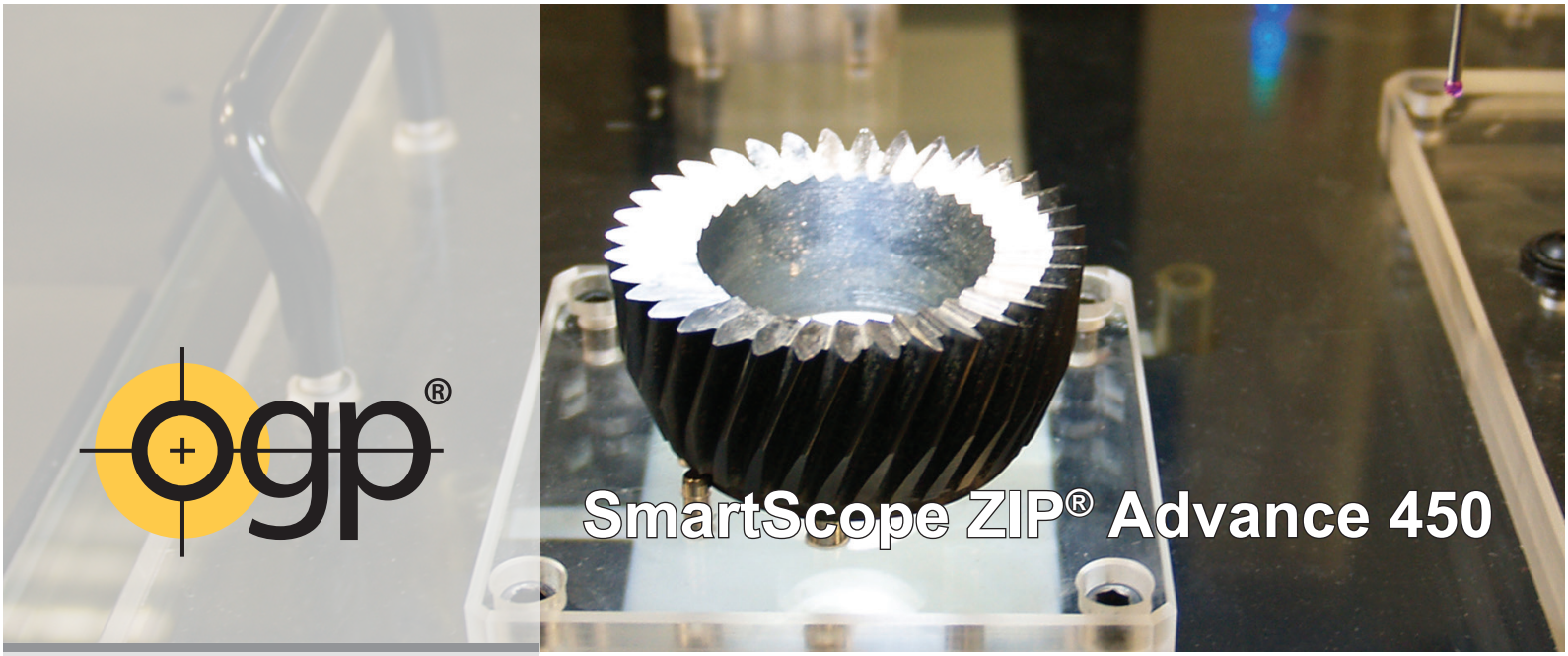


# SmartScope ZIP® Advance 450

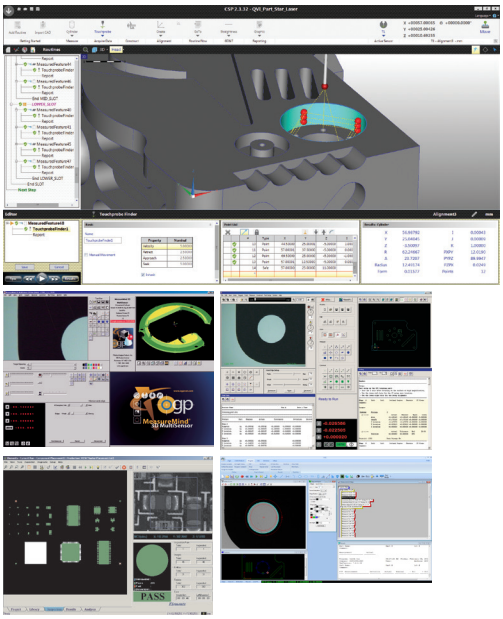
## Large Volume Dimensional Measuring System with Advanced Sensor Capabilities

- *High resolution positioning* – 0.05 µm XYZ scales provide extremely high-resolution positioning
- *Sharpest video image* – AccuCentric® Zoom 70 lens system with high-resolution digital metrology camera and three light sources to provide the sharpest image fidelity
- *Advanced sensor capability* – Optional high resolution sensors for specialized measurements
- *State-of-the-art software* – Choose from a variety of powerful QVI metrology, productivity and offline software applications

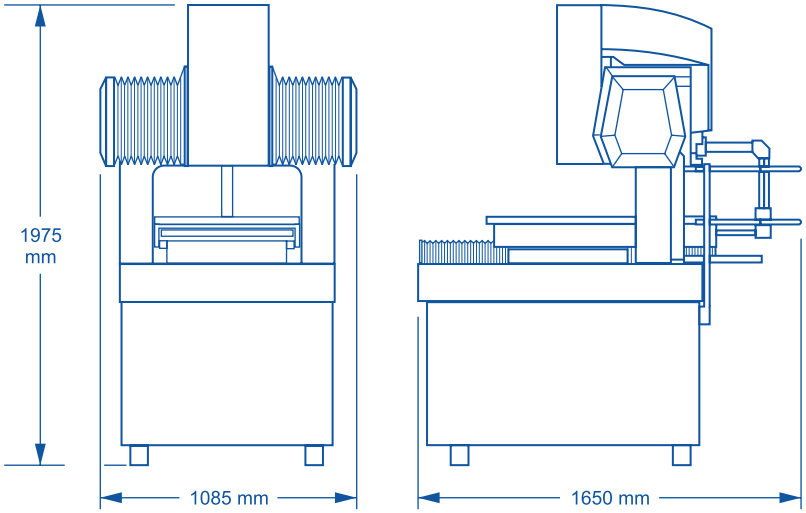
| Axis | Travel (mm) |
|---|---|
| X axis | 450 |
| Y axis | 450 |
| Z axis | 200 |
| Extended Y (opt) | 610 |


*Shown with optional rotary indexer*

# SmartScope ZIP® Advance 450



*Choose the QVI metrology software best suited to your manufacturing setting — 3D CAD-based ZONE3®, MeasureMind® 3D, Measure-X®, VMS™ or Elements®.*




Machine Weight: 1040 Kg
Crated Weight: 1380 Kg

| | Standard | Optional |
|---|---|---|
| **XYZ travel** | 450 x 450 x 200 mm | Extended Y axis, 610 mm |
| **XYZ scale resolution** | 0.05 µm | |
| **Drive system** | DC servo with 4-axis control (X,Y,Z,zoom); fine pitch Z-axis drive; multifunction hand-held controller | Liquid cooled linear XY drives; DC servo Z and zoom drives; multifunction handheld controller |
| **Worktable** | Hardcoat anodized, with fixture holes, removable stage glass, 75 kg recommended max payload | |
| **Maximum stage velocity** | X,Y 200 mm/sec; Z 50 mm/sec | X,Y 300 mm/sec |
| **Optics** | AccuCentric® Zoom 70 auto-calibrating lens system; 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 Vu-Light™), 2.5x, 5.0x, 10.0x front replacement lenses; 0.67x, 2.0x adapter tubes; autofocus LED grid projector; laser pointer (included with optional TTL laser) |
| **FOV size (std optical configuration)** | Measured diagonally, 5.4 mm (low mag) to 0.95 mm (high mag) | |
| **Illumination** | High-performance LED profile light (monochromatic), TTL surface light (white), low incidence oblique Vu-Light LED ring light (white) | Adjustable 32 mm diameter fiber optic ring light, in lieu of Vu-Light |
| **Camera** | 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 or TeleStar® Probe, on-axis TTL laser, off-axis 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) |
| **Software** | **QVI Portal, including:**<br>• Portal Navigator<br>• Independent Calibration Engine (ICE)<br>• Multimedia Content Viewer<br>• SmartLink™ | **Metrology software:** ZONE3® or ZONE3 Pro, MeasureMind® 3D MultiSensor<br>**Productivity software:** MeasureFit® Plus, SmartFit® 3D, SmartProfile®<br>**Offline software:** ZONE3, MeasureMind 3D MultiSensor |
| **Power requirements** | 110-120 vac or 200-240 vac, 50/60 Hz, 1 phase, 900 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 accuracy[1]** | $E_3$ = 2.8 + 6L/1000) µm[2,4,5] | |
| **XY area accuracy[1]** | $E_2$ = (1.8 + 4L/1000) µm[2,3,4] | |
| **Z linear accuracy[1]** | $E_1$ = (2.0 + 5L/1000) µm[4] | $E_1$ = (1.4 + 5L/1000) µm[4] (with optional DRS-300 or -500 laser, or TP20 or TP200 touch probe) |

[1]Where 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. Optical accuracy specifications at maximum magnification setting. Volumetric accuracy performance requires use of QVI 3D metrology software, such as MeasureMind 3D or ZONE3.
[2]With evenly distributed load up to 10 kg. Depending on load distribution, accuracy at maximum recommended load may be less than standard accuracy.
[3]Measured in the standard measuring plane. The standard measuring plane is defined as a plane that is within 25 mm of the worktable surface.
[4]$E_1$ Z axis linear, $E_2$ XY area, and $E_3$ XYZ volumetric accuracy standards are described in QVI Publication Number 790762. [5]On-site verification optional.

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