

# MEASURE X

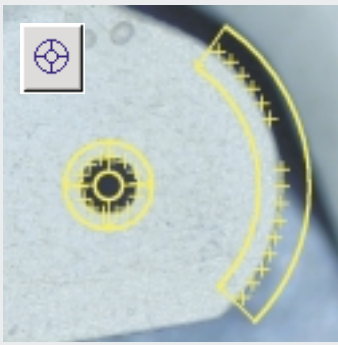


## Metrology Software

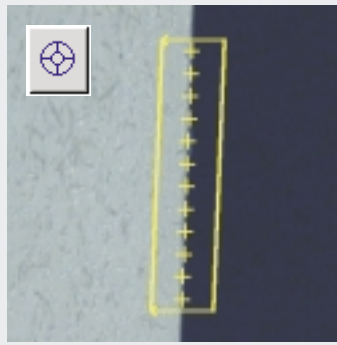
The easy way to  
high-powered  
measurements

Ease of use is the primary objective of Measure-X™ control, acquisition, and analysis software. Standard on OGP® SmartScope® Flash and Flare video measuring systems, and available as an option for other selected OGP video systems, this powerful 32-bit metrology software package includes these great features:

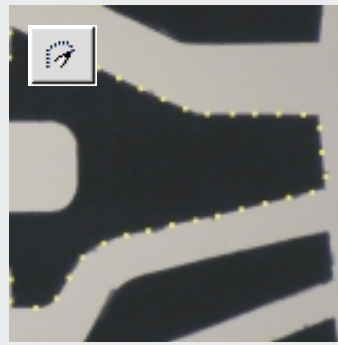
- Full field-of-view (FOV) image processing and weak edge analysis
- Built-in support for optional sensors, including touch probes and laser
- Real-time graphic display of measurements
- Icon toolbox for direct access to important measurement functions
- Color coded displays that show you instantly which measurements are in or out of specification
- Advanced analysis, including math operations, branch-on condition, and if-then-else statements
- Choice of data reduction methods, including best fit and min/max geometry
- Compatible with the following optional OGP software: SmartCAD™ for CAD compatibility; MeasureFit™ for composite form analysis; SmartReport® for custom report generation and export to spreadsheets or databases; QC-Cal™ for SPC analysis; and MeasureMenu™, custom user interface for measurement routines



Measure-X's **FeatureFinder™** knows what you want to measure. Move a circle or arc into the field of view, focus, then double click near the edge you're trying to measure. FeatureFinder automatically finds valid data points along that arc or circle.



**FeatureFinder** also makes quick work of measuring straight edges. Just double click near the edge to find angle, straightness, and midpoint location. You can easily increase the number of data points and search area with simple mouse-clicks.



Measure edge contours easily with the optional **Edge Trace** tool (available with MeasureFit™). Simply click on the start and end points — Measure-X quickly finds valid data points between those two points. And they don't even have to be within the same field of view — the stage will move as required.

Once you've acquired your data points, it's simple to measure features and fully construct a part model — all with simple mouse clicks!

## THE TOOLS YOU NEED

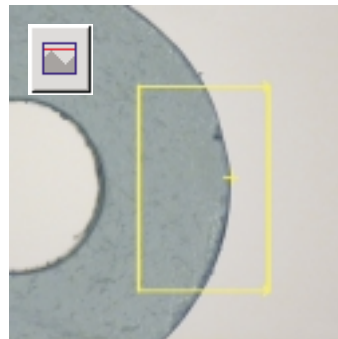
Precision video measurement requires the ability to accurately focus on edges and nail down their exact locations. Measure-X has all the tools you need to quickly and accurately acquire valid data points for important features. Once acquired, Measure-X processes point locations to yield the precise measurements you need.

Measure-X makes it simple to get the results you want without a big investment in training. You can set up measurements, process data, view results, and even calibrate the system with the intuitive mouse-driven point and click interface. Measurement routines can be saved and recalled at will. Set parameters once and measure an entire part run with a single mouse click.

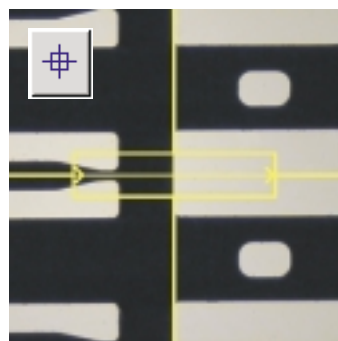
Measure-X includes an arsenal of productivity-enhancing tools. For example, the Autofocus tool brings a new level of sophistication to video measuring. While creating a measurement routine, you may optimize autofocus parameters such as scan depth and sampling intervals to match the unique requirements of the part.

Measure-X excels at distinguishing valid data from dirt and debris that might confuse other systems. OGP systems are recognized for their ability to ignore invalid data points and return a meaningful measurement, every time.

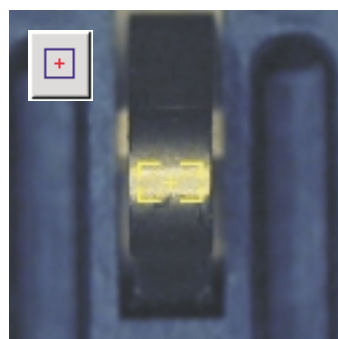
To further enhance its ease-of-use, Measure-X boasts extensive on-line Help. There is help for every aspect of the software — from setting datums to using tools from the tool box to instructions for using math functions. With on-line documentation from Measure-X, help is just a click away.



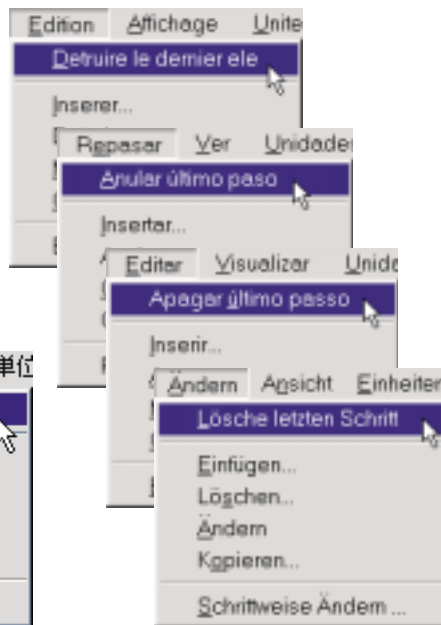
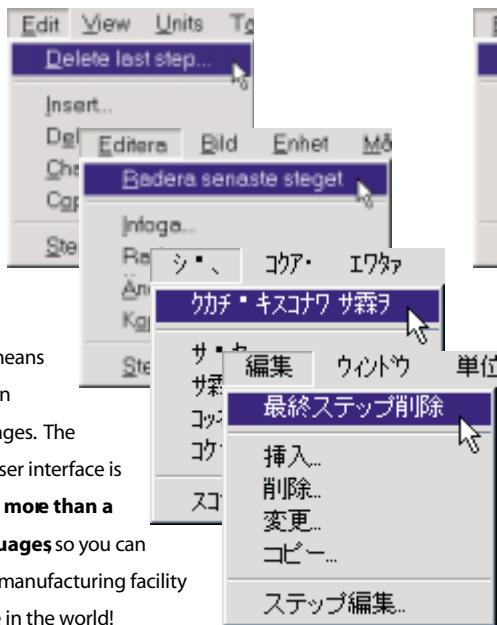
Measure-X includes a trio of **Weak Edge Point** tools that reliably and accurately find and measure extremely faint or indistinct edges. And Weak Edge tools make it easy to find localized minimum or maximum points.



The **Strong Edge** tool finds the highest contrast edge. Useful for measuring parts with large size tolerances, this tool uses conditions you set to directionally search within the field-of-view for an edge — or automatically drive the stage to find the edge outside the field-of-view.



Click the **Autofocus** tool, draw the cursor around the feature size you want in focus, then click the mouse. That's it. Measure-X's Autofocus tool automatically performs an optimized focus. The result is the fastest, most precise autofocus in the industry.



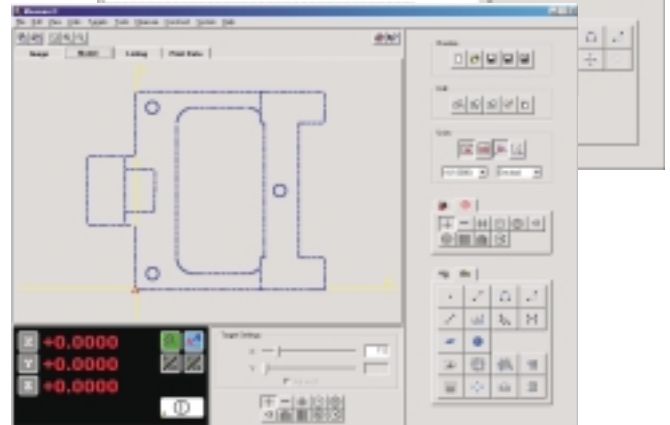
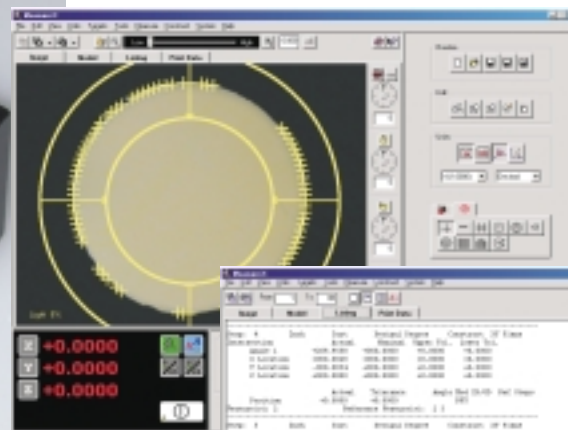
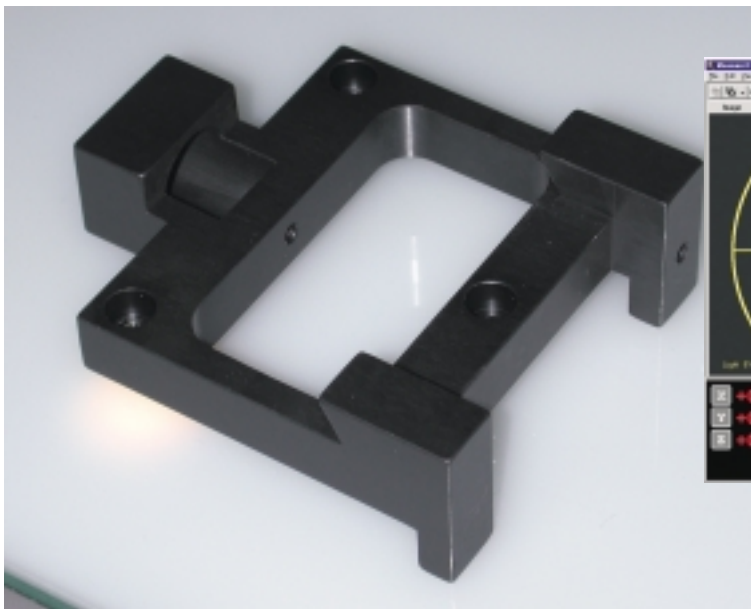
The Measure-X **Tool Box** lets you click on icons to perform nearly every function. Tool tip callouts appear as you point the cursor at each tool. Users can access the most useful tools from a single screen, without the complexity of nested menus.



Measure-X means ease-of-use in many languages. The Measure-X user interface is **available in more than a dozen languages** so you can use it in any manufacturing facility — anywhere in the world!

# THE MEASUREMENTS YOU WANT

## Industry Leading Image Processing



Use Measure-X to zoom in on a specific feature, image and measure it in the video window, and go on to other features to incrementally build a virtual model of the entire part. Measure directly in the model window, set axis alignments and define datums, create constructions to gather more measurements and define relationships between discrete part features. Quickly switch between the Image, Model, Listing, and Print Data tabs to find the information you need without searching or fumbling. Measure-X is an extremely flexible metrology tool that works the way you need it to work — quickly, easily, and accurately.

## Features

<b>Image Processing Tools</b>	<ul style="list-style-type: none"> <li>■ FeatureFinder – Double click image to automatically measure lines, arcs, circles</li> <li>■ Weak edge – Measure features based on image conditions</li> <li>■ Strong edge – Highest contrast or directional scan</li> <li>■ Edge trace – Automatically measure irregular contours (available with MeasureFit™ only)</li> </ul>	<b>CNC Control</b>	<ul style="list-style-type: none"> <li>■ XYZ positioning</li> <li>■ Magnification</li> <li>■ Illumination source and brightness</li> <li>■ Rotary indexing table (if equipped)</li> <li>■ Edge detection and image analysis</li> <li>■ Autofocus</li> </ul>
<b>Coordinate Systems</b>	<ul style="list-style-type: none"> <li>■ Cartesian (XYZ) and Polar (RAZ)</li> <li>■ Decimal/degrees or deg/min/sec</li> <li>■ Direct conversion of English and metric units</li> <li>■ Selectable numeric resolution</li> </ul>	<b>Data Output</b>	<ul style="list-style-type: none"> <li>■ Configurable hard copy report</li> <li>■ Default and custom report headers/comments</li> <li>■ Configurable data export</li> <li>■ Run time overrides</li> <li>■ Print graphics model</li> <li>■ Export to SmartCAD™, SmartFit™, MeasureFit™, MeasureMenu™, SmartReport®, QC-Calc™</li> <li>■ Geometric calculation</li> <li>■ Comparison to nominals and tolerances</li> <li>■ Digital I/O</li> </ul>
<b>Measurement Types</b>	<ul style="list-style-type: none"> <li>■ Coordinate point</li> <li>■ Line</li> <li>■ Radius and diameter</li> <li>■ Included angle and intersection point</li> <li>■ Width</li> <li>■ Distance: XYZ, polar, 3D, point-line or plane</li> <li>■ Spherical radius and diameter</li> <li>■ Plane</li> <li>■ Intersection(s) between lines and circles</li> <li>■ Gage ball</li> <li>■ Gage diameter</li> <li>■ Edge contour</li> </ul>	<b>Editing</b>	<ul style="list-style-type: none"> <li>■ Undo last step</li> <li>■ Insert, delete, change, and copy step</li> <li>■ Interactive editing while measuring</li> <li>■ Standard, condensed, and expanded listings</li> </ul>
<b>Tolerances</b>	<ul style="list-style-type: none"> <li>■ Size – ANSI (+/-) and ISO (+/+, -/-, +/-)</li> <li>■ Location – true position, concentricity, linear</li> <li>■ Form – circularity, straightness, flatness, coplanarity</li> <li>■ Orientation – angularity, parallelism, perpendicularity</li> <li>■ Profile – arc, line, or plane</li> <li>■ Modifiers – MMC and LMC</li> </ul>	<b>Languages</b>	<ul style="list-style-type: none"> <li>■ English, Spanish, French, German, Portuguese, Italian, Swedish, Dutch, Japanese, Korean, Chinese</li> </ul>
<b>Graphics Model</b>	<ul style="list-style-type: none"> <li>■ Real-time display of measured features</li> <li>■ Auto scaling graphics model</li> <li>■ Color coding</li> <li>■ Zoom in/out with mouse</li> <li>■ Build constructions by selecting features in model window</li> </ul>	<b>Computer Generated Targets</b>	<ul style="list-style-type: none"> <li>■ Calibrated size</li> <li>■ Re-size by dragging with mouse</li> <li>■ Crosshair, box, circle, focus, grid, protractor, and multiple combinations</li> </ul>
<b>Data Reduction</b>	<ul style="list-style-type: none"> <li>■ Calculate from processed image data or from previously measured features</li> <li>■ Best fit (Gaussian), minimum, or maximum</li> <li>■ Automatic dirt/defect removal</li> </ul>	<b>Calibration Utilities</b>	<ul style="list-style-type: none"> <li>■ Zoom lens calibration</li> <li>■ Optical accessories calibration</li> <li>■ Non-linear stage calibration</li> <li>■ Touch probe calibration</li> </ul>
<b>Autofocus Tools</b>	<ul style="list-style-type: none"> <li>■ Edge and surface focus</li> <li>■ SmartFocus – first, last, or highest contrast</li> </ul>	<b>CAD Compatibility</b>	<ul style="list-style-type: none"> <li>■ With OGP SmartCAD (optional), which supports DXF, IGES, and other formats</li> </ul>
<b>Datum Operations</b>	<ul style="list-style-type: none"> <li>■ Origin set and skew alignment</li> <li>■ Auto leveling</li> <li>■ Axis preset</li> <li>■ Translate origin and rotate axes</li> <li>■ Construct from basic dimensions</li> </ul>	<b>System Configuration</b>	<ul style="list-style-type: none"> <li>■ Power-up defaults</li> <li>■ RS-232 port configuration</li> <li>■ Default report and export templates</li> <li>■ Printer type and port</li> <li>■ Audible warnings and tones</li> </ul>
<b>Sensor Support</b>	<ul style="list-style-type: none"> <li>■ Touch probes</li> <li>■ Laser</li> </ul>	<b>Macros</b>	<ul style="list-style-type: none"> <li>■ Copy and Step &amp; Repeat: XYZ or RAZ offsets</li> <li>■ Math operations</li> <li>■ Branch on condition and If-Then-Else statements</li> </ul>
		<b>Image Operations</b>	<ul style="list-style-type: none"> <li>■ Save image (24 bit TGA, BMP, or TIF format)</li> <li>■ Print image (laser, inkjet, and video printers)</li> <li>■ Positive and negative masks</li> <li>■ Transparent or solid overlays</li> </ul>
		<b>On-Line Help</b>	<ul style="list-style-type: none"> <li>■ Full featured, user-friendly Help</li> <li>■ Hyperlinks, related topics, index and search</li> </ul>