

# ShapeGrabber

Ai620 Automated 3D Scanner



### **Automated, Accurate, and Easy to Use 3D Scanner**

**OGP ShapeGrabber Ai620** 3D scanner is a precision, non-contact measurement instrument. The Ai620 measures the complete surface of complex shaped plastic, metal, and 3D printed parts in minutes with a high density of data points.

The Ai620 is easy to use and highly automated. After an initial scan, the same scanning parameters may be used for subsequent parts, delivering consistent results irrespective of operator skill or experience. There is no need to write special code.

The Ai620 derives its inherent accuracy by combining a highly rigid and stable mechanical structure, high precision vertical and rotary motion, state of the art calibration, and leading edge optics. The result is high quality data, delivered quickly and reliably.

# The Technology Inside the Ai620 Automated 3D Scanner

## Introducing the Faster and More Accurate sg198 Scanhead

At the heart of the OGP ShapeGrabber Ai620 is the brand new sg198 3D scanhead. This blue light laser scanhead incorporates key innovations that allow unprecedented levels of speed, data quality, resolution and dynamic range.



### Faster Speed

When used at its maximum scan volume, the sg198 scanhead measures data at 155,000 points per second. For parts that do not require the full scan volume, the data rate increases to more than 1.5 million pts/s.

### Better Data Quality

The sg198 scanhead features an optical arrangement that draws on OGP's 70+ years of experience designing optical systems for precision measurement. The sensor optics provide extremely low noise data that far outperforms other 3D scanning technologies.

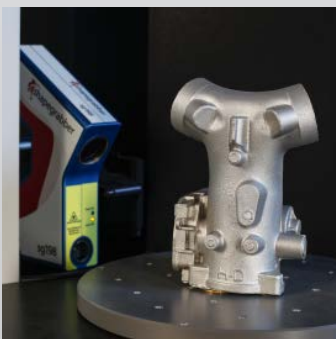
### Higher Resolution

The built-in 5MP imager delivers depth resolution and data densities for the most challenging applications. The combination of such high resolution in a relatively large volume makes the entire process of measuring complex shaped parts faster and easier.

### Wider Dynamic Range

ShapeGrabber scanheads offer high dynamic range, accurately measuring a wide variety of materials, colors, textures, and finishes without the need for surface treatments. The sg198 scanhead handles the full range - from matte black plastic, to bare metal, to grainy castings and 3D printed parts.

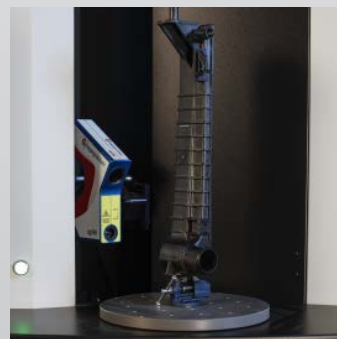
The Ai620 can accurately measure complex:



Castings



Machined Parts



Plastics



Stampings

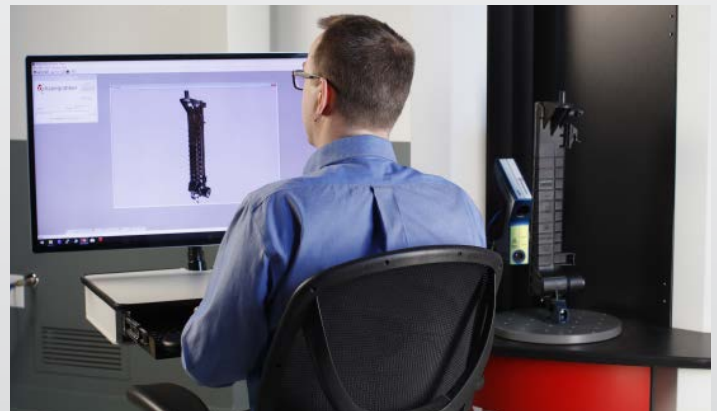


Specifications			
Ai620 3D scanner		sg198 scanhead	
Overall dimensions (mm)	1000 x 800 x 1850	Laser safety	IEC Class 2M
System weight (kg)	350	Wavelength (nm)	405
Vertical scan motion (mm)	600	Field of view near (mm)	90
Vertical scale resolution (µm)	0.1	Field of view far (mm)	170
Rotary table motion (deg)	360	Mid field point of spacing (µm)	50
Rotary table positional accuracy (arc sec)	± 5	Z resolution (µm)	2
Work load (kg)	80	Standoff (mm)	110
Electrical	100 - 120 VAC or 200 - 240 VAC, 50 / 60 Hz, 1 phase, 150 W	Depth of field (mm)	185
OS	Windows® 10	Data rate at full DOF (pts/s)	155,000
Controller	Windows based with up-to-date processor and networking / communication ports	Maximum data rate (pts/s)	> 1,500,000
Software	ShapeGrabber SGCentral (standard) • SGCapture (optional) • PolyWorks (optional) • Geomagic (optional)	Operating relative humidity	20% - 80% non-condensing
Ai620 3D scanner with sg198 scanhead			
Max scan volume (mm)	600 L x 185 Ø		
Accuracy (ISO 10360)	15 + L/200 µm		
Temperature reference (°C)	20 ± 1		

## Designed for the People Who Use Them

OGP ShapeGrabber Ai620 is designed for easy operation. The open work envelope allows easy access to the rotary table, with a payload capacity of up to 80 kg.

Operator controls are simple. Scanning routines can be initiated with just one click. The included sg198 laser scanhead is fully enclosed in a rugged case. The laser source is class II, so there is no need for any special training or protective gear for its use.



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