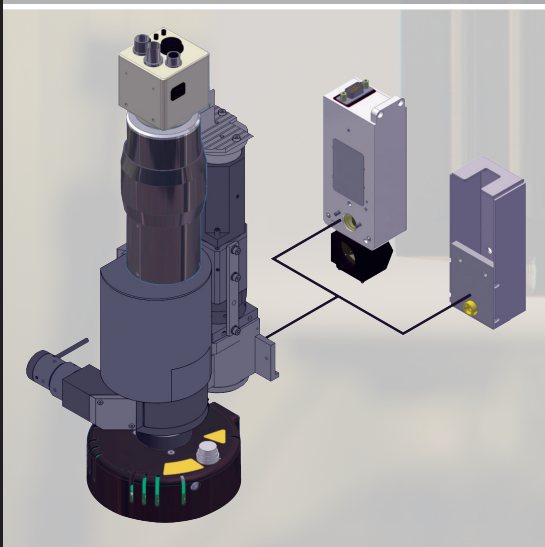


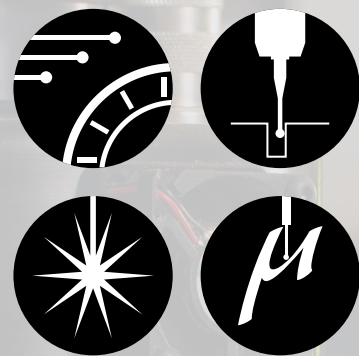
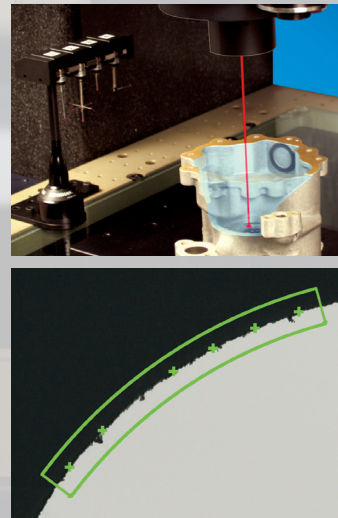
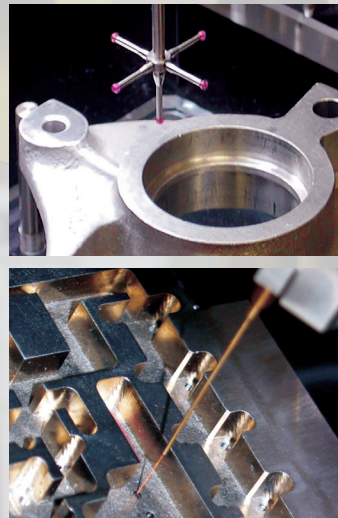
## Zoom 70 Optics

High Performance Motorized  
7:1 Zoom Optics

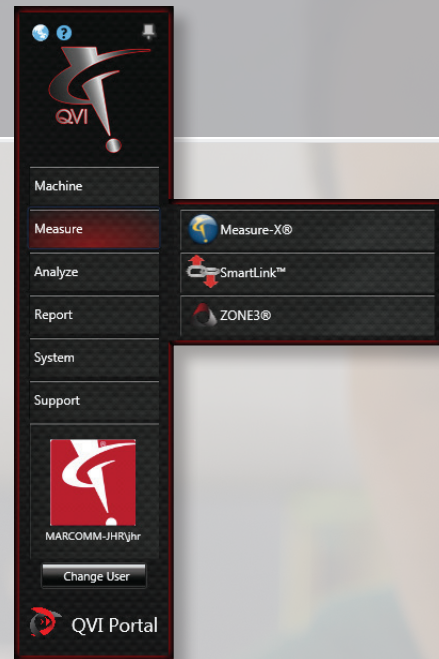


## Multisensor Capabilities

More Measurement Data from  
More Sensors



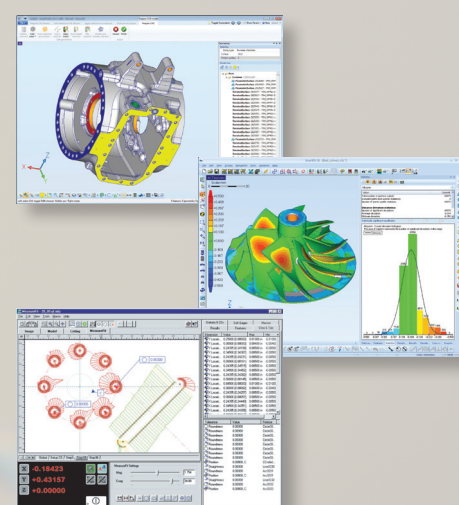
## QVI® Portal



## Metrology Software



## Productivity Software



SmartScope ZIP®



Multisensor Measurements  
for Manufacturing Professionals™



- 7x motorized zoom lens can be combined with a selection of field-interchangeable replacement lenses for flexible magnification ranges
- AccuCentric® zoom lens automatically calibrates itself at every magnification change, ensuring accurate and repeatable measurements
- Standard programmable illumination sources provide the right light for every measurement
  - Monochromatic LED backlight for outside edges, through-holes, and slots
  - White coaxial LED surface light to optimize surface detail and maximize image contrast at any magnification
  - SmartRing™ white LED ring light to provide oblique illumination from a variety of incidence angles and directions
- Choose a high resolution digital color camera, or black & white digital metrology camera

**Multisensor metrology systems** offer significant advantages in measurement speed and accuracy. By using the best type of sensor for individual dimensions, multisensor systems measure faster, more thoroughly, and more accurately than single sensor systems.

- **Video measurement** is ideal whenever it can be used. Non-contact, fast, and accurate, video measurement is perfect for dimensions defined by edges. SmartScope ZIP offers a wide variety of image analysis tools for feature detection and part orientation.
- **Touch probes** can provide access to features that cannot be seen by optics, such as the inside wall of a cylinder or the outside of a sphere. SmartScope ZIP and ZIP Advance systems offer optional scanning probes that provide high speed data gathering, even on unknown surfaces.

- **Laser sensors** excel at fast, accurate Z-axis scanning for height, depth and planar measurements, and surface profiling on complex curves and surfaces. SmartScope ZIP® systems are available with optional DRS™ (off-axis) or TTL (on-axis) lasers.

- **Micro-probes** offer high accuracy for situations where the part is too fragile or flexible to withstand normal probing force, or when part features are extremely small.

**Feather Probe™** contact probe uses resonance technology to measure micro features with less than a milligram of force.

**Rainbow Probe™** non-contact white light sensor provides sub-micron resolution on materials that cannot be measured using a conventional laser.

The **QVI® Portal**, standard on every SmartScope ZIP®, is an easy-to-use desktop interface that provides logical access to all measurement system functions.

- **Portal Navigation Panel** allows you to start or switch between QVI measurement applications, with no searching for icons on the Windows desktop.
- **Independent Calibration Engine (ICE)** offers a set of comprehensive calibration tools with a single database of configuration and calibration data, applicable to one or to many metrology software options. Once configured, ICE functions for the system and for all of its sensors and resident metrology software.
- **Content Viewer** allows viewing of manuals, video, training workbooks, and other material — at any time.
- **User Permissions** allow setup/restriction of user access rights for installed QVI software, for specific operators.

Any or all of these software products are available on SmartScope ZIP:

- **ZONE3®** 3D CAD based metrology software provides a full range of geometric measurement capabilities, 3D kinematic models, integral GD&T evaluation, custom report formatting, and part family programming.
- **MeasureMind® 3D** features true multisensor 3D functionality, with all measured data points maintained in 3D space.
- **Measure-X®** is easy to use, and features a full set of image processing tools and geometric functions.
- **VMS™** effectively bridges the gap between the lab and the production floor by combining high-speed, high-level programmability with ease-of-use in one system.
- **Elements®** enables CAD-driven, rules-based measurement of a variety of electronic elements.

- **SmartProfile®**, for point cloud analysis and engineering evaluation, features ASME Y14.5 and ISO 1101 GD&T compliance, and allows optimization and evaluation of shape, form, and dimensional requirements for rigid bodies and assemblies.
- **SmartFit® 3D**, a 3D interactive fitting and analysis application, incorporates automation macros with a choice of fitting algorithms and tolerance conventions to clearly identify non-conformance.
- **MeasureFit® Plus** is a 2D fitting application that analyzes all part features simultaneously and compares them to a nominal CAD file.
- **Offline metrology software** versions of ZONE3®, MeasureMind® 3D, Measure-X®, and VMS™ allow creation and editing of measurement routines without tying up a measurement system.



# ZIP Lite & ZIP Advance

The Right Capabilities  
for your Needs



SmartScope ZIP® Lite systems offer automatic multisensor measurement in a cost-effective benchtop package.

**SmartScope ZIP Lite Systems Feature:**

- Precision mechanical bearing stages with XY-axis stepper motor drives and Z-axis servo drive
- Multisensor options: Touch Probe, DRS™ Laser
- Accuracies:

**250** - E<sub>2</sub> XY = (2.0 + 6L/1000) μm  
E<sub>1</sub> Z = up to (2.5 + 5L/1000) μm  
**300** - E<sub>2</sub> XY = (2.5 + 8L/1000) μm  
E<sub>1</sub> Z = up to (2.5 + 5L/1000) μm

Models	ZIP Lite Measuring Ranges (mm)			
		X	Y	Z
	250	250 or 300	150	150
	300	300	300	150

SmartScope ZIP® Advance systems offer high-resolution optics and speed stages for accelerated measurement throughput.

**SmartScope ZIP Advance Systems Feature:**

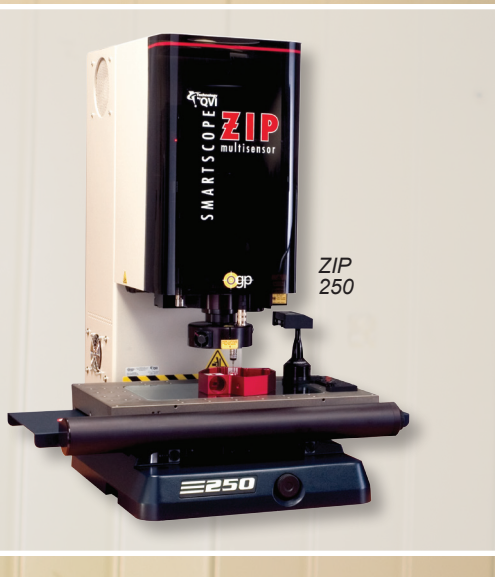
- 0.05 μm scales, linear motors, high-helix drives
- Multisensor options: Touch Probe, DRS™ or TTL Laser, Scanning Probe, Feather Probe™, Rainbow Probe™
- Accuracies:

**250** - E<sub>2</sub> XY = (1.25 + 6L/1000) μm  
E<sub>1</sub> Z = up to (1.4 + 5L/1000) μm  
**450** - E<sub>2</sub> XY = (1.8 + 4L/1000) μm  
E<sub>1</sub> Z = (1.4 + 5L/1000) μm  
E<sub>3</sub> XYZ volumetric = (2.8 + 6L/1000) μm

Models	ZIP Advance Measuring Ranges (mm)			
		X	Y	Z
	250	300	150	200
	450	450	450 or 610	200

# ZIP Benchtop

Full ZIP Capability in a  
Benchtop Package



SmartScope ZIP® 250 represents the industry standard for benchtop video metrology, with the added functionality of multisensor capability.

**SmartScope ZIP 250 Systems Feature:**

- Heavy-duty cast base and integral compound stage with Y-axis center drive for metrological stability
- Multisensor options: Touch Probe, DRS™ or TTL Laser, Feather Probe™, Rainbow Probe™
- Accuracies:

E<sub>2</sub> XY = (1.8 + 6L/1000) μm  
E<sub>1</sub> Z = up to (1.4 + 5L/1000) μm

Model	Benchtop ZIP Measuring Range (mm)			
		X	Y	Z
	250	300	150	200

# ZIP Floor Models

Extended Travel Ranges for Larger Parts



SmartScope ZIP® Floor Models offer expanded measurement volumes for large, heavy parts.

**SmartScope ZIP 300 Systems Feature:**

- Field-proven compound stage design and rigid support structure
- Multisensor options: Touch Probe, DRS™ or TTL Laser, Scanning Probe, Feather Probe™, Rainbow Probe™
- Accuracies:  
E<sub>2</sub> XY = (1.5 + 5L/1000) μm  
E<sub>1</sub> Z = up to (1.4 + 5L/1000) μm

**SmartScope ZIP 450 Systems Feature:**

- Granite base and fixed bridge design
- Multisensor options: Touch Probe, DRS™ or TTL Laser, Scanning Probe, Feather Probe™, Rainbow Probe™
- Accuracies:  
E<sub>2</sub> XY = (1.8 + 4L/1000) μm  
E<sub>1</sub> Z = up to (1.3 + 5L/1000) μm  
E<sub>3</sub> XYZ volumetric = (2.8 + 6L/1000) μm

**SmartScope ZIP 635 Systems Feature:**

- High acceleration and velocity in all three measurement axes
- Multisensor options: Touch Probe, DRS™ or TTL Laser, Feather Probe™, Rainbow Probe™
- Accuracies:  
E<sub>2</sub> XY = (2.5 + 5L/1000) μm  
E<sub>1</sub> Z = up to (1.3 + 5L/1000) μm

**SmartScope ZIP 800 Systems Feature:**

- Expansive XY measurement range for very large parts
- Multisensor options: Touch Probe, DRS™ or TTL Laser, Scanning Probe, Feather Probe™, Rainbow Probe™
- Accuracies:  
E<sub>2</sub> XY = up to (1.5 + 6L/1000) μm  
E<sub>1</sub> Z = up to (1.3 + 5L/1000) μm  
E<sub>3</sub> XYZ volumetric = (2.4 + 7L/1000) μm

Models	ZIP Floor Model Measuring Ranges (mm)			
		X	Y	Z
	300	300	300	200 or 300
	450	450	450 or 610	200 or 300
	635	635	635	200
	800	800	820 or 1200	200, 300 or 400



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