



SOL PRO

3D scanner

PRODUCT BRIEFING FOR CHANNEL PARTNERS



SCAN DIMENSION

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Scan Dimension develops and manufactures 3D scanners recognized for their ease of use and high accuracy. The 3D scanners offers one-touch simplicity and an intuitive software that delivers high accuracy scans in an automated process.

Scan Dimension is a division of the scanning heavyweight Global Scanning, a Danish-based technology firm with 30+ years of experience in the image-capturing sector. This collective experience is behind the engineering of our scanners, which are designed to be easy to use, precise, and affordable.

We strive to become and remain among the top 3 of the most innovative companies within the 3D scanner business.



SCAN DIMENSION

- Established 2018
- SOL 3D scanner, released March 2019
- SOL PRO 3D scanner, released August 2021

Precision technology, easy to use

The scanner uses a combination of laser triangulation and white light technology. It integrates seamlessly into the 3D workflow where the scanner's precision and quality make it a perfect partner for quality assurance, product inspection, and 3D printing tasks.

We label it as easy-to-use because all processes are automated – from calibration to the final meshing.

As part of the production, a highly advanced calibration robot executes part one of a special calibration process on every single SOL PRO 3D scanner. Part two is performed by the user utilizing a unique cylindrical target that enables the scanner to scan with an exceptionally high accuracy of up to 0.05 mm. The short process is an automated part of the included software.

An attractive part of the SOL PRO scanner experience is the included black-out tent. Used correctly, it efficiently eliminates any unwanted light from the surroundings that would otherwise affect the scanning result negatively.

Software

As a unique feature for its price class SOL PRO includes highly automated software:

- SOL PRO Creator software delivers finished 3D scanning results with no need for manual alignment or removing of unwanted artifacts from the scans. Aligning up to 5 scanning passes and meshing are fully automatic
- SOL PRO Viewer software lets the user view their 3D scanned models in different renderings and export to various third-party 3D software for further editing or measuring

Important specs

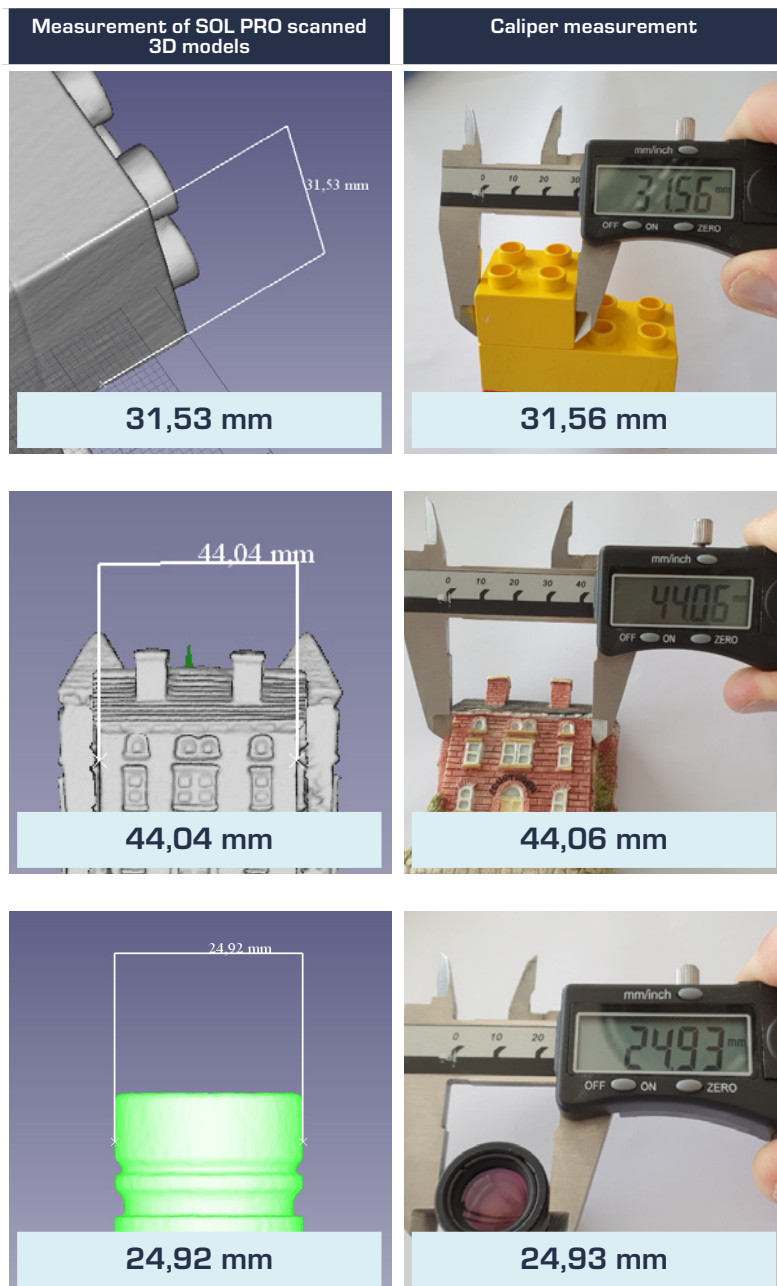
- Max. accuracy: 0.05 mm / 50 µm
- Point distance: >0.26 mm
- Max. object size: 170×170 mm (6.7×6.7 in)
- Min. object size: 20×20 mm (0.8×0.8 in)
- Calibration: Automatic
- Appending/adding scans: Automatic global alignment of added scans
- Max. weight on turntable: 2 kg (4.4 lbs)

Packaging

- Dimensions: 48×20×28 cm (19×8×11 in)
- Weight: 3,18 kg (7 lbs)

Accuracy measurements

Measurements of SOL PRO 3D scanned models are done by exporting the models from the SOL PRO software and then importing and measuring them in a 3rd party software, here FreeCAD 3D modeler.



USE CASES

Target groups

- Inspection engineers
- Designers
- Product developers
- High level makers

Metrology and measuring

Use the SOL PRO 3D scanner for metrology inspection or measuring of odd shaped objects that cannot be measured using traditional tools.

Workflow: SOL PRO 3D scanning and export model for measurement in 3rd party metrology software

Prototyping

SOL PRO can be used in product development of handcrafted prototypes where 3D drawings are not available or simply for adjusting prototypes or new designs.

Workflow: SOL PRO 3D scanning and export model for retouching using a 3rd party 3D modeling software, 3D printing

Reproduction

Reproduction of discontinued parts or reverse engineering can be done with help from SOL PRO 3D scanner.

Workflow: SOL PRO 3D scanning and export model for retouching using a 3rd party 3D modeling software, 3D printing

High level maker projects

Use the SOL PRO to scan objects usually deemed difficult or impossible to 3D scan for makers, such as small high-detailed figurines, darker or semi-shiny objects for high level maker projects.

Workflow: SOL PRO 3D scanning and export model for retouching using a 3rd party 3D modeling software, 3D printing

SOL PRO 3D scanner limitations

- Objects larger or smaller than the recommended sizes
- Objects that change shape
- Holes in objects not visible to the camera
- If operated in an unstable setting. Moving or touching the scanner or tent while scanning will most likely result in inaccurate or failed scans
- Shiny or translucent surfaces. In some cases objects may need to be sprayed with an antireflection spray for 3D scanning
- Symmetrical objects. The meshing of scans from two or more angles is problematic with symmetrical objects. Can be solved by adding something to the object to make the shape asymmetrical

USP'S

Simplicity

This plug and play 3D scanner delivers impressive quality models to print, modify or share. Whether your goal is quality assurance, product inspection or 3D printing, the new SOL PRO 3D scanner will let users reach their 3D end goals.

Quality

Don't let the small and lightweight appearance of SOL PRO fool you – this 3D scanner is of great quality. The use of laser triangulation and white light technology combined with advanced software and automation gives the user the impressive accuracy of up to 0.05 mm with only a few clicks on the screen.

Price

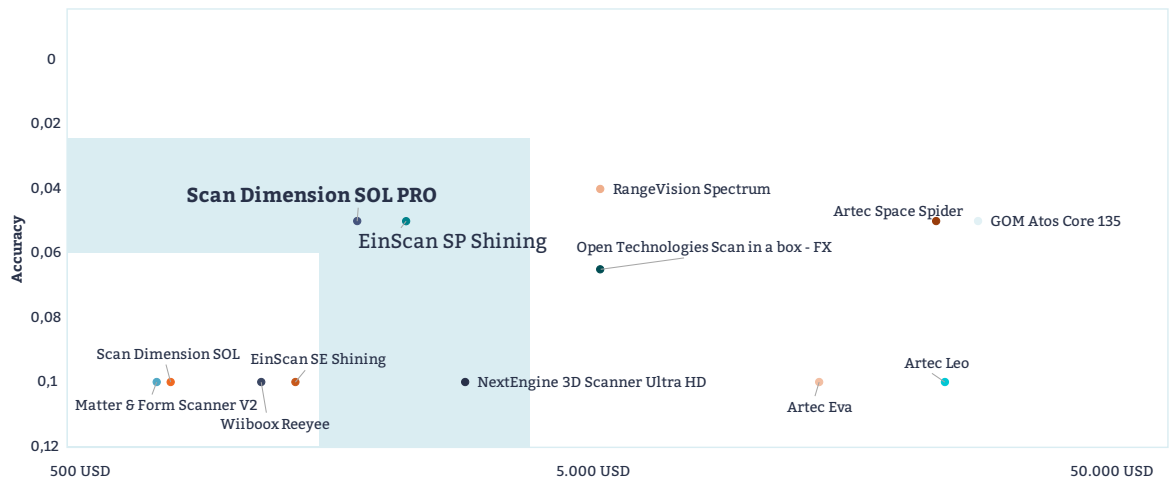
SOL PRO is positioned in the low end of high accuracy 3D scanners. That's value for money.

RECOMMENDED SALES CHANNELS

- Traditional dealer chain
- E-tailer dealer

COMPETITION

Pricing vs accuracy overview of the 3D scanner market key scanners*



With a price below \$2000, SOL PRO is in the high accuracy, low price category with its closest competitor being the \$2500 EinScan SP from Shining 3D.

* Source: The internet

Texture comparison: SOL PRO and EinScan SP

If images speak louder than words, then 3D models must be shouting.

In the following table, we compare SOL PRO with its closest competitor EinScan SP. Photos and screenshots of both 3D models are compared, including highlighted details.

The size of the courthouse model is approximately 50x60x30 mm, which is an optimal size for both 3D scanners.

Dark or black surfaces are known to be tricky to scan, and some 3D scanners may perceive them as shiny or even transparent.

You will notice that SOL PRO performs very well with dark details.

Photo

SOL PRO
1 scanning pass
Normal scan mode

EinScan SP
1 scanning pass
High poly mesh scan mode

Courthouse model, front



Courthouse model, back



Fine texture details, windows



Fine texture details, bricks and plants



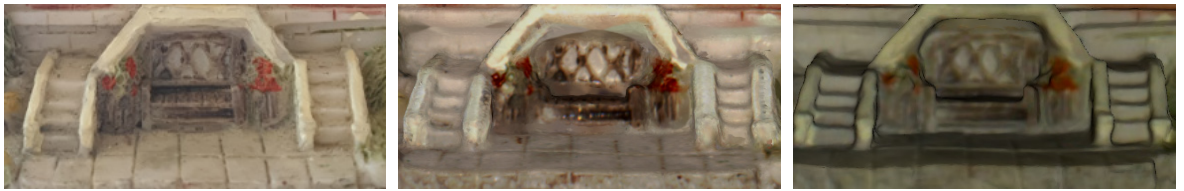
Black and dark details I



Black and dark details II



Black and dark details III



SOL PRO: OBJECT VS. 3D MODEL

	Photo	SOL PRO 3D model Shaded texture	SOL PRO 3D model Wireframe
<p>Ear impression</p> <p>Scanning mode: Normal</p> <p>Scanner position: Near</p> <p>Scanning passes: 2</p>			
<p>Cabinet foot</p> <p>Scanning mode: Normal</p> <p>Scanner position: Near</p> <p>Scanning passes: 1</p> <p>Dark surface option ON</p>			

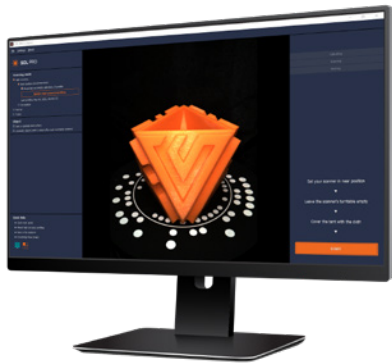
SOL PRO 3D SCANNING WORKFLOW



1. This is an image of the original – a 3D printed Scan Dimension logo



2. The scanner is assembled and correctly set up inside the black-out tent



3. SOL PRO Creator software is included with the scanner

In short, this is what the software does:

- **Calibration** makes sure the scanner head and turntable are calibrated for maximum accuracy
 - **Scanning** the object in up to five scanning passes with different orientations for a full 360° scan and optimized texture
 - **Meshing** and automatic alignment of all scanning passes into a finished 3D file
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4. After meshing, the new 3D model opens in SOL PRO Viewer. Here you have access to more advanced viewing options. SOL PRO Viewer lets you save and share your 3D scans



5. The final 3D model

WWW.SCANDIMENSION.COM

Scan Dimension HQ – Global Scanning Denmark A/S
Copenhagen, Denmark, Phone: +45 4814 1122, contact@scandimension.com

Scan Dimension US – Global Scanning Americas (MD) Inc.
Chantilly, VA. 20151, USA, Phone: +1 (703) 964 9850, contact@scandimension.com



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