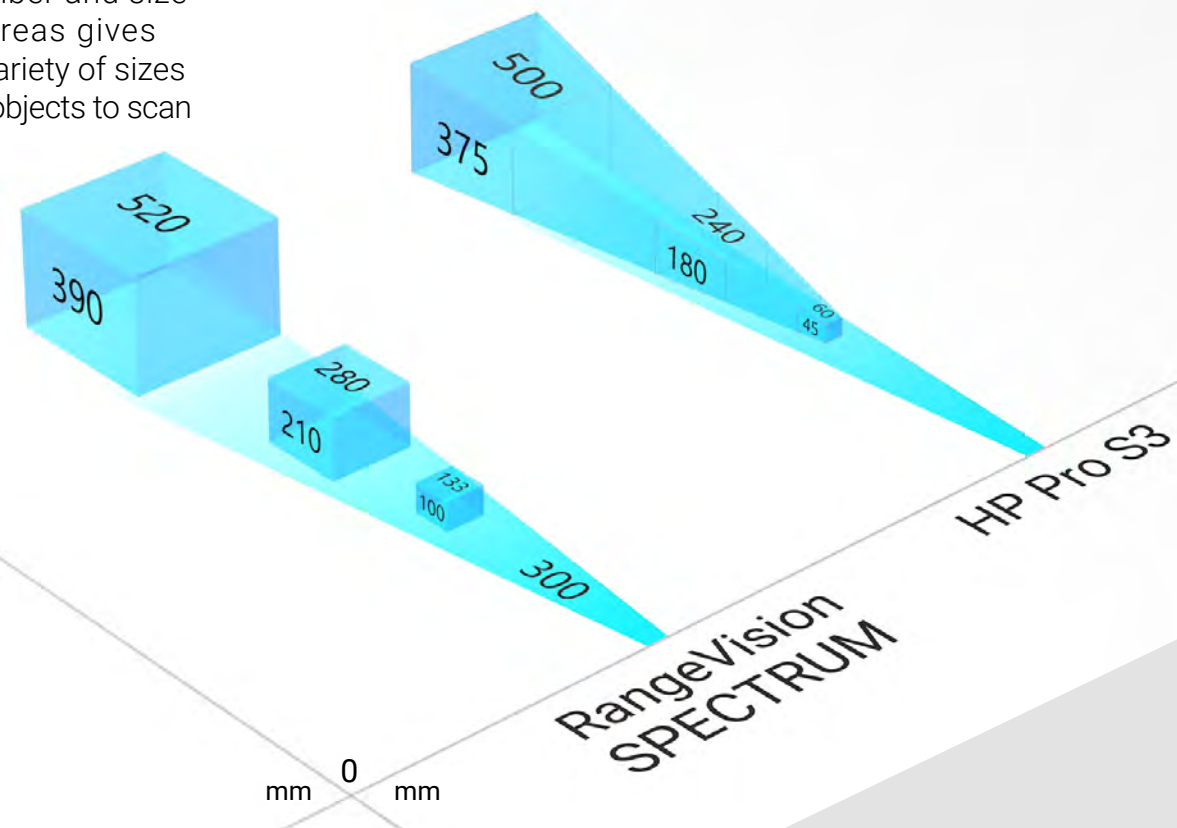


1 Scanning areas

Variety of number and size of scanning areas gives advantage in variety of sizes and shapes of objects to scan



Comparison of optical 3D scanners

2 Technical specifications

HP
HP Pro S3

RangeVision
Spectrum

Technical specs		
structured light	Type	structured light
LED projector	Light source	LED projector
Up to .05% of scan size	3D Accuracy Both scanners have close values of 3D accuracy.	✓ 0.04 mm - 0.12 mm
Up to .05% of scan size	3D resolution, mm. HP operates with only one parameter «Resolution/Precision» to indicate its accuracy and resolution. Mathematically, with given light source/optics and minimum error .05% of scan size, it means that the best resolution for the smallest scanning area can't be higher than 0.07 mm. Spectrum technical specs are clear, that is convenient for a engineering tasks.	✓ 0.072 mm - 0.260 mm
Up to 2,300,000 vertices per scan	Mesh density With Spectrum, a user can get 30% more density of mesh per scan.	✓ Up to 3,000,000 vertices per scan
1 + 1 (optional)	Number of cameras HP: the user can buy the second camera as an option. But the principle of action remains the same, single-camera. Spectrum is a two-cameras system, that makes a scanning process more accurate and stable, reducing the need to recalibrate the scanner during operations to a minimum.	✓ 2
no information available	Cameras	3,1 Mpix

Scanning of different-sized objects

-	Number of scanning areas	✓ 3
From 60x45 to 500x375	Size of a scanning area With HP Pro S3 scanner the user has to define the scan area himself by changing the position of projector and angle of camera(s). It makes the setup of the scanner tricky and can result in scan errors. Spectrum has three tested and preset scanning areas. The setup process is simplified by the Setup Wizard, presented in the software.	✓ From 133x100 to 520x390
yes	Texture	yes

HP
HP Pro S3

RangeVision
Spectrum

Software		
free, unlimited	License Both scanners have unlimited USB license dongle included in the price of the scanner.	free, unlimited
Purchasing of Upgrade Code is necessary to update from an existing license version to the next one	Updates	✓ free

Usability		
One-snap calibration. It is recommended to repeat calibration as many times as possible during the scanning. Especially if the object is bigger than a field of view.	Calibration One-snap calibration is the main disadvantage of HP - it is enough for hobbysts to start with 3D scanning, but professional calibration is done with 10-12 shots. One-snap calibration method is responsible for the scan errors and further alignment problems.	✓ 11-snaps calibration.
Scans can only be aligned pairwise and globally. Often it is hard to get adequate alignment result (especially if the object has a complex shape or symmetrical surfaces).	Scans alignment	✓ There are a lot of scan/scan group alignment options. Automatic alignment combines scans or groups of scans in any position relative to each other
In some cases the final 3D model is not as detailed as the source scans. For example, surfaces may become smoothed or the number of triangles may decrease	Building a 3D-model	✓ Sufficiently high level: scan's level of detail is translated onto the final model
OBJ, STL, PLY	Export file format Both scanners support the most popular export formats.	✓ stl, obj, ply, wrl, ascii, ptx
free scanning / scanning on a turntable	Scanning modes	✓ free scanning / scanning on a turntable / with markets
no	Scanning with markers Spectrum can scan and align scans by markers. It simplifies and ensures high accuracy when scanning large and smooth objects (eg cylindrical shape or with plenty of flat surfaces). All professional scanners use markers.	✓ yes

Hardware		
1	Calibration plates	✓ 3
carton box	Packaging	✓ travel case
3136	Price, €	✗ 5490
turntable 964 € , HP 3D Dual Camera Upgrade Kit - PRO S3 1 165€, HP 3D Desk Scan Lever Pro 400€	Accessories Spectrum comes with all accessories to scan right out of the box while HP requires buying more options. A travel case enables 3D scanning to be easily performed directly on site.	table mount 345 €
5665	Total price with accessories, €	✗ 5835

Basic 3D scanning kit 3

