



# SMARTSCOPE VANTAGE



## High Technology Multisensor Metrology System

	Travel	mm
<b>Vantage 300</b>	X axis	300
	Y axis	300
	Z axis	250

### Large Capacity Dimensional Metrology on a Benchtop

Precision dimensional metrology with extreme accuracy. A range of sensor technologies to address every dimensional attribute. A patented “elevating bridge” design with 300x300x250 mm measuring volume – yet small enough to fit on a benchtop. SmartScope® Vantage™ 300 provides the measurement versatility needed for the most critical and demanding parts.

SmartScope Vantage 300 features patented TeleStar® 10:1 metrology zoom optics that are fully telecentric, continuously variable, and are AccuCentric®, auto-calibrating at every magnification change to ensure accuracy over the lifetime of the system. Vantage 300 has a level of optical imaging performance previously thought possible only in fixed lens systems, with the functionality of a continuously variable zoom lens.

In addition to its excellent video measuring performance, Vantage 300 is fully multisensor capable, available with touch probe, TeleStar interferometric TTL laser, micro-probes, rotary indexers, and even the SP25 continuous contact scanning probe, as well as the helpful laser pointer. Powerful MeasureMind® 3D MultiSensor metrology software makes it easy to program the most detailed multisensor measurement sequence which then runs automatically. View and interact with measured results to make intelligent product and process decisions.

SmartScope Vantage 300 joins the family of dependable OGP measurement systems used by manufacturers around the world to maintain and improve the quality of parts that go into products we all use every day.



■ Standard ■ Optional

<ul style="list-style-type: none"> <li>■ <b>Stage travel (XYZ):</b> 300 x 300 x 250 mm</li> <li>■ <b>Measuring unit dimensions (approx LWH), weight:</b> 80 x 85 x 80 cm, 159 kg</li> <li>■ <b>Shipping crate dimensions (approx LWH), crated weight:</b> 150 x 112 x 115 cm, 218 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, multifunction hand controller</li> <li>■ <b>Worktable:</b> Hardcoat anodized with fixture holes and removable stage glass, 30 kg load capacity</li> <li>■ <b>Mechanical design:</b> Patented<sup>i</sup> "elevating bridge" design yields large XYZ travel with compact machine size</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Zoom lens:</b> Patented<sup>ii</sup> 10:1 AccuCentric<sup>®</sup> TeleStar<sup>®</sup> auto-calibrating, telecentric, motorized, mag range 0.8x - 8x, 10 position</li> <li>■ <b>Replacement lens, optical:</b> 1.0x</li> <li>■ <b>Replacement lenses, optical:</b> 0.5x/120 mm WD, 2.0x/32 mm WD, 4.0x/20 mm WD</li> <li>■ <b>Replacement lenses, optical/laser:</b> 0.45x/200 mm WD, 0.5x/120 mm WD, 2.0x, 4.0x</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Camera:</b> High resolution grayscale with 752 x 582 pixel array</li> <li>■ <b>Illumination:</b> LED substage backlight (collimated, moving array, green), LED coaxial TTL surface (green), 8 sector/6 ring SmartRing LED (green)</li> <li>■ <b>Image processing:</b> 256 level grayscale processing with up to 50:1 sub-pixel resolution</li> <li>■ <b>Optical accessories:</b> LED grid projector, laser pointer (not available with TTL laser)</li> <li>■ <b>Multisensor options:</b> Touch probe and change rack, Feather Probe<sup>™</sup>, on-axis TeleStar 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, 600 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:</b> 15-30° C</li> </ul>
<ul style="list-style-type: none"> <li>■ <b>Metrology software:</b> MeasureMind<sup>®</sup> 3D MultiSensor</li> <li>■ <b>Computer:</b> Minimum configuration Dual Core processor @ 1.8 GHz, 1.0 GB RAM, 80 GB hard drive, 1.44 MB floppy, DVD-RW drive, parallel, serial, and USB 2.0 ports, on board 10/100 LAN</li> <li>■ <b>Computer accessories:</b> Single or dual 22" flat panel LCD monitor(s), keyboard, three button mouse (or user supplied)</li> <li>■ <b>Operating system:</b> Microsoft<sup>®</sup> Windows<sup>™</sup> XP Professional</li> <li>■ <b>Software:</b> MeasureFit<sup>®</sup> Plus, SmartReport<sup>®</sup> powered by QC-Calc<sup>™</sup>, SmartFit<sup>®</sup> 3D, MeasureMenu<sup>™</sup>, Scan-X<sup>®</sup>, 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=(2.5 + 5L/1000) \mu\text{m}^*</math></li> <li>■ <b>XY area accuracy:</b> <math>E_2=(1.5 + 5L/1000) \mu\text{m}^{**}</math></li> <li>■ <b>X,Y linear accuracy:</b> <math>E_1=(1.2 + 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 2x replacement lens and grid projector; TeleStar TTL laser; or TP200 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>i</sup>Patent Number 6,518,996    <sup>ii</sup>Patent Numbers: 5,389,774 (AccuCentric); 6,292,306 (TeleStar)    <sup>iii</sup>Patent Number 6,161,940    <sup>iv</sup>Patent Number 5,690,417

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

\*\*\*X,Y axis artifact: QVI video and comparator reticle.

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



Multisensor Measurements for Manufacturing Professionals

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