

## SmartScope® CNC 300

- **Designed-in precision** – Patented+ “elevating bridge” design eliminates errors common to other designs
- **Precision optics** – High quality AccuCentric® zoom lens automatically compensates magnification for each zoom position
- **Superb illumination for the best video measurements** – Standard profile light, coaxial surface light, and SmartRing™ light illuminate parts from all angles
- **Multisensor versatility** – Optional touch probe, scanning probe, laser, and micro-probe sensors

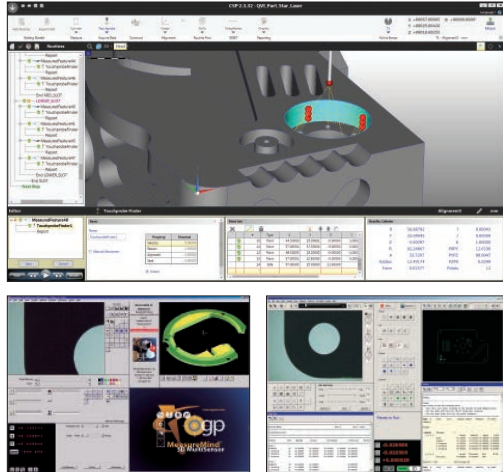
Axis	Travel (mm)
X axis	300
Y axis	300
Z axis	250

### High Capacity Multisensor Dimensional Measuring System that Fits on a Benchtop

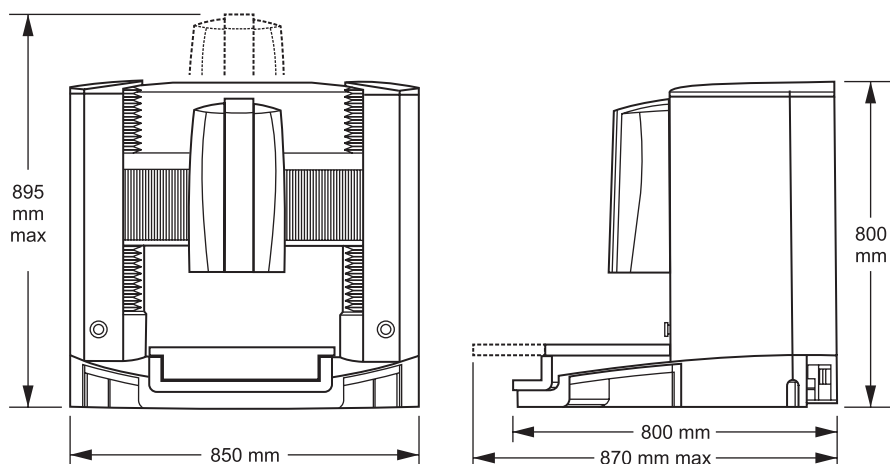


Shown with optional touch probe, MicroTheta™ Rotary Indexer & QVI TTL laser

# SmartScope® CNC 300



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



Machine Weight: 158 kg  
Crated Weight: 192 kg

	Standard	Optional
XYZ travel	300 x 300 x 250 mm	
XYZ scale resolution	0.5 µm, with dual Z-axis scales standard	0.1 µm
Drive system	DC servo with 4-axis control (X,Y,Z,zoom); with multifunction handheld controller; dual Z-axis drives	
Worktable	Hardcoat anodized, with fixture holes, removable stage glass, 30 kg recommended max payload	
Rotary axis		Miniature Servo Rotary (MSR), MicroTheta Rotary (MTR)
Optics	AccuCentric® auto-compensating zoom with up to 25 calibrated positions, 1.0x front lens with 64 mm working distance	0.5x, 0.75x, 1.5x, and 2.0x lens attachments; 2.5x and 5.0x high magnification replacement lenses; 2.0x and 5.0x laser lenses (for use with or without optional TTL laser), LED autofocus grid projector; TTL laser adapter (includes laser pointer)
FOV size (std optical configuration)	Measured diagonally, 10.1 mm (low mag) to 1.1 mm (high mag)	
Illumination	Patented** LED numerical aperture matching substage, LED coaxial TTL surface, 8 sector/8 ring SmartRing™ LED (white)	
Camera	High resolution color 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, on-axis TTL laser (with 2.0x laser lens), Feather Probe™
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	<ul style="list-style-type: none"> <li>Choice of ZONE3 Express or Measure-X or MeasureMind 3D metrology software</li> <li>QVI Portal</li> <li>Portal Navigator</li> <li>Independent Calibration Engine (ICE)</li> <li>Multimedia Content Viewer</li> <li>SmartLink™</li> </ul>	<b>Metrology software:</b> ZONE3 Express, Prime, or Pro; MeasureMind 3D; Measure-X <b>Productivity software:</b> MeasureFit® Plus, SmartFit® 3D, SmartProfile® <b>Offline software:</b> ZONE3, MeasureMind 3D, Measure-X
Power requirements	100-120 VAC or 200-240 VAC, 50/60 Hz, 1 phase, 1000 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	
XYZ volumetric accuracy		$E_3 = (3.8 + 5L/1000) \mu\text{m}^{1.2,4,5}$ (requires QVI 3D metrology software <sup>1</sup> )
XY area accuracy	$E_2 = (1.8 + 5L/1000) \mu\text{m}^{1.2,3,4}$	
Z linear accuracy	$E_1 = (3.4 + 5L/1000) \mu\text{m}^{1.4}$	$E_1 = (2.4 + 5L/1000) \mu\text{m}^{1.4}$ (with optional 2.0x replacement lens and grid projector, TTL laser, or TP20 or TP200 touch probe)

<sup>1</sup>Patent Number 6,518,996 <sup>11</sup>Patent Number 6,161,940

<sup>1</sup>Where 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.

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

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

<sup>4</sup>E<sub>1</sub> Z axis linear, E<sub>2</sub> XY area, and E<sub>3</sub> XYZ volumetric accuracy standards are described in QVI Publication Number 790762. <sup>5</sup>On-site verification optional.



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