



SMARTSCOPE **ATS**



## High Precision Air Bearing Performance

	Travel	mm
<b>ATS</b>	X axis	610
	Y axis	610
	Z axis	200
<b>Extended X (option)</b>	X axis	760
<b>Extended Z (option)</b>	Z axis	300
	Z axis	400

Measure large parts with the speed and accuracy made possible by precision lapped granite and air bearing construction. SmartScope® ATS™ leads the way in speed, accuracy, and reliability.

ATS uses a massive granite substructure to provide the rigidity and low center of mass needed for high speed operation in a production environment. Precision lapped granite beams are used for guidance and support of the XY measuring axes, ensuring straight travel and negligible pitch, yaw, and roll errors. Precision air bearings provide a high load capacity and extremely precise motion. ATS delivers high precision measurement performance and value.

- Our patented AccuCentric® auto-calibrating zoom lens and SmartRing™ LED illuminator provide high quality images.
- Center-drive Z axis stage, optional LED grid projector, and advanced autofocus algorithms deliver impressive Z axis measuring capability.
- Multisensor versatility from optional touch probe, lasers, and micro-probes.
- OGP's powerful MeasureMind® 3D MultiSensor metrology software handles data from all measurement sensors with ease to provide all the advantages multisensor measurement has to offer.
- Optional software for 2D/3D contour fitting, GD&T and SPC analysis, custom report generation, and production user interface extends SmartScope ATS functionality.

Compare ATS  
to any other  
large travel system



■ Standard ■ Optional

<ul style="list-style-type: none"> <li>■ <b>Stage travel (XYZ):</b> 610 x 610 x 200 mm</li> <li>■ <b>Extended X axis:</b> 760 mm</li> <li>■ <b>Extended Z axis:</b> 300 mm, 400 mm</li> <li>■ <b>Measuring unit dimensions (approx LWH):</b> 173 x 163 x 178 cm, 2955 kg</li> <li>■ <b>XYZ scale resolution:</b> 0.1 µm</li> <li>■ <b>Motor drives:</b> DC servo</li> <li>■ <b>Interactive stage control:</b> 4 axis (X,Y,Z, zoom) with ergonomic, multifunction hand controller</li> <li>■ <b>Worktable:</b> Hardcoat anodized with fixture holes, removable stage glass, and 120 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>Lens attachments:</b> 0.5x, 0.75x, 1.5x, 2.0x</li> <li>■ <b>Front replacement lenses:</b> 1.0x 2.0x, 2.5x, 5.0x, 10.0x</li> <li>■ <b>Adapter tubes:</b> 1.0x 0.67x, 2.0x</li> <li>■ <b>Illumination:</b> Substage LED backlight (collimated, green), white TTL LED surface illumination, and patented<sup>††</sup> SmartRing<sup>™</sup> white LED illuminator</li> <li>■ <b>Optional accessories:</b> Autofocus grid projector (LED)</li> <li>■ <b>Camera:</b> ½" format high resolution color CCD with 768 x 494 pixel array High resolution black and white (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<sup>™</sup> laser, TTL laser, Rainbow Probe<sup>™</sup> scanning white light sensor, Feather Probe<sup>™</sup>, 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, 700 W</li> <li>■ <b>Air supply:</b> 5.5 bar dry air input, 120 l/min consumption</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<sup>®</sup> Windows<sup>™</sup> XP Professional</li> <li>■ <b>Computer accessory package:</b> 22" flat panel LCD monitor, or dual 22" flat panel LCD monitors, keyboard, three-button mouse (or user supplied)</li> <li>■ <b>Metrology software:</b> OGP MeasureMind<sup>®</sup> 3D MultiSensor MeasureMind 3D offline</li> <li>■ <b>Software:</b> MeasureFit<sup>®</sup> Plus, MeasureMenu<sup>™</sup>, SmartReport<sup>®</sup> powered by QC-Calc<sup>™</sup>, Scan-X<sup>®</sup>, SmartFit<sup>®</sup> 3D, SmartScript<sup>®</sup>, SmartTree<sup>™</sup>, SmartProfile<sup>™</sup></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 = (2.0 + 5L/1000) \mu\text{m}^{1,2,3,5}</math></li> <li>■ <b>XY area accuracy:</b> <math>E_2 = (1.5 + 3L/1000) \mu\text{m}^{3,4}</math></li> <li>■ <b>Z linear accuracy:</b> <math>E_1 = (2.5 + 5L/1000) \mu\text{m}^6</math></li> <li>■ <b>Z linear accuracy:</b> <math>E_1 = (2.0 + 5L/1000) \mu\text{m}^6</math> (with optional 2.0x replacement lens/grid projector)</li> <li>■ <b>Z linear accuracy:</b> <math>E_1 = (1.5 + 5L/1000) \mu\text{m}^6</math> (with optional TTL laser, or DRS-2000 laser)</li> <li>■ <b>Z linear accuracy:</b> <math>E_1 = (1.4 + 5L/1000) \mu\text{m}^6</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> Fixtures and calibration artifacts, rotary indexers</li> </ul>

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

1) Maximum rate of temperature change: 1° C/hour. 2) Maximum vertical gradient: 1° C/meter.

3) With evenly distributed load up to 5 kg. Depending on load distribution, accuracy at maximum rated load may be less than standard accuracy.

4) XY axis artifact: QVI 25 intersection grid reticle in the standard measuring plane. The standard measuring plane is defined as a plane that is within 25 mm of the worktable surface.

5) XYZ volumetric artifact: QVI linear linescale. 6) Z axis artifact: QVI step gage or master gage blocks.



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A Division of Quality Vision International

Multisensor Measurements for Manufacturing Professionals

**World Headquarters and Technology Center:** 850 Hudson Avenue • Rochester, NY 14621 USA • Tel 585.544.0400 • Fax 585.544.8092

**Western USA Regional Office:** 1711 West 17th Street • Tempe, AZ 85281 USA • Tel 480.889.9056 • Fax 480.889.9059

**OGP Shanghai Co, Ltd:** 17 Lane 593 • East Jin An Rd • Pu Dong New District • Shanghai, China 201204 • Tel 86.21.5045.8383/8989 • Fax 86.21.6845.8800

**OGP Messtechnik GmbH:** Nassaustr. 11 • 65719 Hofheim-Wallau, Germany • Tel 49.6122.9968.0 • Fax 49.6122.9968.20

**Optical Gaging (S) Pte Ltd:** 21 Tannery Road, 347733 Singapore • Tel 65.67.41.8880 • Fax 65.68.46.8998

**Internet:** www.ogpnet.com • intl-sales@ogpnet.com