results Matter

**Measure-X** excels at providing quick and intuitive access to results when they matter the most.

In **Measure** mode, interactive labels and flyouts are shown directly in the live video image window. This video image can be output as part of a PDF file with other measurement info. When running a routine, results can be setup to automatically output on the screen in the Print Data Output window with color coded graphics. These results can also be output in different file formats for further evaluation.

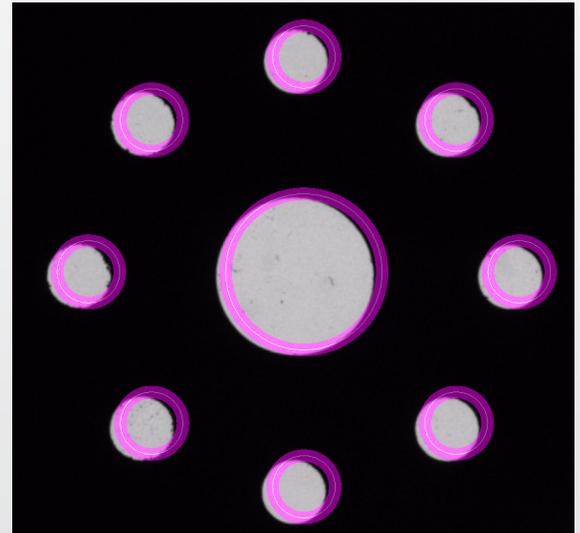
#7	Circle	Diameter	+0.4225
#8	Intersection	Angle 3	+120.5264
#9	Intersection	Angle 3	+119.8353
#10	Intersection	Angle 3	+119.8478
#11	Intersection	Angle 3	+119.9681
#12	Intersection	Angle 3	+120.1570
#13	Intersection	Angle 3	+119.6455
#14	Width	Width	+0.7413
#15	Width	Width	+0.7437
#16	Width	Width	+0.7421

Failed (1 steps)



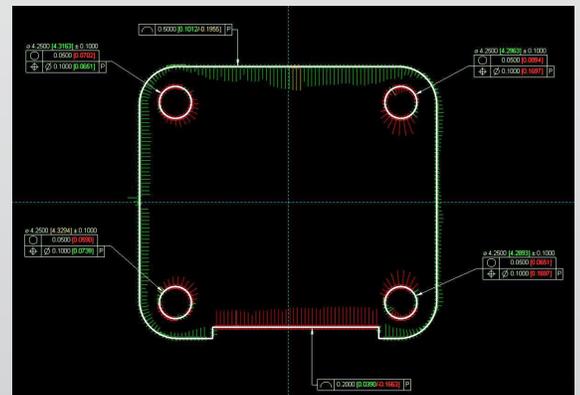
In **Compare** mode, operators can visually inspect results relative to overlay charts for direct comparison of the actual part to the nominal dimensions using a live video image. This “virtual chart gage” is as large as the part, and can extend beyond the viewing area, independent of magnification.

Compare displays multiple color-coded tolerance zones that are defined by the CAD file to show whether the part is in or out of tolerance. You can customize the size, color, and type of tolerance zones, with global settings and editing capabilities.



In **Analyze** mode, GD&T results can be viewed to easily visualize the results based on fitting of data acquired in Measure mode. Feature control frame flyouts, along with color-coded whiskers and tolerance bands, are shown to provide a graphical representation of the analysis. The direction of the whiskers allows operators to easily determine whether there is excess or lack of material.

DXF files can also be generated based on measured point of feature data.



# Measure-X Supported OGP Systems



## Multisensor Measurement Systems

**SmartScope** systems combine optical, laser and tactile sensors, letting you measure parts more completely, with lower uncertainty and in less time. Designed as multisensor systems from the ground up, all sensors are integrated seamlessly with the system mechanics and software, simultaneously compensated and available for use at any step in the measurement routine.

SmartScope systems from OGP utilize multiple capabilities, usually found in multiple specialized systems, within a single system. This added versatility translates into lower capital expense and lower operating costs for your benefit.

**SmartScope E-Series** systems are fully automatic systems that set the standard for 3-axis video measurement performance. The fixed lens IntelliCentric optical system and digital zoom provide a high resolution image engineered for video edge detection metrology.

**SmartScope Flash™** and **ZIP®** systems feature motorized zoom optical systems with flexible optical configurations for a wide variety of applications.

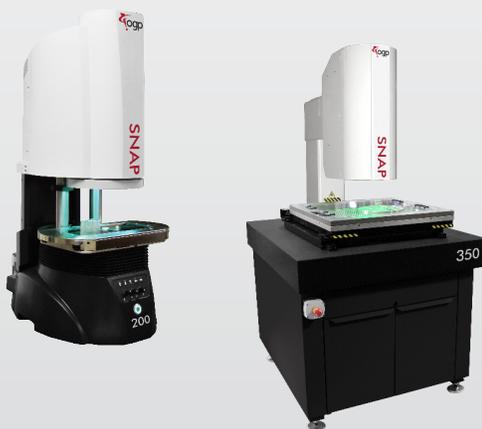


## Optical Comparators

Optical Comparators from OGP combine cutting-edge optics, lighting, and automation technologies for enhanced productivity and profitability.

**Contour Projectors®** – Optical comparators are a mainstay of shop-floor measurement. Their tough construction and big viewing screen make measurements fast and easy. Benchtop and floor model optical comparators from OGP offer the industry's best value and performance for non-contact measurement.

The **c-vision Video Contour Projectors** combine the speed and accuracy of a video measurement system with the rugged capacity of an optical comparator to create the world's easiest-to-use shopfloor measuring tools.



## Large FOV Video Measuring Systems

**SNAP™** Large FOV Video Measurement Systems are user-friendly measuring systems that integrate perfectly from the shopfloor, to the lab, or as part of an automated work cell. Rugged construction and an open work envelope make SNAP easy to implement in virtually any manufacturing setting.

All SNAP systems feature large field of view optics, fully telecentric lens, high resolution cameras, and lighting custom-designed to optimize the image, creating a complete optical system. Camera, optics, lighting, and platform are matched and tuned for optimum performance that excels at measuring small parts with fine features. Measure-X tools allow SNAP to accurately identify, orient, and measure parts without the need for complex fixturing.



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