

## SmartScope® CNC 500

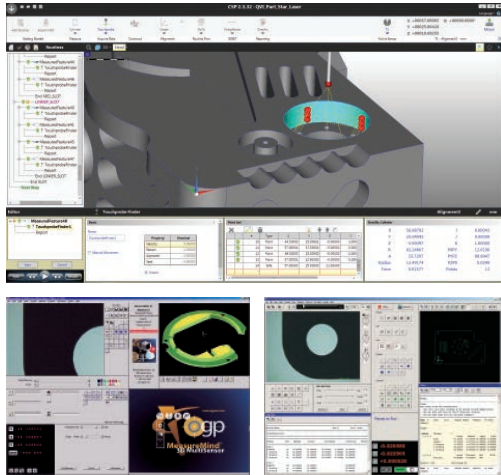
- **Measurement stability –**  
Optics mounted on a rigid bridge support structure for metrological integrity
- **Precision optics –**  
High quality AccuCentric® zoom lens automatically compensates magnification for each zoom position
- **Exclusive illumination to measure the most challenging parts –**  
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

### Large Measurement Capacity Multisensor Dimensional Measuring System

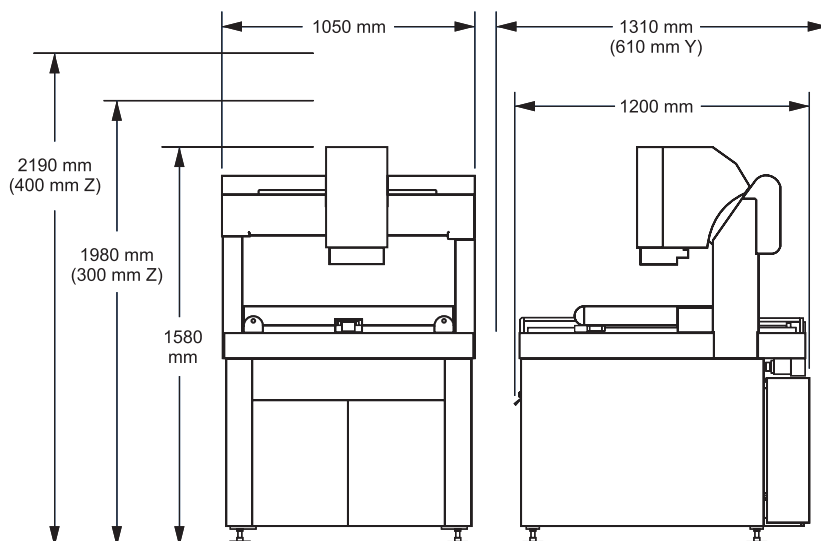
Axis	Travel (mm)
X axis	500
Y axis	450
Z axis	200
Extended Y (opt)	610
Extended Z (opt)	300
Extended Z (opt)	400



# SmartScope® CNC 500



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



Machine Weight: 960 kg  
Crated Weight: 1020 kg

	Standard	Optional
<b>XYZ travel</b>	500 x 450 x 200 mm	Extended Y axis, 610 mm; extended Z axis, 300 or 400 mm
<b>XYZ scale resolution</b>	0.5 µm	0.1 µm (optional XYZ), optional dual Y-axis scales
<b>Drive system</b>	DC servo with 4-axis control (X,Y,Z,zoom); with multifunction handheld controller	
<b>Worktable</b>	Nickel plated steel, with fixture holes, removable stage glass, 65 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 or 400 mm Z axis)
<b>Optics</b>	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)
<b>FOV size (std optical configuration)</b>	Measured diagonally, 10.1 mm (low mag) to 1.1 mm (high mag)	
<b>Illumination</b>	LED substage (monochromatic), LED coaxial TTL surface, 8 sector/8 ring SmartRing™ LED (white)	
<b>Camera</b>	High resolution color digital metrology camera	
<b>Image processing</b>	256 level grayscale processing with 10:1 subpixel resolution	
<b>Sensor options (contact OGP for possible combinations of sensors)</b>		Touch probe and change rack, SP25 scanning probe, on-axis TTL laser (with 2.0x laser lens), off-axis DRS™ laser, Feather Probe™, Rainbow Probe™ scanning white light sensor
<b>Controller</b>	Windows® based, with up-to-date processor and on board networking/communication ports	
<b>Controller accessory package</b>		24" flat panel LCD monitor, or dual 24" flat panel LCD monitors; keyboard, 3-button mouse (or user supplied)
<b>Software</b>	<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
<b>Power requirements</b>	100-120 VAC or 200-240 VAC, 50/60 Hz, 1 phase, 700 W	
<b>Rated environment</b>	Temperature 18-22 °C, stable to ±1 °C; 30-80% humidity; vibration <0.001g below 15 Hz	
<b>Operating environment, safe operation</b>	15-30 °C	
<b>XY area accuracy</b>	$E_2 = (2.5 + 5L/1000) \mu\text{m}^{1,2,3,4}$	
<b>Z linear accuracy</b>	$E_1 = (3.0 + 8L/1000) \mu\text{m}^{1,4}$	$E_1 = (2.0 + 8L/1000) \mu\text{m}^{1,4}$ (with optional 2.0x replacement lens and grid projector, TTL laser, or TP20 or TP200 touch probe)

<sup>1</sup>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. <sup>2</sup>With evenly distributed load up to 10 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 and E<sub>2</sub> XY area accuracy standards are described in QVI Publication Number 790762.



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