



ShapeGrabber® Ai820

ShapeGrabber Ai820 is a floor model 3D scanner designed to serve a wide variety of parts in minutes with a high density of data points. The Ai820 offers:

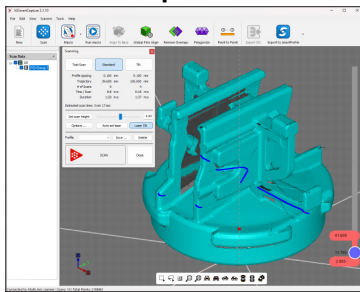
- **Metrology Grade 3D Scanning –** Ideal for measuring complex shapes in a variety of colors, and finishes. Excels in rapid prototyping, manufacturing, quality control, and reverse engineering applications.
- **Ease of Use –** Scans can be initiated with one click, delivering consistent measurement results by any operator. Scanning parameters are easily selected and saved – there is no need to write special code.
- **Accurate, High Density Point Data –** SG508 scanheads can be fitted to the standard vertical measurement axis and an optional horizontal axis, and can be used individually or in combination to collect data. Each scanhead can obtain more than 1,500,000 points per second.

Large Capacity Fully Automated 3D Laser Scanning



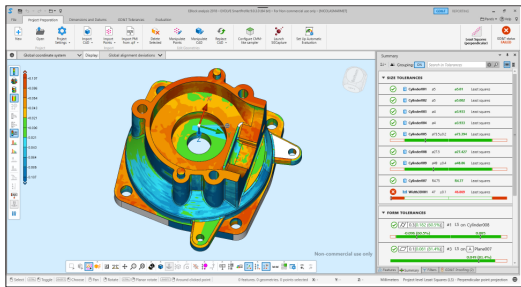
Shown with optional horizontal axis.

SG SmartCapture



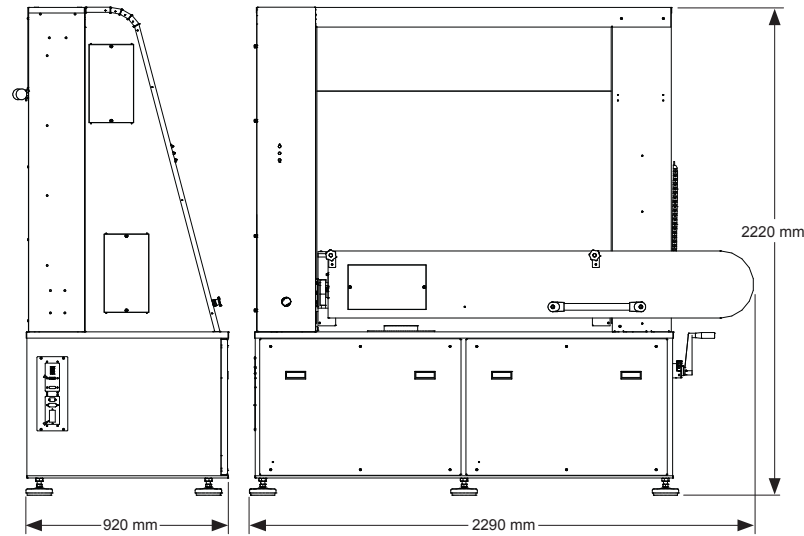
SG SmartCapture provides everything you need to output a useful data set with user-friendly controls to automatically configure scan settings for ShapeGrabber systems. Includes built-in verification routines, STL file export, and color comparison of scan data to a reference CAD model. STEP files can be generated for reverse engineering with optional QuickSurface software.

EVOLVE SmartProfile



SG SmartCapture links directly with EVOLVE® SmartProfile® which is the preferred solution for GD&T evaluation of 3D scanner data. The software's proprietary algorithms minimize the measurement uncertainty of the scanner data and produce "CMM-like" data sets ready for GD&T (ASME Y14.5) and GPS (ISO 1101) evaluations.

ShapeGrabber® Ai820



System Weight: 725 kg
Shipping Weight: 1000 kg

| Ai820 | Specifications |
|--|---|
| Rotary Table Motion | 360° |
| Vertical/Horizontal Scale Resolution | 0.1 µm |
| Rotational Scale Resolution | 0.001° |
| Maximum Worktable Load | 90 kg |
| Software (standard) | SG SmartCapture, Polyworks Plug-in |
| Software (optional) | SmartProfile, Polyworks, QuickSurface |
| System Controller | Windows® based, with up-to-date processor and onboard networking/communication ports |
| Power Requirements | 100-120 VAC or 200-240 VAC, 50/60 Hz, 1 phase, 550 W |
| 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 |
| Safe Operating Environment | 15-30 °C, non-condensing |
| Scanhead | SG508 |
| Vertical Measuring Range | 750 L x 490 ø mm |
| Horizontal Measuring Range (optional) | 1200 L x 400 x 490 ø mm |
| Laser | IEC Class 2M |
| Standoff | 270 mm |
| Near FOV | 160 mm |
| Far FOV | 380 mm |
| Depth of Field | 490 mm |
| Mid-Field Point Spacing | 104 µm |
| Min Scanning Speed | 155,000 pts/s |
| Max Scanning Speed | >1,500,000 pts/s |
| Wavelength | 405 nm (Blue) |
| System Accuracy and Repeatability¹ | Specifications |
| Volumetric Scan Accuracy | (35 + L/100) µm |
| Scan Repeatability | 8 µm |

¹Accuracy and repeatability is evaluated with a single scan head using a QVI® compensation and verification procedure based on the ISO 10360-8:2013 and ISO 10360-13:2021 standards. "L" is measured length in millimeters. Specifications apply within the rated environment.



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