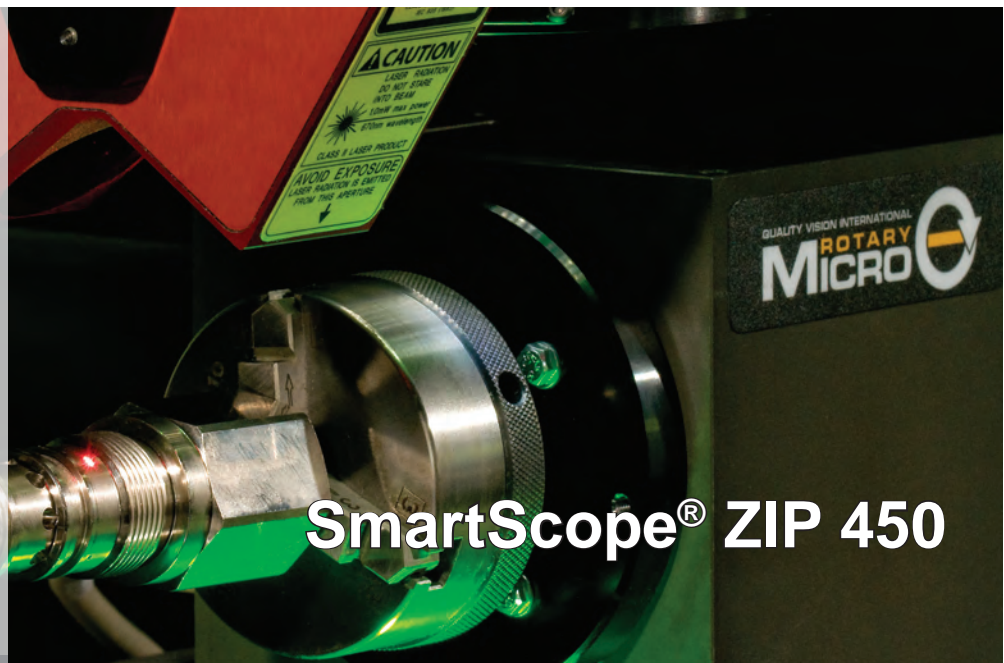




Optical Gaging Products



A Division of Quality Vision International



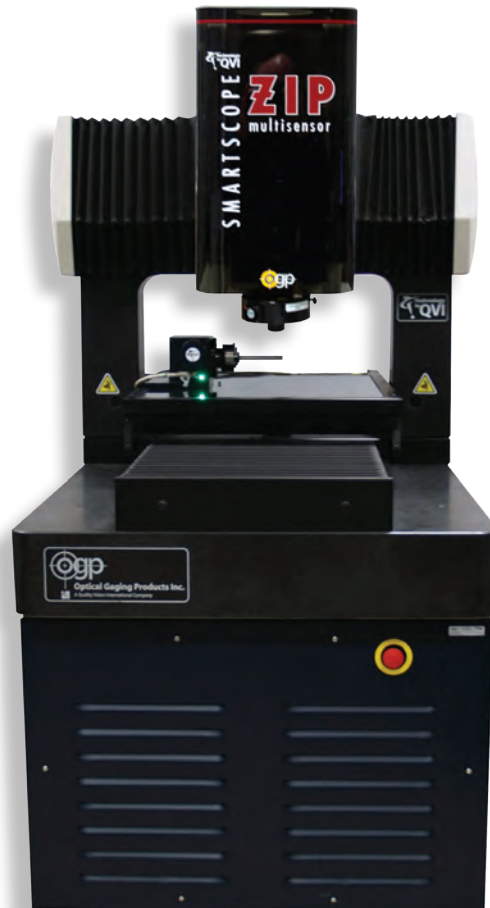
SmartScope® ZIP 450

- *Accurate video metrology* – 5:1 AccuCentric® motorized zoom lens autocalibrates with every magnification change
- *Measurement stability is built-in* – A granite base and bridge provide a rigid, orthogonal stage for measurement stability
- *Multisensor versatility* – Optional non-contact sensors and touch probes

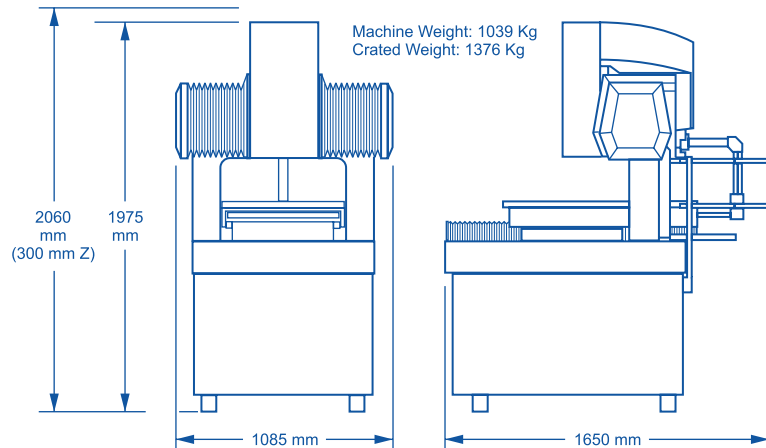
Heavy-Duty Multisensor Measuring System for Large Parts



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



SmartScope® ZIP 450



	Standard	Optional
XYZ travel	450 x 450 x 200 mm	Extended Y axis, 610 mm; extended Z axis, 300 mm
XYZ scale resolution	0.1 µm	0.05 µm
Drive system	DC servo with 4-axis control (X,Y,Z,zoom); with multifunction handheld controller (for MeasureMind® 3D) or joystick (for Measure-X®)	
Worktable	Hardcoat anodized, with fixture holes, removable stage glass, 50 kg recommended max payload	
Optics	5:1 AccuCentric® auto-calibrating zoom, motorized; 1.0x front replacement lens; 1.0x adapter tube; 2.0x lens attachment	0.5x, 0.75x, 1.5x lens attachments; 1.0x LWD (not for use with SmartRing™ light), 2.5x, 5.0x, 10.0x front replacement lenses; 0.67x, 2.0x adapter tubes; autofocus LED grid projector; laser adapter (includes laser pointer)
FOV size (std optical configuration)	Measured diagonally, 5.0 mm (low mag) to 0.9 mm (high mag)	
Illumination	Substage LED profile (green), coaxial LED surface (white), patented ¹ SmartRing LED ring light (white)	VuLight™ oblique illuminator, small fiber optic ring light, fiber optic surface light, large fiber optic ring light
Camera	High resolution, color	High resolution, black & white 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, off-axis DRS™ laser, on-axis TTL laser, Rainbow Probe™ scanning white light sensor, 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)
Metrology software	MeasureMind® 3D MultiSensor	Measure-X®, MeasureMind 3D Offline
Productivity software		MeasureFit® Plus, SmartReport® powered by QC-Calc, SmartFit® 3D, SmartProfile®, Scan-X®, TrueMap™, SmartScript®, SmartTree™
Power requirements	115/230 vac, 50/60 Hz, 1 phase, 700 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 accuracy¹	$E_3 = 2.8 + 6L/1000 \mu\text{m}^{2,4,5}$	
XY area accuracy¹	$E_2 = (1.8 + 4L/1000) \mu\text{m}^{2,3,4}$	
Z linear accuracy¹	$E_1 = (2.0 + 5L/1000) \mu\text{m}^4$ (with 2.0x lens attachment)	$E_1 = (1.8 + 5L/1000) \mu\text{m}^4$ (with optional TTL laser, or DRS-2000 laser) $E_1 = (1.3 + 5L/1000) \mu\text{m}^4$ (with optional DRS-300 or -500 laser, or TP20 or 200 touch probe)

¹Patent Number 5,690,417

²Where 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 CSP.

³With evenly distributed load up to 10 kg. Depending on load distribution, accuracy at maximum rated load may be less than standard accuracy.

⁴Measured in the standard measuring plane. The standard measuring plane is defined as a plane that is within 25 mm of the worktable surface.

⁵ E_1 , Z axis linear, E_2 XY area, and E_3 XYZ volumetric accuracy standards are described in QVI Publication Number 790762. ⁶On-site verification optional.



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