

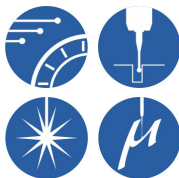


SmartScope® Quest 650



- *Accurate video metrology* – TeleStar® telecentric 10:1 zoom optics for the highest level of optical performance
- *Multisensor versatility* – Optional touch probe, TTL interferometric laser, micro-probes, SP25 continuous contact scanning probe, PH10 motorized probe head, and 4th and 5th axis rotary indexers
- *State-of-the-art software* – Choose from a variety of powerful QVI metrology, productivity and offline software applications, to suit your requirements

The Ultimate Multisensor Dimensional Measuring System



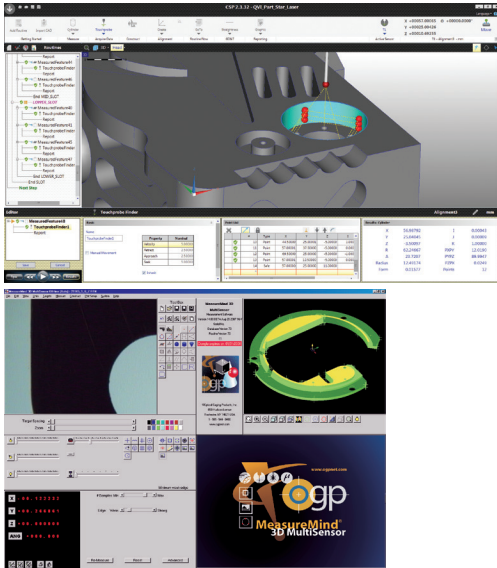
Axis	Travel (mm)
X axis	610
Y axis	660
Z axis	400



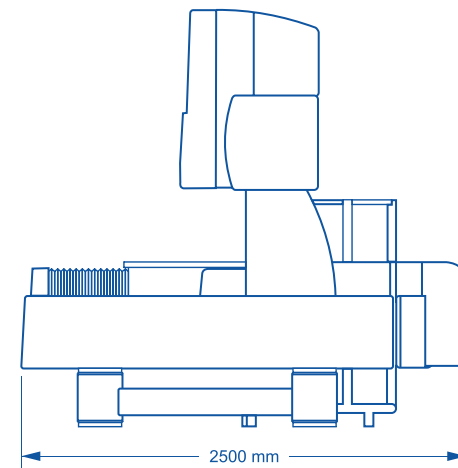
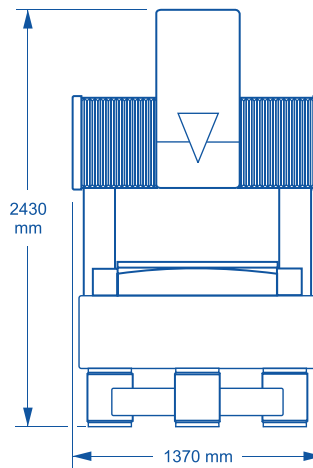
Shown with optional touch probe & change rack



SmartScope® Quest 650



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



Machine Weight: 4730 Kg
Crated Weight: 5857 Kg

	Standard	Optional
XYZ travel	610 x 660 x 400 mm	
XYZ scale resolution	0.1 µm	0.05 µm; 0.04 µm
Drive system	XY liquid cooled linear motor drives; Z and zoom, DC servo	
Worktable	Hardcoat anodized, with fixture holes, removable stage glass, 100 kg recommended max payload	
Optics	Patented [†] 10:1 AccuCentric® TeleStar® auto-calibrating, telecentric zoom, motorized; mag range 0.8x-8x, with up to 10 calibrated positions; 1.0x replacement lens	Replacement lenses, optical: 0.45x/200 mm WD, 0.5x/130 mm WD, 2.0x/32 mm WD, 4.0x/20 mm WD Replacement lenses, optical/laser: 0.45x/200 mm WD, 0.5x/130 mm WD, 2.0x, 4.0x Optical accessories: LED grid projector, laser pointer (not available w/TTL laser)
FOV size (std optical configuration)	Measured diagonally, 8.9 mm (low mag) to 0.9 mm (high mag)	
Illumination	Patented ^{††} high performance monochromatic substage backlight, LED coaxial TTL surface, 8 sector/6 ring SmartRing™ LED	
Camera	High resolution, black & white digital metrology camera	High resolution color 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, patented ^{†††} on-axis TeleStar Plus interferometric TTL laser, off-axis DRS™ laser, Feather Probe™, Rainbow Probe™ scanning white light sensor, PH10 motorized probe head
Controller	Windows® based, with up-to-date processor and networking/communication ports	
Controller accessory package	24" flat panel LCD monitor, keyboard, 3-button mouse	24" flat panel LCD monitor for dual monitor display
Software	QVI Portal, including: • Portal Navigator • Independent Calibration Engine (ICE) • Multimedia Content Viewer • SmartLink™	Metrology software: ZONE3® or ZONE3 Pro, MeasureMind® 3D MultiSensor Productivity software: MeasureFit® Plus, SmartFit® 3D, SmartProfile® Offline software: ZONE3, MeasureMind 3D MultiSensor
Power requirements	230 vac, 50/60 Hz, 1 phase, 1550 W; Air - clean, dry air at 80 PSI min, 7 SCFM flowrate	
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	
XYZ volumetric accuracy¹	$E_3 = (1.8 + 5L/1000) \mu\text{m}^{2.4.5}$	$E_3 = (1.2 + 6L/1000) \mu\text{m}^{2.4.5}$
XY area accuracy¹	$E_2 = (1.5 + 4L/1000) \mu\text{m}^{2.3.4}$	$E_2 = (1.0 + 5L/1000) \mu\text{m}^{2.3.4}$ (requires optional 0.05 µm or 0.04 µm scale resolution)
Z linear accuracy¹	$E_1 = (2.5 + 5L/1000) \mu\text{m}^4$	$E_1 = (1.5 + 5L/1000) \mu\text{m}^4$ (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. Volumetric accuracy performance requires use of QVI 3D metrology software, such as MeasureMind 3D or ZONE3.

²With evenly distributed load up to 10 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, E₂, XY area, and E₃, XYZ volumetric accuracy standards are described in QVI Publication Number 790762. ⁵On-site verification optional.



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