

SmartScope® Vantage 250

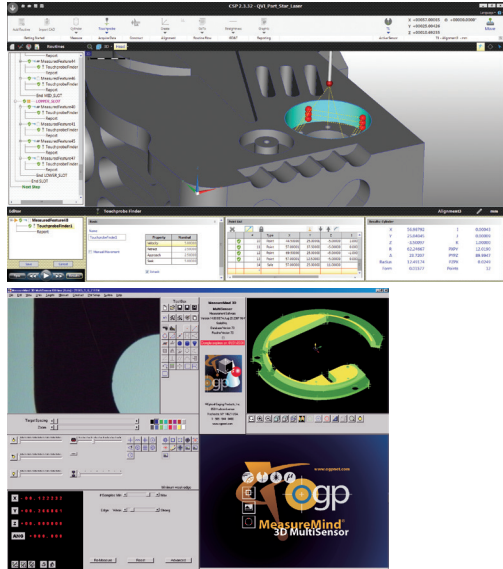
- **Accurate video metrology** – TeleStar® telecentric 10:1 zoom optics for the highest level of optical performance
- **Multisensor versatility** – Optional touch probe, off-axis DRS™ laser or on-axis TeleStar TTL interferometric laser, micro-probes, and SP25 continuous contact scanning probe
- **State-of-the-art software** – Choose from a variety of powerful QVI metrology, productivity and offline software applications, to suit your requirements

Axis	Travel (mm)
X axis	300
Y axis	150
Z axis	200

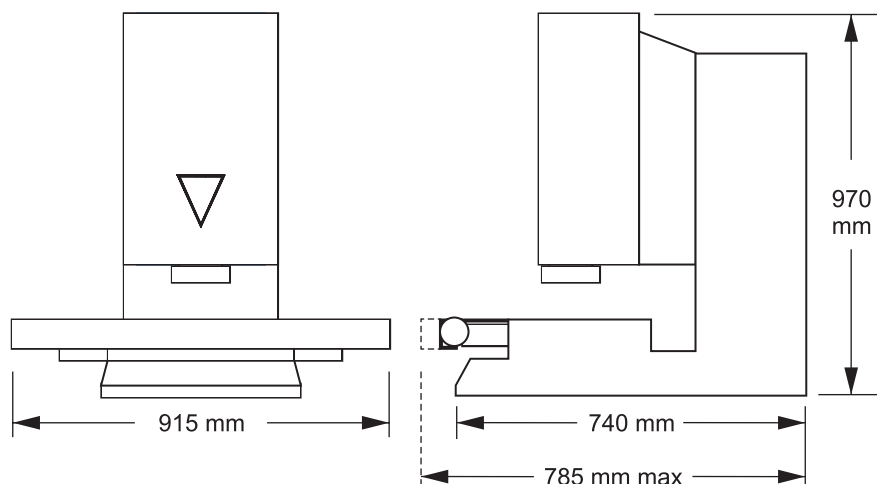
Advanced-Technology Dimensional Measuring System with a Compact Footprint



SmartScope® Vantage 250



Choose the QVI metrology software best suited to your manufacturing setting — CAD-based ZONE3® or MeasureMind® 3D.



Machine Weight: 162 Kg
Crated Weight: 275 Kg

	Standard	Optional
XYZ travel	300 x 150 x 200 mm	
XYZ scale resolution	0.1 µm	0.05 µm, with dual X scales
Drive system	DC servo with 4-axis control (X,Y,Z,zoom); with multifunction handheld controller	
Worktable	Hardcoat anodized, with fixture holes, removable stage glass, 25 kg recommended max payload	
Rotary axis		Miniature Servo Rotary (MSR), MicroTheta Rotary (MTR)
Optics	Patented [†] 10:1 AccuCentric® TeleStar® auto-compensating, telecentric zoom, motorized; mag range 0.8x-8x, with up to 10 calibrated positions; 1.0x replacement lens	Replacement lenses, optical: 0.5x/130 mm WD, 2.0x/32 mm WD, 4.0x/20 mm WD Replacement lenses, optical/laser: 0.5x/130 mm WD, 2.0x, 4.0x Optical accessories: LED grid projector, laser adapter (includes laser pointer)
FOV size (std optical configuration)	Measured diagonally, 8.9 mm (low mag) to 0.9 mm (high mag)	
Illumination	Patented ^{††} high performance substage profile (monochromatic), LED coaxial TTL surface (monochromatic), 8 sector/6 ring SmartRing™ LED (monochromatic)	
Camera	High resolution, black & white digital metrology camera	
Image processing	256 level grayscale processing with 10:1 subpixel resolution	
Sensor options (contact OGP for possible combinations of sensors)		Touch probe and change rack, SP25 scanning probe, off-axis DRS™ laser, patented ^{†††} on-axis TeleStar® Plus interferometric TTL laser, Feather Probe™, Rainbow Probe™ scanning white light sensor
Controller	Windows® based, with up-to-date processor and on board networking/communication ports	
Controller accessory package		24" flat panel LCD monitor, or dual 24" flat panel LCD monitors, keyboard, 3-button mouse (or user supplied)
Software	QVI Portal, including: • Portal Navigator • Independent Calibration Engine (ICE) • Multimedia Content Viewer • SmartLink™	Metrology software: ZONE3® Express, Prime or Pro, MeasureMind® 3D Productivity software: MeasureFit® Plus, SmartFit® 3D, SmartProfile® Offline software: ZONE3, MeasureMind 3D
Power requirements	100-120 VAC or 200-240 VAC, 50/60 Hz, 1 phase, 700 W	
Rated environment	Temperature 18-22 °C, stable to ±1 °C; 30-80% humidity; vibration <0.001g below 15 Hz	
Operating environment, safe operation	15-30 °C	
XY area accuracy	$E_2 = (1.8 + 4L/1000) \mu\text{m}^{1,2,3,4}$	$E_2 = (1.0 + 6L/1000) \mu\text{m}^{1,2,3,4}$ (with optional 0.05 µm scale resolution)
Z linear accuracy	$E_1 = (2.5 + 5L/1000) \mu\text{m}^{1,4}$	$E_1 = (1.5 + 5L/1000) \mu\text{m}^{1,4}$ (with optional 2.0x replacement lens and grid projector; on-axis TeleStar Plus TTL laser; off-axis DRS-300 or -500 laser; or TP20 or TP200 touch probe)

[†]Patent Number 6,292,306 ^{††}Patent Number 6,488,398 ^{†††}Patent Number 7,791,731

¹Where L = measuring length in mm. Applies to thermally stable system in rated environment. Maximum rate of temperature change: 1 °C/hour. Maximum vertical temperature gradient: 1 °C/meter. All optical accuracy specifications at maximum zoom lens setting.

²With evenly distributed load up to 5 kg. Depending on load distribution, accuracy at maximum rated load may be less than standard accuracy.

³Measured in the standard measuring plane. The standard measuring plane is defined as a plane that is within 25 mm of the worktable surface.

⁴E₁, Z axis linear and E₂, XY area accuracy standards are described in QVI Publication Number 790762.



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