



SmartScope® Vantage™ 650

SmartScope Vantage 650 –

The ultimate large, high-accuracy system from OGP®. The massive granite base and cast-iron bridge are thermally stable, supporting the high-performance linear motor drives.

Vantage 650 provides high throughput and high accuracy, perfect for both large and small finely detailed parts.

Vantage 650 offers:

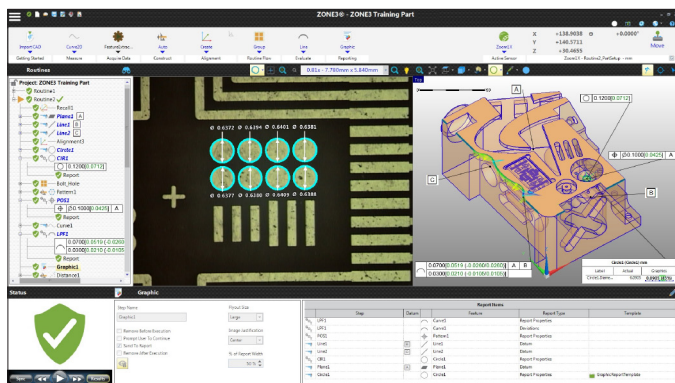
- **Accurate Video Metrology –**
TeleStar® telecentric 10:1 zoom optics for the highest level of optical performance.
- **Multisensor Versatility –**
Optional touch probe, SP25 continuous contact scanning probe, PH10 motorized probe head, Feather Probe™, off-axis DRS™ Laser, on-axis TeleStar Plus TTL Interferometric Laser, Rainbow Probe™, and 4th and 5th axis rotary indexers.
- **State-of-the-art Software –**
Powerful ZONE3® metrology software, and other productivity and offline software applications, to suit your requirements.

The Ultimate Multisensor Dimensional Measuring System



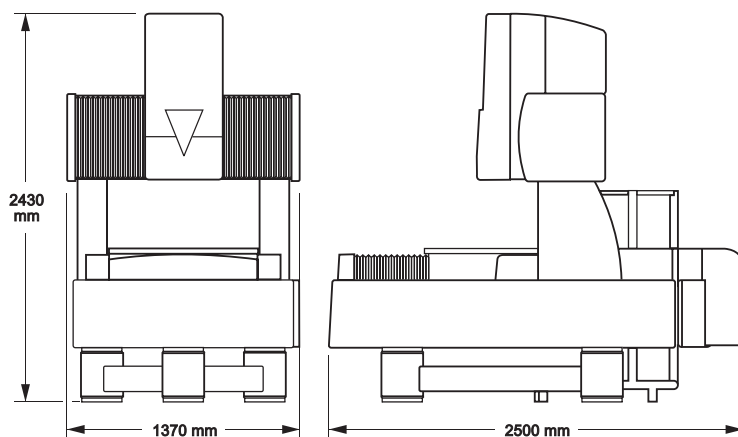
Shown with optional touch probe and change rack.





ZONE3® Metrology Software represents a totally new way of working with multisensor measurement systems – robust programming capabilities provide faster, easier, and more productive measurements.

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System Weight: 4750 kg
Shipping Weight: 5860 kg

	Standard	Optional
XYZ Travel	610 mm x 660 mm x 400 mm	
XYZ Scale Resolution	0.1 µm	0.05 µm
Drive System	XY liquid cooled linear motor drives; Z and zoom, DC servo; multifunction handheld controller	
Worktable	Hardcoat anodized, with fixture holes, removable stage glass, 100 kg recommended max payload	
Rotary Axis		Miniature Servo Rotary (MSR™), MicroTheta Rotary (MTR™), Heavy Duty Rotary (HDR), High Precision Rotary (HPR™), Dual Rotary
Optics*	AccuCentric® auto-compensating, fully telecentric zoom, motorized; 1x lens	Focus Grid Projector: LED source Laser Pointer: Not available with optional TTL Laser Replacement / Laser Lenses: 0.45x, 0.5x, 2.0x, 4.0x
Illumination	Substage LED profile, coaxial LED surface, SmartRing™ LED ring light	Flexible SmartRing light for 0.45x and 0.5x lenses, Tungsten Fiber-Optic Ring in lieu of SmartRing (1x lens only)
Metrology Camera	Monochrome digital metrology camera	
Field of View	8.1 mm x 6.1 mm (low zoom) to 0.81 mm x 0.61 mm (high zoom)	14.6 mm x 11.0 mm (0.45x lens), to 0.20 mm x 0.15 mm (4.0x lens)
Working Distance	65 mm	Up to 200 mm (0.45x lens)
Sensor Options		Tactile: TP20 or TP200 Touch Probe, SP25 Scanning Probe, Feather Probe, PH10 motorized probe head Non-Contact: TeleStar Plus Interferometric TTL Laser, DRS Laser, Rainbow Probe
Software	<ul style="list-style-type: none"> • ZONE3 Express metrology software • QVI® Portal 	Metrology software: ZONE3 Prime, ZONE3 Pro Productivity software: MeasureFit® Plus, SmartFit® 3D, EVOLVE® Suite (Design, EVOLVE SPC, Manufacturing, SmartProfile®) Offline software: ZONE3
System Controller	Windows® based, with up-to-date processor and on board networking/communication ports	
Controller Options		24" flat panel LCD monitor, or dual 24" flat panel LCD monitors, keyboard, 3-button mouse (or user supplied)
Power Requirements	230 VAC, 50/60 Hz, 1 phase, 1550 W	
Compressed Air Requirements	0.55 MPa; Minimum Flow capacity: 200 l/min; Air quality ISO 8573-1:2010 Class 4.3.4 or better	Air Dryer kit
Safe Operating Environment	15-30 °C, non-condensing	
Rated Environment	Temperature 18-22 °C, stable to ± 1 °C; max rate of change 1 °C / hour; max vertical gradient of 1 °C / meter; 30-80% humidity; vibration <0.001g below 15 Hz	
XYZ Volumetric Accuracy	$E_3 = (1.8 + 5L/1000) \mu\text{m}$	$E_3 = (1.2 + 5L/1000) \mu\text{m}$ (requires optional 0.05 µm scales)
XY Area Accuracy	$E_2 = (1.5 + 4L/1000) \mu\text{m}$	$E_2 = (1.0 + 4L/1000) \mu\text{m}$ (requires optional 0.05 µm scales)
Z Linear Accuracy	$E_1 = (2.5 + 5L/1000) \mu\text{m}$	$E_1 = (1.5 + 5L/1000) \mu\text{m}$ (requires optional TeleStar Plus TTL Laser, DRS Laser, or touch probe)

Accuracy is evaluated with a QVI verification procedure where "L" is measured length in millimeters. Specifications apply within the rated environment. Standard optical specifications apply at the maximum optical magnification of the standard configuration. XY Accuracy applies with an evenly distributed load up to 10 kg in the standard measuring plane. The standard measuring plane is defined as a plane that is within 25 mm of the worktable surface. Depending on load distribution, accuracy at maximum payload may be less than standard. On-site verification of volumetric accuracy is optional. This equipment complies with EMC directive EN IEC 61326-1, Class A.

*Lenses and lens attachments can be manually interchanged to change magnification and working distance.



Confidence. When Results Matter.™

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