



SmartScope Quest 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.

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

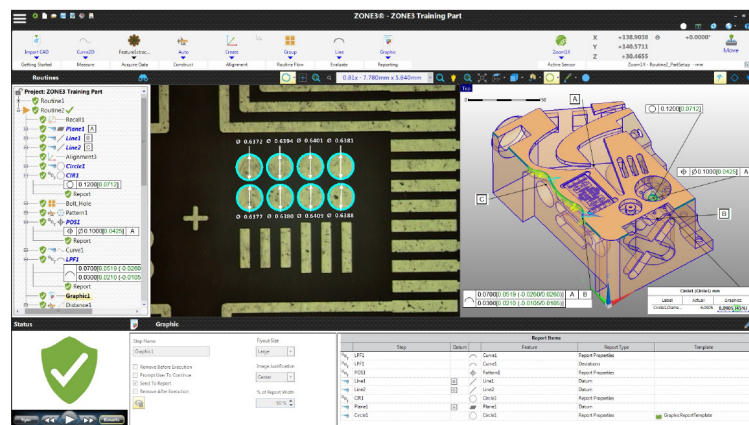
The Ultimate Multisensor Dimensional Measuring System



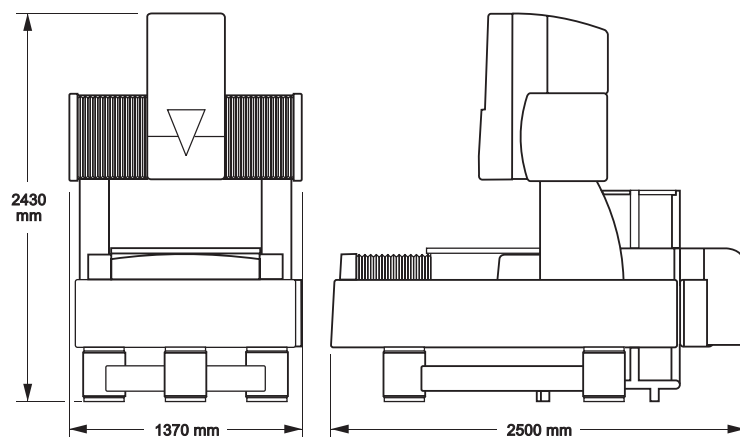
Shown with optional touch probe and change rack.



SmartScope® Quest™ 650



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



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: SmartFit® 3D, OGP 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, keyboard, 3-button mouse; Ergonomic sit / stand operator workstation | Dual 24" flat panel LCD monitors |
| Power Requirements | 200-240 VAC, 50/60 Hz, 1 phase, 2600 W | |
| Compressed Air Requirements | Air supply pressure: 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 | $E_3 = (1.8 + 5L/1000) \mu m$ | $E_3 = (1.2 + 5L/1000) \mu m$ (requires optional 0.05 µm scales) |
| XY Area Accuracy | $E_2 = (1.5 + 4L/1000) \mu m$ | $E_2 = (1.0 + 4L/1000) \mu m$ (requires optional 0.05 µm scales) |
| Z Linear Accuracy | $E_1 = (2.5 + 5L/1000) \mu m$ | $E_1 = (1.5 + 5L/1000) \mu m$ (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.

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



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