



SMARTSCOPE[®] CNC



Large Capacity Dimensional Measurement System

	Travel	mm
CNC 1000	X axis	1000
	Y axis	610
	Z axis	200
Extended Z (option)	Z axis	300
Extended Z (option)	Z axis	400

Great value in a large measurement capacity multisensor dimensional measurement system

SmartScope[®] CNC 1000 from OGP[®] offers large XY travel range in a moving gantry design for outstanding measurement stability. In addition to excellent video measurement performance, it is multisensor-ready — for touch probes, laser, or micro-probes — making it a highly productive general purpose dimensional measurement system.

- **Clear imaging, wide magnification range zoom optics.** The patented 12:1 AccuCentric[®] zoom lens calibrates itself automatically after every magnification change, ensuring highest accuracy throughout its range, over its entire lifetime.
- **Rugged, precise staging.** The stable moving gantry design uses precision mechanical bearing XYZ stages with DC servo motor drives and three-axis joystick control, assuring rapid, smooth, consistent motion. The high-load capacity stage can support 60 kg, and the thick granite base and three-point frame provide a metrologically stable structure.
- **Illumination.** Green LED back light, white coaxial surface light, and the patented SmartRing[™] light provide the programmable power needed to image the most challenging parts.
- **Metrology software.** Measure-X[®] metrology software provides extensive functions and logical controls. Optional MeasureMind[®] 3D MultiSensor software provides full 3D capability with sensor and rotary integration. SmartScope CNC 1000 is easily programmed for fully automatic operation.



Technical Specifications

■ Standard ■ Optional

<ul style="list-style-type: none"> ■ Stage travel (XYZ): 1000 x 610 x 200 mm ■ Extended Z axis: 300 mm, 400 mm ■ Measuring unit dimensions (approx LWH), weight: 187 x 176 x 165 cm, 2500 kg ■ Measuring unit dimensions, extended Z axis: Contact OGP for unit size/weight ■ Crated dimensions (approx LWH), crated weight: 204 x 219 x 193 cm (crate #1), 244 x 160 x 132 cm (crate #2), 3620 kg (total weight) ■ Crated dimensions, extended Z axis: Contact OGP for crated size/weight ■ XYZ scale resolution: 0.5 μm ■ Motor drives: DC servo with joystick control (X, Y, Z, zoom) ■ Worktable: Nickel-plated, with fixture holes and removable stage glass, 60 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 illumination ■ Image processing: 256 level grayscale processing with 10:1 sub-pixel resolution ■ Multisensor options: Off-axis DRS[™] laser, on-axis TTL laser, touch probe and change rack, Feather Probe[™], Rainbow Probe[™] scanning white light sensor (contact OGP for possible combinations of sensors)
<ul style="list-style-type: none"> ■ Power requirements: 115/230 vac, 50/60 Hz, 1 φ, 900 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: OGP Measure-X[®] Optional: OGP MeasureMind[®] 3D MultiSensor ■ Computer: Minimum configuration Dual Core processor @ 1.8 GHz, 1 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"> ■ XY area accuracy: $E_z=(2.5 + 6L/1000) \mu\text{m}^*$ ■ Z linear accuracy: $E_z=(3.0 + 8L/1000) \mu\text{m}^{**}$ ■ Z linear accuracy: $E_z=(2.0 + 8L/1000) \mu\text{m}^{**}$ (with optional 2.0x replacement lens/grid projector; or DRS-300, -500, or -2000 laser; or TTL laser; or TP-20 or -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

*With evenly distributed 5 kg load in the standard measuring plane. Depending on load distribution, accuracy at maximum rated load may be less than standard accuracy. XY axis artifact: QVI 25 intersection grid reticle at standard measuring plane. The standard measuring plane is defined as a plane that is 25 mm above the worktable.

**Z axis artifact: QVI step gage or master gage blocks.



Multisensor Measurements for Manufacturing Professionals

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