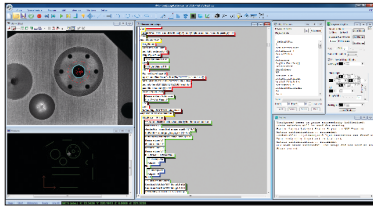


Pinnacle delivers unmatched accuracy and throughput, with the lowest cost of ownership for any automated measuring system of its kind. State-of-the-art linear motor control technology provides the fastest, most reliable platform available for high volume operation in production environments ranging from cleanrooms to factory floors.

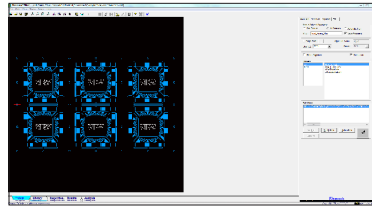
- **Built-in Measurement Stability –** A compact, precision granite base and column structure provide vibration isolation and measurement stability for use on the production floor.
- **Optical Interchangeable Lenses –** Advanced fixed single-magnification or optional dual-magnification optics, illumination, image processing, and available Continuous Image Capture make it a world-class metrology system.
- **Multisensor Versatility –** Optional touch probe, TTL Laser, and Rainbow Probe™.

High Throughput, High Accuracy Metrology System

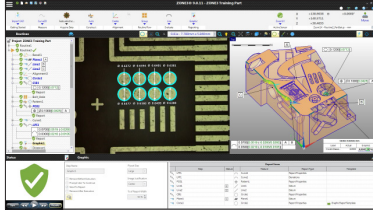




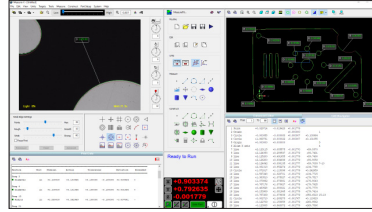
VMS™ software combines a complete tool box for simple feature-based measurements and a dedicated automation scripting environment that allows complete development of custom measurement routines to suit production requirements.



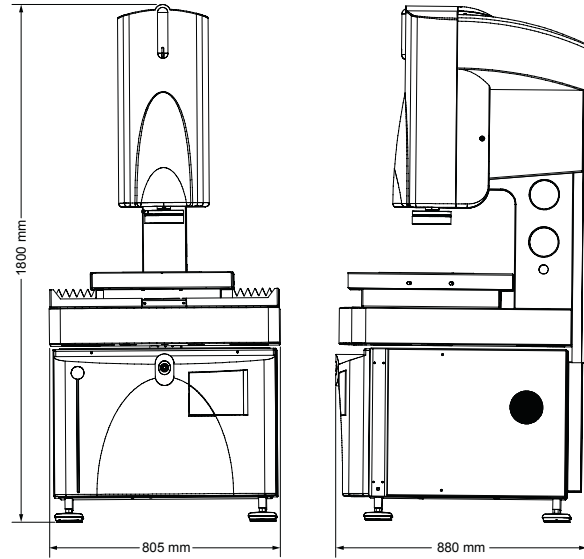
Elements® software is designed specifically for precision measurement of circuit board and electronic assemblies in a high mix manufacturing environment. Elements uses a library of pre-configured SMT component algorithms to automatically create measurement routines from CAD Files.



ZONE3® Metrology Software represents a totally new way of working with multisensor measurement systems, providing faster, easier, and more productive measurements.



Full feature Measure-X® software offers 2D CAD program generation and general-purpose dimensional measurement with multi-sensor and rotary axis support.



System Weight: 605 kg
Shipping Weight: 785 kg

| | Standard | Optional |
|--|--|---|
| XYZ Travel | 250 x 150 x 100 mm | |
| XYZ Scale Resolution | 0.1 µm, zero expansion material | 0.05 µm, zero expansion material |
| Drive System | XY liquid cooled linear motor drives and Z DC servo with 4 motorized motions (X, Y, Z, PRL) and multifunction handheld controller | |
| Worktable | Hardcoat anodized, with fixture holes, removable stage glass, 25 kg recommended max payload | |
| Rotary Axis | | Miniature Servo Rotary (MSR™) |
| Optics* | Single magnification, fixed lens; 2.5x lens; 1.0x adapter tube | Dual Magnification: Fixed lens optics with field interchangeable front lens Focus Grid Projector: LED source with Ronchi or Dot pattern Laser Adapter: Allows for field retrofit of TTL Laser. Includes Laser Pointer Front Lenses: 1.0x Long Working Distance (LWD), 0.8x, 1.0x, 5.0x, 10.0x, and 25.0x Factory Installed Adapter Tube: 2.0x (single magnification optics only) |
| Illumination** | Substage LED profile (green), Coaxial LED surface (green), Multicolor PRL with motorized angle of incidence adjustment (R/G/B) | PRL: All Green, Blue, or White Continuous Image Capture (CIC), Strobing profile |
| Metrology Camera | 2MP digital, monochrome metrology camera | 2MP digital, color 5MP digital monochrome (single magnification optics only) |
| Field of View | 2.78 x 2.07 mm (1.0x tube, 2.5x lens) | Single Mag FOV: 8.34 x 6.23 mm (1.0x tube, 0.8x lens) to 0.28 x 0.21 mm (2.0x tube, 25.0x lens) Dual Mag FOV: 8.34 x 6.23 mm (0.8x lens) to 0.06 x 0.05 mm (25.0x lens) |
| Working Distance (with PRL Retracted) | 34 mm (2.5x) | Up to 112 mm (0.8x) |
| Sensor Options*** | | Tactile: TP20 or TP200 Touch Probe Non-Contact: Through-the-Lens (TTL) Laser, Rainbow Probe |
| Software | • Choice of VMS, ZONE3 Express, or Measure-X metrology software • QVI® Portal | Metrology software: ZONE3 Prime, ZONE3 Pro, Elements Productivity software: Measure-X Analyze, SmartFit® 3D, OGP® EVOLVE® Suite (Design, EVOLVE SPC, Manufacturing, SmartProfile®) Offline software: ZONE3, Measure-X, VMS, Elements |
| System Controller | Windows® based, with up-to-date processor and onboard 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 | 100-120 VAC or 200-240 VAC, 50/60 Hz, 1 phase, 1800 W | |
| 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 <0.001 g below 15 Hz | |
| XY Area Accuracy | $E_z = (1.0 + 5L/1000) \mu\text{m}$ | |
| Z Linear Accuracy | $E_z = (1.5 + 5L/1000) \mu\text{m}$ | $E_z = (1.0 + 5L/1000) \mu\text{m}$ (requires optional Rainbow Probe) |

Accuracy is evaluated with a QVI verification procedure where "L" is measured length in millimeters. Specifications apply within the rated environment on materials with CTE 0 +/- 2.5 PPM/°C. Optical specifications apply with the standard configuration. XY Accuracy applies with an evenly distributed load up to 5 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. Accuracy specifications do not apply to Continuous Image Capture (CIC) mode.

*Lenses can be manually interchanged to change magnification and working distance. Adapter tubes can be manually interchanged to change magnification without impacting work distance, but unlike lens changes, adapter tube changes require optical system realignment and recompensation.

**Continuous Image Capture (CIC) and Strobing Profile only supported in VMS and Elements.

***Touch Probe only supported in Measure-X and ZONE3. Rainbow Probe only supported in VMS and ZONE3.



Confidence. When Results Matter.™

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