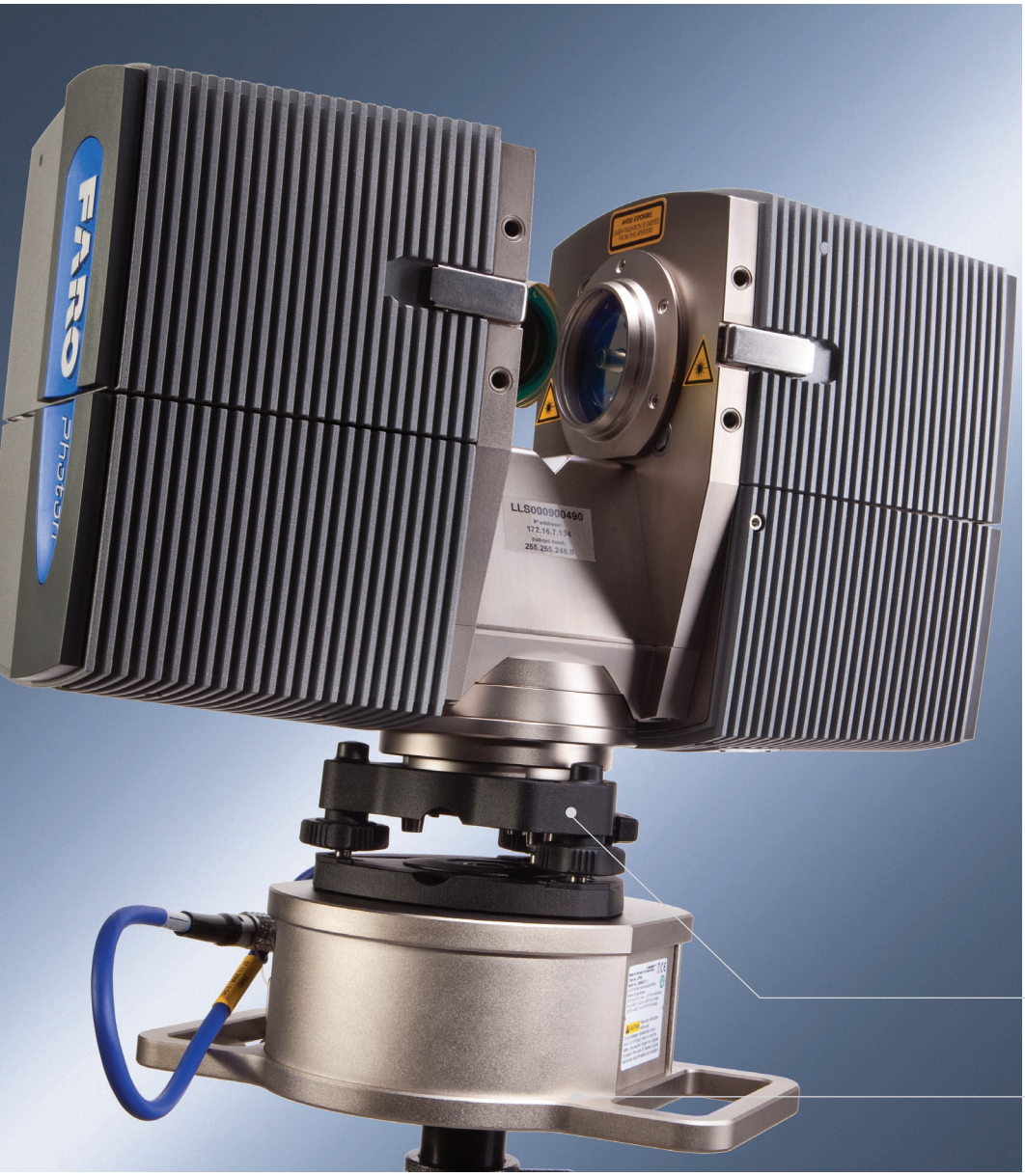
FARO® Laser Scanner Photon 120/20



World´s fastest 3D Phase-Shift Laser Scanner
Document up to 153m (503ft.) at the rate of up to 976,000 points-per-second

3-Dimensional Virtual Recreation
Generates true-to-life virtual images comprised of 3D measurement points

Speed Control
Balance speed and scan quality according to application

High Accuracy
≤ ±2mm systematical distance error at 25m

Best-in-Class Field-of-View
360° horizontal and 320° vertical - the largest field-of-view on the market

Modular Design
Removable sealed modules for convenient system upgrade and maintenance

Wireless Operability
Independent web server; data recording on 80GB internal hard disk; control via iPod® touch or most wireless PDAs

Universal Quick Mount
For mounting on a surveyor tripod

Power base (optional)
Compact battery with 6-hour average life

The Photon 120: Large Scale Scanning at its Fastest

A high-speed 3D scanner for full-detail survey and documentation. Utilizing non-contact laser technology, the FARO Photon generates highly detailed three-dimensional replicas of complex environments and geometries in a matter of minutes. The Photon recreates the real world and defines it within a virtual space. The resulting image is a collection of millions of 3D measurements, providing an accurate digital representation of as-built or as-is conditions. Scanning at the blistering rate of 976,000 points-per-second with a reach of 153m (503ft.), the Photon 120 offers the most efficient method for documenting conditions in three dimensions.

Document With Confidence

With Photon, digitally capture all the required documentation for engineering, procurement, construction, and investigation - in complete detail. Replace cumbersome data collection via tape measures, laser range finders, digital cameras, and total stations that involve additional effort and risk. Photon, also available in a 20m model, is the ultimate digital documentation instrument - the only limit to what you can do is your imagination.

Additional Features

- Camera option for photo-realistic high-resolution colour scans
- Mobile scanning interface for scanning along roads, rails, and tunnels with optional integration software
- Optimised for exceptional image quality in outdoor conditions
- Automatic target recognition, naming, and registration
- Crisp object definition

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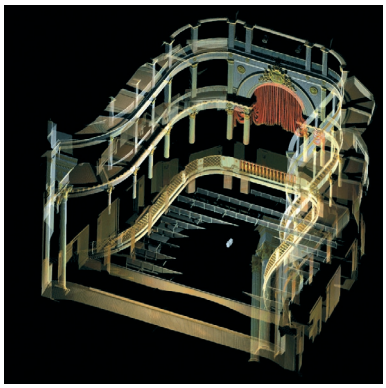
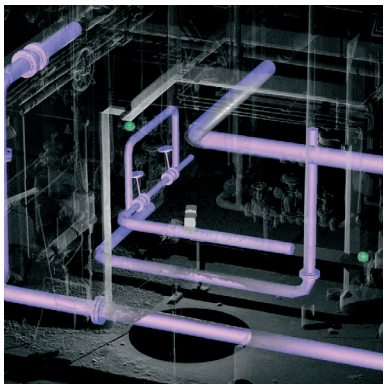
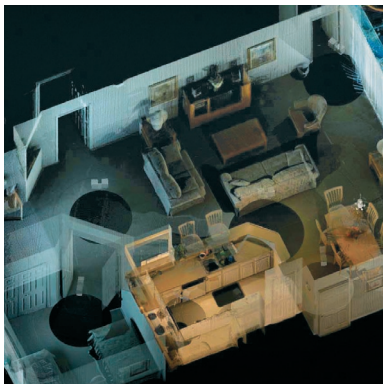
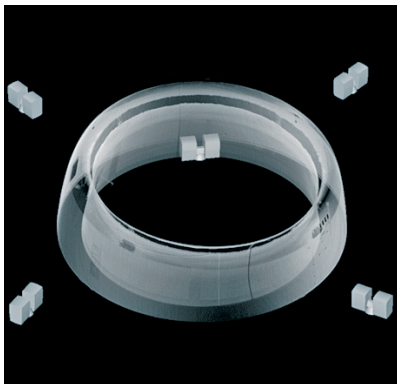
Applications


Commercial


Industrial


Residential


Manufacturing

Specifications

Ranging unit

Unambiguity interval: 153.49m (503.58ft)
Range²: 0.6m - 153m indoor or outdoor with low ambient light on 90% matte reflective surface, 0.6m - 120m in outdoor cloudy environments on 90% matte reflective surface
Range (Photon 20²): 0.6m - 20m on >2% matte reflective surface
Range resolution: 0.07mm
Measurement speed: 122,000 / 244,000 / 488,000 / 976,000 points/sec
Systematical distance error²: ±2mm at 25m
Repeatability: noise compressed³ / raw data
@10m: 0.4mm/0.8mm rms @ 90% refl. | 0.7mm/1.4mm rms @ 10% refl.
@25m: 0.5mm/1.0mm rms @ 90% refl. | 1.35mm/2.7mm rms @ 10% refl.

Deflection unit

Vertical field of view: 320°
Horizontal field of view: 360°
Vertical resolution: 0.009° (40,000 3D pixel on 360°)
Horizontal resolution: 0.00076° (470,000 3D pixel on 360°)
Angular resolution (hor./vert.): ±0.009°
Max. vertical scan speed: 2,880rpm

Laser (Optical transmitter)

Laser power (cw Ø): 20mW (Laser class 3R)
Wavelength: 785nm
Beam divergence: Typical 0.16mrad (0.009°)
Beam diameter at exit: 3.3mm, circular

Handling of data

Internal PC: Intel Celeron-M 600MHz, 512MB RAM, 80GB hard drive
Data storage: Local: on internal hard disk drive (for most resolutions)
Remote: via Ethernet on external PC or laptop
Scanner control: via Ethernet or WLAN by PC or PDA, on local network, internet or independent operation

[1] All specifications for range and accuracy apply to the Photon 120 unless otherwise noted.
[2] Depends on ambient light, which can act as a source of noise. Bright sunshine may shorten the actual range of the scanner to lesser distances. Measured on a non moving orthogonal 90%/10% reflectivity reference paper in averaging mode.
[3] Noise compression algorithm.
More details upon request at www.faro.com. Subject to change without prior notice

General

Power supply voltage: 24V DC (Battery pack or AC converter)
Power consumption: ~60W
Ambient temperature: 5° - 40° C
Humidity: Non condensing
Inclination sensor: Accuracy 0.02°; Resolution 0.001°; Range ±15°
Weight: 14.5kg (31.97lb)

Size (LxWxH): 410mm x 160mm x 280mm
Maintenance calibration: Once a year
Exchange modules: Distance sensor / mirror axis / PC
Georeferencing: Yes
Cable connector: Located in scanner mount
Parallax-free: Yes

ISO 9001 BUREAU VERITAS Certification
ANAB ACCREDITED
GSA Contract Holder

Patent: 7,430,068 B2

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