



Economical Large Format Video Measurement

	Travel	mm
CNC 500	X axis	500
	Y axis	450
	Z axis	200
Extended Y (option)	Y axis	610
Extended Z (option)	Z axis	300
Extended Z (option)	Z axis	400

Great value in a
large measurement
capacity metrology system

SmartScope® CNC 500 from OGP® offers great value and high precision. With superb optics mounted on a bridge-type support structure for the ultimate in measurement stability, this dimensional metrology system is designed to support a variety of multisensor options — including touch probes, Feather Probe™, laser sensors, and Rainbow Probe™ scanning white light sensor — and provide enhanced measurement capability and range in a small space.

- **Auto-calibrating Zoom Lens.** The patented 12:1 AccuCentric® zoom lens calibrates itself automatically after every magnification change, ensuring highest accuracy throughout its entire range and over its entire lifetime.
- **Positional Accuracy.** Precision mechanical bearing XYZ stages with DC servo motor drives and three-axis joystick control — mated to a rigid bridge structure — assure rapid, smooth translation and robust performance. Decoupling the X/Z axes from the staged part, that moves only in the Y axis, assures maximum positional accuracy.
- **Versatile Illumination.** Exclusive OGP illumination technology provides the programmable power needed to image the most challenging parts — including prismatic or cylindrical parts. Green LED profile and white TTL coaxial illuminators — even the patented programmable SmartRing™ LED illuminator — are standard with SmartScope CNC 500.
- **Available Extended Travels.** SmartScope CNC 500 can be configured with expanded Y and/or Z travel(s) to accommodate large parts or fixtures.
- **Capable Metrology Software.** OGP Measure-X® metrology software uses point-and-click tools to simplify complex measurements, and provides a versatile measurement package for general use. SmartScope CNC 500 is also available with MeasureMind® 3D MultiSensor, for full 3D functionality.



Technical Specifications

■ Standard ■ Optional

<ul style="list-style-type: none"> ■ Stage travel (XYZ): 500 x 450 x 200 mm ■ Extended Y axis: 610 mm ■ Extended Z axis: 300 mm, 400 mm ■ Measuring unit dimensions (approx LWH): 114 x 120 x 153 cm, 960 kg (contact OGP for crated size/weight) ■ Measuring unit dimensions, extended Y or Z axis: Contact OGP for unit size/weight ■ Computer workstation dimensions (approx LWH): 91 x 61 x 80 cm, 36 kg ■ XYZ Scale resolution: 0.5 μm ■ 0.1 μm ■ Motor drives: DC servo with joystick control (X,Y,Z, zoom) ■ Interactive stage control: 4-axis (X,Y,Z, zoom) with ergonomic, multifunction hand controller (requires MeasureMind 3D metrology software) ■ Worktable: Nickel plated with fixture holes and removable stage glass, 65 kg load capacity
<ul style="list-style-type: none"> ■ Zoom lens: Patented[†] 12:1 AccuCentric[®] auto-calibrating with up to 25 calibrated positions ■ Optical accessories: 0.5x, 0.75x, 1.5x, and 2.0x lens attachments; 2.5x and 5.0x replacement lenses; LED grid projector, laser pointer (not available with TTL laser) ■ Camera: ½" format high resolution color CCD with 768 x 494 pixel array ■ Illumination: Green LED substage, white LED coaxial TTL surface, patented^{††} 8 sector/8 ring SmartRing[™] white LED ■ Image processing: 256 level grayscale processing with 10:1 sub-pixel resolution ■ Multisensor options: Touch probe and change rack, Feather Probe[™], Rainbow Probe[™] scanning white light sensor, on-axis TTL laser, off-axis DRS[™] laser (contact OGP for possible combinations of sensors)
<ul style="list-style-type: none"> ■ Power requirements: 115/230 vac, 50/60 Hz, 1 φ, 700 W ■ Rated environment: Temperature between 18 and 22° C, stable to ± 1° C; 30-80% humidity (non-condensing); vibration <0.001g below 15 Hz ■ Operating environment, safe operation: 15-30° C
<ul style="list-style-type: none"> ■ Metrology software: Measure-X[®] ■ MeasureMind[®] 3D MultiSensor ■ Computer: Minimum configuration Dual Core processor @ 1.8 GHz, 1.0 GB RAM, 80 GB hard drive, 1.44 MB floppy drive, DVD-RW drive, parallel, serial, and USB 2.0 ports, on board 10/100 LAN ■ Operating system: Microsoft[®] Windows[™] XP Professional ■ Computer accessories: Single or dual 22" flat panel LCD monitor(s), keyboard, three-button mouse (or user supplied) ■ Software: For use with Measure-X or MeasureMind 3D; MeasureFit[®] Plus, SmartReport[®] powered by QC-Calc[™], MeasureMenu[™], Scan-X[®] ■ Software: For use with MeasureMind 3D only; SmartScript[®], SmartTree[™], SmartProfile[™]
<p>Where L=measuring length in mm. Applies to thermally stable system in rated environment. All optical accuracy specifications at maximum zoom lens setting.</p> <ul style="list-style-type: none"> ■ XYZ volumetric accuracy: $E_3 = (3.5 + 5L/1000) \mu\text{m}^{1,2,3,5}$ (requires MeasureMind 3D) ■ XY area accuracy: $E_2 = (2.5 + 5L/1000) \mu\text{m}^{3,4}$ ■ Z linear accuracy: $E_1 = (2.8 + 8L/1000) \mu\text{m}^6$ ■ Z linear accuracy: $E_1 = (2.0 + 8L/1000) \mu\text{m}^6$ (with optional 2.0x lens attachment/grid projector, on-axis TTL laser w/5.0x replacement lens, off-axis DRS-2000 laser, or TP-20/-200 touch probe)
<ul style="list-style-type: none"> ■ Warranty: One year ■ Accessories: Fixtures and calibration artifacts, rotary indexers

[†]Patent Number 5,389,774 ^{††}Patent Number 5,690,417

1) Maximum rate of temperature change: 1° C/hour. 2) Maximum vertical gradient: 1° C/meter.
 3) With evenly distributed load up to 5 kg. Depending on load distribution, accuracy at maximum rated load may be less than standard accuracy.
 4) XY axis artifact: QVI 25 intersection grid reticle in the standard measuring plane. The standard measuring plane is defined as a plane that is within 25 mm of the worktable surface.
 5) XYZ volumetric artifact: QVI linear linescale. 6) Z axis artifact: QVI step gage or master gage blocks.



Multisensor Measurements for Manufacturing Professionals

World Headquarters and Technology Center: 850 Hudson Avenue • Rochester, NY 14621 USA • Tel 585.544.0400 • Fax 585.544.8092
OGP Shanghai Co, Ltd: 17 Lane 593 • East Jin An Rd • Pu Dong New District • Shanghai, China 201204 • Tel 86.21.5045.8383/8989 • Fax 86.21.6845.8800
OGP Messtechnik GmbH: Nassastr. 11 • 65719 Hofheim-Wallau, Germany • Tel 49.6122.9968.0 • Fax 49.6122.9968.20
Optical Gaging (S) Pte Ltd: 21 Tannery Road, 347733 Singapore • Tel 65.67.41.8880 • Fax 65.68.46.8998
Internet: www.ogpnet.com • intl-sales@ogpnet.com