



### SmartScope Vantage 450 –

An extremely accurate floor model coordinate 3D multisensor measurement system, designed to measure larger parts, or to accommodate fixtures of multiple parts or large rotary indexers. A solid granite bridge design and sturdy support structure yields high-speed stage translation without vibration, maximizing measurement throughput. Vantage 450 offers:

- **Accurate Video Metrology –** TeleStar® telecentric 10:1 zoom optics for the highest level of optical performance.
- **Multisensor Versatility –** Optional touch probe, SP25 continuous contact scanning probe, Feather Probe™, off-axis DRS™ Laser, on-axis TeleStar Plus TTL Interferometric Laser, Rainbow Probe™, and 4<sup>th</sup> and 5<sup>th</sup> axis rotary indexers.
- **State-of-the-art Software –** Powerful ZONE3® metrology software, and other productivity and offline software applications, to suit your requirements.

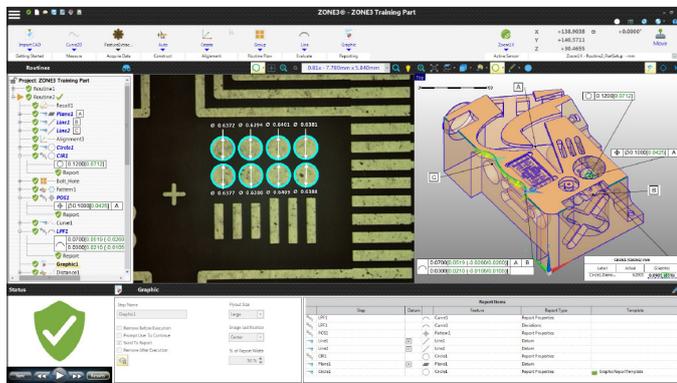
## Heavy-Duty, Advanced-Technology Dimensional Measuring System for Large Parts



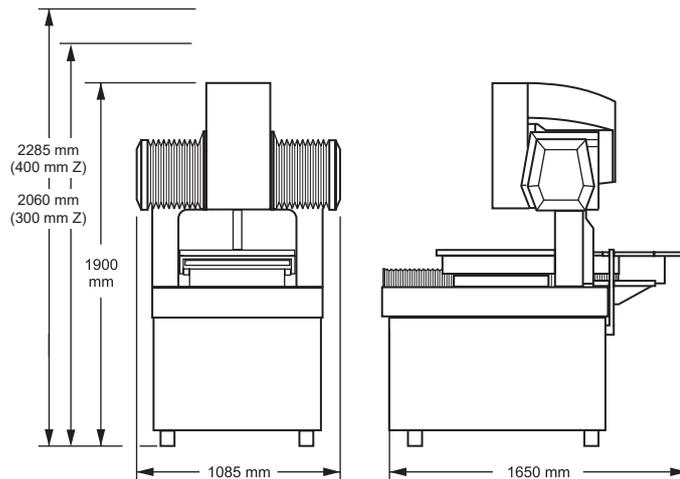
Shown with optional touch probe.



# SmartScope® Vantage™ 450



ZONE3® Metrology Software represents a totally new way of working with multisensor measurement systems – robust programming capabilities provide faster, easier, and more productive measurements.



System Weight: 1380 kg  
Shipping Weight: 1650 kg

	Standard	Optional
<b>XYZ Travel</b>	450 mm x 450 mm x 250 mm	Extended Y axis, 610 mm; extended Z axis, 300 mm or 400 mm
<b>XYZ Scale Resolution</b>	0.1 µm	0.05 µm
<b>Drive System</b>	DC servo with 4-axis control (X, Y, Z, zoom); with multifunction handheld controller	XY liquid cooled linear motor drives
<b>Worktable</b>	Hardcoat anodized, with fixture holes, removable stage glass, 50 kg recommended max payload	
<b>Rotary Axis</b>		Miniature Servo Rotary (MSR™), MicroTheta Rotary (MTR™), Heavy Duty Rotary (HDR), High Precision Rotary (HPR™), Dual Rotary (requires optional 300 mm or 400 mm Z axis)
<b>Optics*</b>	AccuCentric® auto-compensating, fully telecentric zoom, motorized; 1x lens	<b>Focus Grid Projector:</b> LED source <b>Laser Pointer:</b> Not available with optional TTL laser <b>Replacement / Laser Lenses:</b> 0.45x, 0.5x, 2.0x, 4.0x
<b>Illumination</b>	Substage LED profile, coaxial LED surface, SmartRing™ LED ring light	Flexible SmartRing light for 0.45x and 0.5x lenses, Tungsten Fiber-Optic Ring in lieu of SmartRing (1x lens only)
<b>Metrology Camera</b>	Monochrome digital metrology camera	
<b>Field of View</b>	8.1 mm x 6.1 mm (low zoom) to 0.81 mm x 0.61 mm (high zoom)	14.6 mm x 11.0 mm (0.45x lens), to 0.20 mm x 0.15 mm (4.0x lens)
<b>Working Distance</b>	65 mm	Up to 200 mm (0.45x lens)
<b>Sensor Options</b>		<b>Tactile:</b> TP20 or TP200 Touch Probe, SP25 Scanning Probe, Feather Probe, PH10 motorized probe head (requires 400 mm Z and compressed air) <b>Non-Contact:</b> TeleStar Plus Interferometric TTL laser, DRS Laser, Rainbow Probe
<b>Software</b>	<ul style="list-style-type: none"> <li>• ZONE3 Express metrology software</li> <li>• QVI® Portal</li> </ul>	<b>Metrology software:</b> ZONE3 Prime, ZONE3 Pro <b>Productivity software:</b> SmartFit® 3D, EVOLVE® Suite (Design, EVOLVE SPC, Manufacturing, SmartProfile®) <b>Offline software:</b> ZONE3
<b>System Controller</b>	Windows® based, with up-to-date processor and on board networking/communication ports	
<b>Controller Options</b>		24" flat panel LCD monitor, or dual 24" flat panel LCD monitors, keyboard, 3-button mouse (or user supplied)
<b>Power Requirements</b>	100-120 VAC or 200-240 VAC, 50/60 Hz, 1 phase, 1500 W	
<b>Safe Operating Environment</b>	15-30 °C, non-condensing	
<b>Rated Environment</b>	Temperature 18-22 °C, stable to ± 1 °C; max rate of change 1 °C / hour; max vertical gradient of 1 °C / meter; 30-80% humidity; vibration <0.001g below 15 Hz	
<b>XYZ Volumetric Accuracy</b>	$E_3 = (2.5 + 5L/1000) \mu\text{m}$	
<b>XY Area Accuracy</b>	$E_2 = (1.5 + 4L/1000) \mu\text{m}$	
<b>Z Linear Accuracy</b>	$E_1 = (2.5 + 5L/1000) \mu\text{m}$	$E_1 = (1.5 + 5L/1000) \mu\text{m}$ (requires optional TeleStar Plus TTL Laser, DRS Laser, or touch probe)

Accuracy is evaluated with a QVI verification procedure where "L" is measured length in millimeters. Specifications apply within the rated environment. Standard optical specifications apply at the maximum optical magnification of the standard configuration. XY Accuracy applies with an evenly distributed load up to 10 kg in the standard measuring plane. The standard measuring plane is defined as a plane that is within 25 mm of the worktable surface. Depending on load distribution, accuracy at maximum payload may be less than standard. On-site verification of volumetric accuracy is optional. This equipment complies with EMC directive EN IEC 61326-1, Class A.  
\*Lenses can be manually interchanged to change magnification and working distance.



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