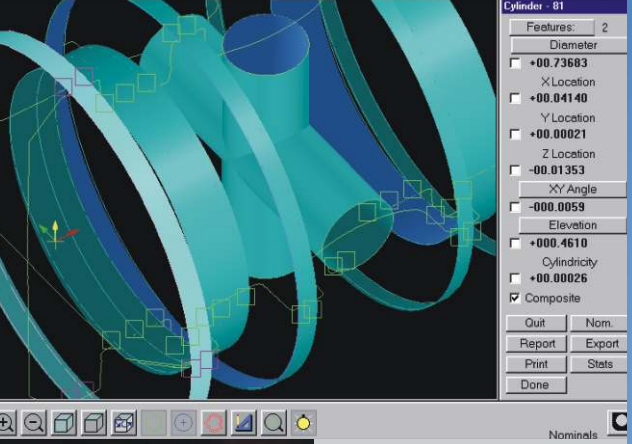

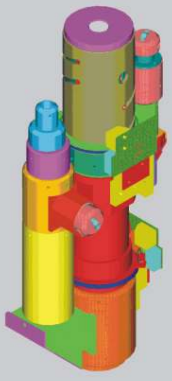

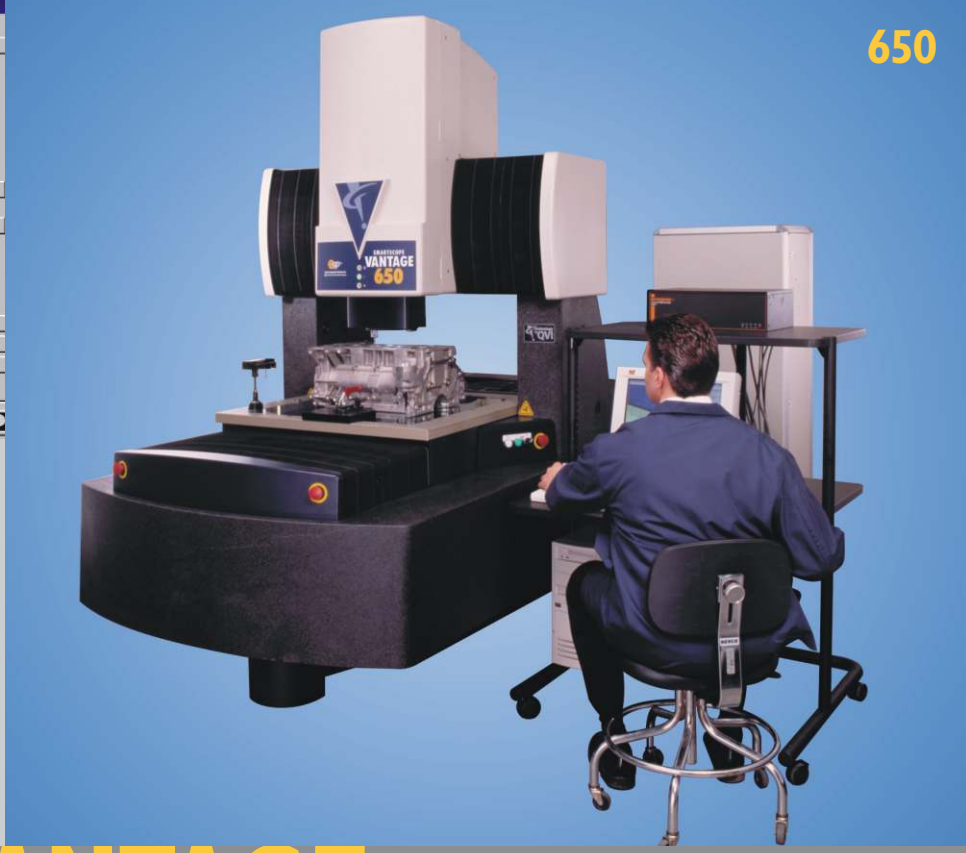

SMARTSCOPE VANTAGE

High Accuracy Multisensor Metrology System

	Travel	mm
Vantage 650	X axis Y axis Z axis	610 660 300
Extended Z (option)	Z axis	400

Extremely accurate dimensional measurements within a large volume with a choice of sensors - that is SmartScope® Vantage™ 650 from OGP®. SmartScope Vantage is designed as a precision multisensor measurement system. Use video and any combination of laser, tactile probes, or micro-probes, single point or scanned, for measurements of extremely complex parts. Mount a part to an optional single or compound rotary for measurements in up to five axes. MeasureMind® 3D MultiSensor metrology software provides automatic operation of the measurement process, seamlessly integrating all measurement data from every sensor to a common reference.

SmartScope Vantage 650 uses advanced technologies: innovative OGP® fully telecentric TeleStar® optics, specially designed for metrology; high speed linear-motor-driven stages; LED ring lights for true-image illumination; precision linear scales and a proven bridge platform design on a three-point stand, for the stability to achieve a volumetric accuracy of 1.8 + 6L/1000 µm.

Vantage 650 is available with the latest sensor technologies. Feather Probe™ measures fragile surfaces with less than one milligram of force. The SP25M scanning probe, which can also be mounted on a PH-10 motorized probe head, offers continuous contact scanning in any plane. Rainbow Probe™ scanning white light sensor characterizes Z-axis topography to nanometer levels. Unique interferometric TeleStar TTL (through-the-lens) and DRS™ lasers provide non-contact surface focus and contour scanning. These sensors, coupled with OGP video expertise, make SmartScope Vantage 650 capable of satisfying the most demanding measurement applications with high accuracy performance.

The Ultimate Multisensor Metrology Solution

Technical Specifications

■ Standard ■ Optional

■	**Stage travel (XYZ):** 610 x 660 x 300 mm
■	**Extended Z axis:** 400 mm
■	**Measuring unit dimensions (approx LWH):** 233 x 133 x 235 cm, 4730 kg
■	**XYZ scale resolution:** 0.1 µm
■	0.05 µm, 0.01 µm
■	**Interactive stage control:** 4 axis (X,Y,Z,zoom) with ergonomic, multifunction hand controller
■	**Motor drives:** Liquid-cooled linear (X,Y), DC servo (Z, zoom)
■	**Maximum stage speed:** 350 mm/sec (X,Y axis), 200 mm/sec (Z axis)
■	**Maximum stage acceleration:** 1500 mm/sec^2 (X,Y axis)
■	**Worktable:** Hardcoat anodized with fixture holes and removable stage glass, 100 kg load capacity
■	**Zoom lens:** Patented† 10:1 AccuCentric® TeleStar® auto-calibrating, telecentric, motorized, mag range 0.8x - 8x, 10 position
■	**Replacement lens, optical:** 1.0x
■	**Replacement lenses, optical:** 0.5x/120 mm WD, 2.0x/32 mm WD, 4.0x/20 mm WD (grayscale camera only)
■	**Replacement lenses, optical/laser:** 0.45x/200 mm WD (grayscale camera only), 0.5x/120 mm WD, 2.0x, 4.0x (grayscale camera only)
■	**Camera/Illumination:** *Camera/* high resolution grayscale with 752 x 582 pixel array
	Illumination/ LED substage backlight (collimated, green), LED coaxial TTL surface (green), patented†† 8 sector/6 ring SmartRing™ LED (green)
■	**Camera/Illumination:** *Camera/* high resolution color CCD with 768 x 494 pixel array
	Illumination/ substage backlight (collimated, green), coaxial TTL fiber optic surface, 8 sector/6 ring SmartRing LED (white)
■	**Image processing:** 256 level grayscale processing with 50:1 sub-pixel resolution
■	**Optical accessories:** LED grid projector, laser pointer (not available with TTL laser)
■	**Multisensor options:** Touch probe and change rack, SP25 scanning probe, TeleStar TTL laser, Feather Probe™, Rainbow Probe™ scanning white light sensor, off-axis DRS™ laser, PH10 motorized probe head (contact OGP for possible combinations of sensors)
■	**Utility requirements:** 200-240 vac, ± 5%, 50/60 Hz, 1 ϕ, 1550 W; Air - clean, dry air at 5.62 kg/cm^2 min, 15 liters/minute flowrate
■	**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:** 15-30° C
■	**Metrology software:** OGP MeasureMind® 3D MultiSensor
■	**Computer:** Minimum configuration Dual Core processor @ 1.8 GHz, 1.0 GB RAM, 80 GB hard drive, 1.44 MB floppy, DVD-RW drive,
	parallel, serial, and USB 2.0 ports, on board 10/100 LAN
■	**Monitor option:** Single or dual 22" flat panel LCD monitor(s), keyboard, three button mouse (or user supplied)
■	**Operating system:** Microsoft® Windows™ XP Professional
■	**Software:** MeasureFit® Plus, SmartReport® powered by QC-Calc™, SmartFit® 3D, MeasureMenu™, Scan-X®, SmartScript®, SmartTree™, SmartProfile™
	Where L=measuring length in mm. Applies to thermally stable system in rated environment. All optical accuracy specifications at maximum zoom lens setting.
■	**XYZ volumetric accuracy:** E_3=(1.8 + 6L/1000)* µm
■	**XY area accuracy:** E_2=(1.5 + 4L/1000) µm**
■	**Z linear accuracy:** E_1=(2.5 + 5L/1000) µm***
■	**Z linear accuracy:** E_1=(1.8 + 6L/1000) µm*** (with optional 2x or 4x replacement lens and grid projector)
■	**Z linear accuracy:** E_1=(1.5 + 5L/1000) µm*** (with optional DRS-300 or -500 laser; TeleStar TTL or DRS-2000 laser; or TP-20 or -200 touch probe)
■	**Warranty:** One year
■	**Accessories:** Fixtures and calibration artifacts, single and composite rotaries

†Patent Numbers: 5,389,774 (AccuCentric); 6,292,306 (TeleStar) ††Patent Number 5,690,417
*XYZ volumetric artifact: QVI dual linear grid reticle.
**With evenly distributed 5 kg load. Depending on load distribution, accuracy at maximum rated load may be less than standard accuracy. XY axis artifact: QVI 25 intersection grid reticle in the 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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