

M-SCAN 120

*Handheld portable
high-performance scanner*

- LARGE MEASUREMENT VOLUME
- STICKER-FREE TECHNOLOGY
- BLUE LASER SCANNING
- ERGONOMIC HANDLE
- REAL-TIME DISPLAY OF 3D DATA
- AUTO-GENERATED 3D TRIANGULAR MESH
- HIGH-SPEED LASER SCANNING

Metronor M-Scan 120 is a complete, handheld 3D metrology solution that combines blue-line laser scanning with electro-optical navigation technology, operating completely free of stickers.

M-Scan 120 can quickly capture high-accuracy 3D information in any environment. Its real-time tracking technology is sticker-free, even when measuring large volumes, making it easy to use and very fast to set up. This introduces improved efficiency to the traditional 3D scanning methods.

The base system is comprised of two cameras for continuous tracking, a handheld 3D scanner and a laptop with pre-installed software. To measure features, our handheld probe, Lightpen, can also be included, allowing the measurement of hidden areas and coordinate system alignment.

All components are delivered in portable cases, making M-Scan 120 a mobile system that can perform in any location. The product modularity, a key feature in all Metronor systems, makes upgrading a simple process.

Benefiting from the combined state-of-the-art technologies of scanning and tracking, M-Scan 120 offers the obvious advantage in accuracy, efficiency and quality.



APPLICATIONS INCLUDE:

- Prototyping
- Tool and die inspection
- Tube & pipe measurement
- In-process inspection
- On-machine inspection
- As-built documentation
- Reverse engineering

For more information: www.metronor.com

Technical Specifications

M-Scan 120

PERFORMANCE SPECIFICATIONS

Points per Stripe	Up to 2000 (non-interpolated)
Stripe Width	Up to 120 mm
Measurement Depth	Up to 100 mm
Accuracy (2 Sigma)	$U95 = \pm (0.035 + L/70000)$
Measuring Laser	Blue laser (for measurement): Max output 2.01 mW, Wavelength 450 nm, Class II (eye safe)
Full FoV Indicator Laser	Red laser (for rangefinder): Max output 1.00 mW, Wavelength 650 nm, Class II (eye safe)
Measurement Rate	At 100% depth x 100% width FOV: 300 000 pts/sec (2 000 pts/stripe x 150 stripes/sec) At 100% depth x 50% width FOV: 300 000 pts/sec (1 000 pts/stripe x 300 stripes/sec) At 50% depth x 100% width FOV: 450 000 pts/sec (2 000 pts/stripe x 225 stripes/sec) At 50% depth x 50% width FOV: 450 000 pts/sec (1 000 pts/stripe x 450 stripes/sec)
Scanner Stand-off Distance¹⁾	For 100% depth FOV modes, stand off to the near edge is 80 mm For 50% depth FOV modes, stand off to the near edge is 93 mm
Laser Power Adjustment	ESP4 real-time per point
Scanner Depth of Field	100% depth FOV is 100 mm. 50% depth FOV is 50 mm.

HARDWARE SPECIFICATIONS

Laser Temperature Compensation	Yes (no warm up)	
Environment	Operating Temperature	10 to 40°C (50 to 104°F)
	Storage Temperature	-20 to 60°C (-4 to 140°F)
	Operating Humidity	95% relative humidity, non-condensing 80% maximum up to 31°C, then linearly decreasing to 50% at 40°C
	Altitude	Up to 2000 m
	Vibration Stability Control (option)	0-100Hz, < 3 mm amplitude
Electrical Power	No Warm-up	
	Auto Switching	100-240V AC, 50-60Hz

¹⁾ From the scanner, in scanner Z-direction (e.g., laser axis) the stand-off to the near edge of the FOV varies dependent on FOV mode.