



# SMARTSCOPE ZIP Advance



Fast, Accurate Video and Multisensor Measurement

Premium  
Performance  
For Large Part  
Measurement



Travel mm

	Travel	mm
<b>ZIP 450</b>	X axis	450
	Y axis	450
	Z axis	200
<b>Extended Y (Option)</b>	Y axis	610
<b>Extended Z (Option)</b>	Z axis	300

SmartScope ZIP® Advance 450 from OGP® is a high resolution, high accuracy video measuring system designed for critical applications and measurement of large parts.

- SmartScope ZIP Advance 450 provides twice the field of view of a standard ZIP system when using the same front replacement lens. For systems with the optional TTL laser, the field of view with the 2.0x laser lens is the same as a standard ZIP with a 1.0x lens. The 2.0x laser lens enhances the performance of the laser without compromising video performance. When the optional 1.0x lens is used, the ZIP Advance has twice the field of view of the standard ZIP with no sacrifice in measurement quality.
- The new 6-ring, 8-sector Vu-Light™ low incidence LED oblique ring light is ideally matched to the optical system to provide outstanding oblique surface illumination. The internal TTL 10 watt LED surface illuminator is unparalleled for brightness and contrast, producing the sharpest image fidelity available.
- The patented AccuCentric® 5:1 auto-calibrating motorized zoom lens provides high quality images of virtually any part, in a variety of part sizes.
- DC servo motor drives provide accurate positioning control and high speed operation while the heavy duty metal and granite construction provides stability for accurate, repeatable metrology.
- Fast field-of-view (FOV) processing, autofocus, and MeasureMind® 3D MultiSensor metrology software with full 3D geometric functionality and multisensor support make measurement simple.
- SmartScope ZIP Advance 450 is available with the unique switchable TTL laser, as well as a number of optional contact and non-contact probes. All may be used under program control for fully automatic operation.

■ Standard ■ Optional

<ul style="list-style-type: none"> <li>■ <b>Stage travel (XYZ):</b> 450 x 450 x 200 mm</li> <li>■ <b>Extended Y axis:</b> 610 mm</li> <li>■ <b>Extended Z axis:</b> 300 mm</li> <li>■ <b>Measuring unit dimensions (approx LWH):</b> 138 x 102 x 168 cm, 1039 kg</li> <li>■ <b>XYZ scale resolution:</b> 0.1 μm</li> <li>■ <b>0.05 μm</b></li> <li>■ <b>Motor drives:</b> DC servo</li> <li>■ <b>Interactive stage control:</b> 4 axis (X,Y,Z, zoom) with ergonomic, multi-function hand controller</li> <li>■ <b>Stage velocity:</b> Z axis min 100 mm/sec; X,Y axis 250 mm/sec</li> <li>■ <b>Worktable:</b> Hardened worktable with fixture holes, removable stage glass, and 75 kg load capacity</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Zoom lens:</b> Patented<sup>†</sup> 5:1, AccuCentric<sup>®</sup> auto-calibrating, motorized, 10 position</li> <li>■ <b>Optical back tube adapter:</b> 0.5x*</li> <li>■ <b>Front replacement lens:</b> 2.0x laser lens (working distance 38 mm)</li> <li>■ <b>1.0x</b> (working distance 49 mm)</li> <li>■ <b>Illumination:</b> High performance green LED backlight collimator, 10W white TTL surface illuminator, low incidence oblique white Vu-Light™</li> <li>■ <b>Standard incidence white LED Vu-Light</b> for use with 1.0x lens</li> <li>■ <b>Adjustable 32 mm diameter fiber optic ring light</b> (75 w lamp), used in lieu of Vu-Light</li> <li>■ <b>Camera:</b> ½" format high resolution color CCD with 768 x 494 pixel array</li> <li>■ <b>High resolution black and white</b> (in lieu of color camera)</li> <li>■ <b>Image processing:</b> 256 level grayscale processing with 10:1 sub-pixel resolution</li> <li>■ <b>Multisensor options:</b> Touch probe and change rack, DRS™ laser, TTL laser, Rainbow Probe™ scanning white light sensor, Feather Probe™, laser pointer (not available with TTL laser) (contact OGP for possible combinations of sensors)</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Power requirements:</b> 115/230 vac, 50/60 Hz, 1 φ, 900 W</li> <li>■ <b>Rated environment:</b> Temperature between 18 and 22° C, stable to ± 1° C; 30-80% humidity (non-condensing); vibration &lt;0.001g below 15 Hz</li> <li>■ <b>Operating environment, safe operation:</b> 15-30° C</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Computer:</b> Minimum configuration Dual Core processor @ 1.8 GHz, 1.0 GB RAM, 80 GB hard drive, 1.44 MB floppy drive, DVD-RW drive, parallel, serial, and USB 2.0 ports, on board 10/100 LAN</li> <li>■ <b>Operating system:</b> Microsoft® Windows™ XP Professional</li> <li>■ <b>Computer accessory package:</b> 22" flat panel LCD monitor, or dual 22" flat panel LCD monitors, keyboard, mouse (or user supplied)</li> <li>■ <b>Metrology software:</b> OGP MeasureMind<sup>®</sup> 3D MultiSensor</li> <li>■ <b>OGP Measure-X<sup>®</sup></b> (in lieu of MeasureMind 3D), MeasureMind 3D offline</li> <li>■ <b>Software:</b> For use with Measure-X or MeasureMind 3D; MeasureFit<sup>®</sup> Plus, MeasureMenu™, SmartReport<sup>®</sup> powered by QC-Calc™, Scan-X<sup>®</sup></li> <li>■ <b>Software:</b> For use with MeasureMind 3D only; SmartFit<sup>®</sup> 3D, SmartScript<sup>®</sup>, SmartTree™, SmartProfile™</li> </ul>
<p>Where L=measuring length in mm. Applies to thermally stable system in rated environment. All optical accuracy specifications at maximum zoom lens setting.</p> <ul style="list-style-type: none"> <li>■ <b>XYZ volumetric accuracy:</b> <math>E_3 = (2.8 + 6L/1000) \mu\text{m}^{**}</math></li> <li>■ <b>XY area accuracy:</b> <math>E_2 = (1.8 + 4L/1000) \mu\text{m}^{***}</math></li> <li>■ <b>Z linear accuracy:</b> <math>E_1 = (2.5 + 5L/1000) \mu\text{m}^{****}</math></li> <li>■ <b>Z linear accuracy:</b> <math>E_1 = (1.5 + 5L/1000) \mu\text{m}^{****}</math> (with optional TTL laser, or DRS-2000 laser)</li> <li>■ <b>Z linear accuracy:</b> <math>E_1 = (1.0 + 5L/1000) \mu\text{m}^{****}</math> (with optional DRS-300 or -500 laser, or TP-20 or -200 touch probe)</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Warranty:</b> One year</li> <li>■ <b>Accessories:</b> Calibration artifacts, rotary indexers</li> </ul>

<sup>†</sup>Patent Number 5,389,774    <sup>\*\*</sup>Patent Number 5,690,417

\* The 0.5x back tube adapter can be field-changed to a standard ZIP 1.0x back tube adapter, allowing all standard ZIP replacement lenses and add-on lenses to be used.

\*\*XYZ volumetric artifact: QVI dual linear grid reticle.

\*\*\*With evenly distributed 5 kg load in the standard measuring plane. Depending on load distribution, accuracy at maximum rated load may be less than standard accuracy. XY axis artifact: QVI 25 intersection grid reticle in the standard measuring plane. The standard measuring plane is defined as a plane that is 25 mm above the worktable.

\*\*\*\*Z axis artifact: QVI step gage or master gage blocks.



Multisensor Measurements for Manufacturing Professionals

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