

# METRA SCAN™



GET A WHOLE **new**  
**measure** OF **things!**

# METRA SCAN™

THE ARM-FREE HANDHELD **MetraSCAN™** 3D SCANNING SYSTEM AND THE **C-Track™** DUAL-CAMERA SENSOR FORM A UNIQUE DUO THAT GENERATES **THE MOST ACCURATE MEASUREMENTS** IN THE LAB AND ON THE SHOP FLOOR. COMBINED WITH THE **HandyPROBE™**, THIS **COMPLETE AND POWERFUL INSPECTION SOLUTION** INCREASES THE RELIABILITY, SPEED AND VERSATILITY OF THE MEASUREMENT PROCESS.

COMPARED WITH OTHER 3D SCANNERS ON ARTICULATED ARMS, THE **MetraSCAN** OPTICAL 3D SCANNING SYSTEM ALLOWS TOTAL FREEDOM OF MOVEMENT FOR SIGNIFICANTLY INCREASED PRODUCTIVITY AND QUALITY!



## BENEFITS

**The Most Accurate Measurement Solution.** Creaform's *TRUaccuracy™* technology ensures highly-accurate measurements, regardless of the measurement environment (instability, vibrations, thermal variation, etc.) or operator skills.

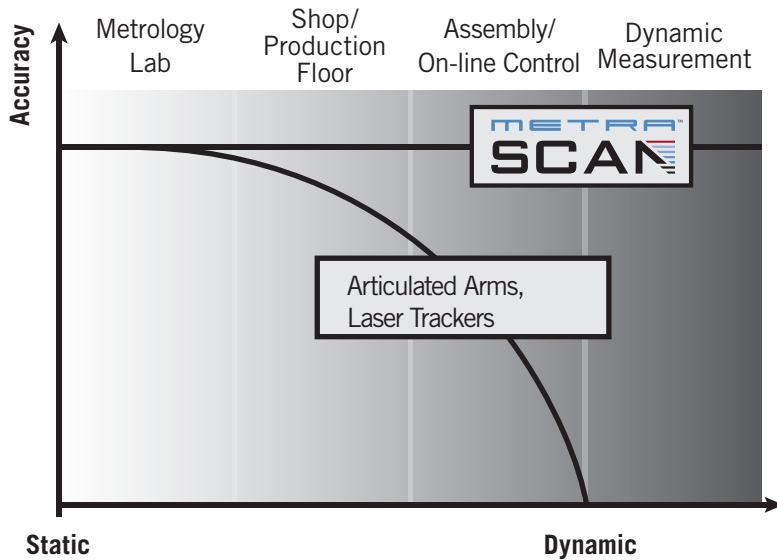
- With the **dynamic referencing** mode of the C-Track, the coordinate system can be literally “locked” onto the part(s) being measured, thus maintaining part alignment during the entire 3D scanning process.
- With the **automatic alignment** function, manual operation is no longer needed during the alignment phase and root cause errors are drastically reduced.
- With the **fast user calibration** process using a **certified gauge**, the MetraSCAN delivers constant accuracy during its entire life cycle.
- With the **continuous monitoring of parameters** (temperature, accuracy, etc.), constant accuracy is ensured during the entire useful life of products.

**Complete and Powerful Inspection Solution.** Allows geometrical and freeform inspection on the same part with the same system. The **automatic alignment** capability with optical reflectors allows to scan and probe many identical parts in rapid succession.

**Faster and Easier Measurement.** Handheld and armless. Easy-to-learn, intuitive system with a very short learning curve. Installation in less than five minutes. Allows the measurement of parts in production without having to align every part.

**Greater, Extendable Measurement Volume.** Compared with 3D scanners on articulated arms, the MetraSCAN allows a greater basic measurement volume. In addition, this volume can be easily and dynamically extended with no loss of accuracy and without **any conventional leapfrog** or additional alignment set-up involved. No need for the operator to re-align data after moving the part or the C-Track.

### TRUaccuracy™ TECHNOLOGY



**Truly Portable Device.** The 100% portability of the MetraSCAN makes it possible to inspect or reverse engineer parts, sub-units or complex assemblies with unequalled precision, mobility and flexibility - no matter where (lab, factory, off-site, etc.).

**Excellent ROI.** Yields considerable productivity and operating profits in industrial coordinate measurement and control.

## APPLICATIONS

The MetraSCAN is a powerful 3D scanning system. Combined with the HandyPROBE, this 3D scanning and probing system can be used for a wide range of metrology applications. Data acquired by the system may be processed in real time using any major inspection and metrology software. This highly-accurate device can carry out the following tasks:

### Inspection

- Part-to-CAD analysis
- First article inspection
- Supplier product quality inspection
- Conformity assessment of 3D models against original parts or production tooling
- Conformity assessment of manufactured parts against originals
- Alignment
- Tooling certification

### Reverse Engineering

- Surface reconstruction
- 3D modeling
- Tooling and jigs development
- Maintenance, repair and overhaul (MRO)
- Finite Element Analysis (FEA)

## INDUSTRIES

- Aerospace
- Automotive and Transport Equipment Production
- Consumer Products
- Education
- Metallurgy and Metal Processing
- Machine Tool Production
- Forming, Moulding, Manufacturing, Casting and Assembling

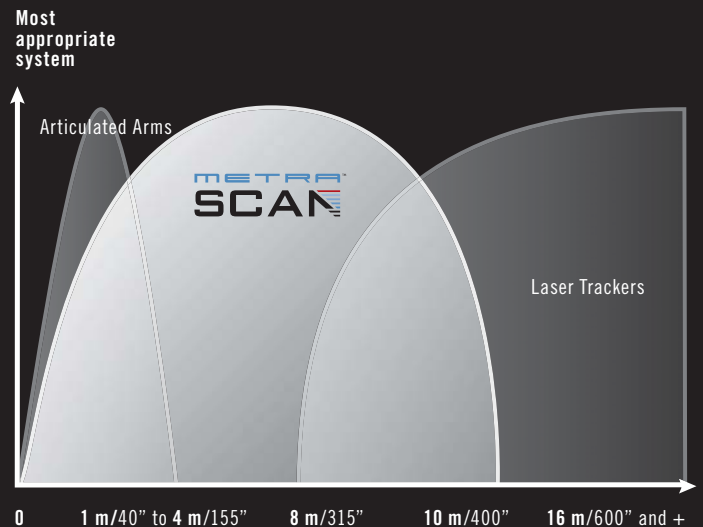


### WHY CHOOSE A MetraSCAN OVER A LASER TRACKER EQUIPPED WITH A SCANNER HEAD?

- Half the price of a laser tracker
- Shorter learning curve
- Greater portability and ergonomics ( $\pm 9$  kg/20 lbs. lighter)
- Low maintenance cost

### WHY CHOOSE A MetraSCAN OVER AN ARTICULATED ARM EQUIPPED WITH A SCANNER HEAD?

- Higher precision
- Easier to operate
- Low maintenance (no encoders, no mechanical maintenance or wear)
- No movement limitation (no mechanical link)
- Greater portability ( $\pm 9$  kg/20 lbs. lighter)



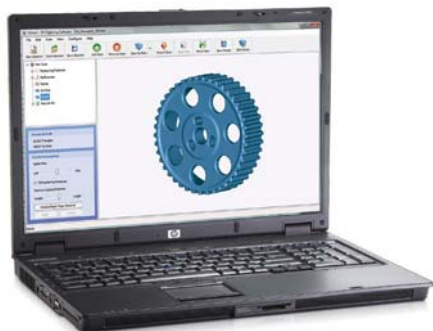


### MaxSHOT 3D™

The MaxSHOT 3D optical coordinate measuring system is a complementary product that adds **photogrammetry** to the wide range of 3D optical probing. The system combines the MaxSHOT 3D photogrammetric video camera and the VXshot™ processing software, and stands out from other systems because it is so easy to use. Its user-friendly design allows even those new to photogrammetry to quickly and easily generate a **high accuracy** positioning model of an object based on a series of photos.



The MaxSHOT 3D system generates positioning models that can be used with the MetraSCAN to determine their repositioning around the object to be scanned or probed. Doing so, we get highly accurate data, and most especially when measuring larger parts.



### VXelements™

The MetraSCAN 3D scanning system comes with VXelements, the all-in-one 3D data acquisition software that powers its entire fleet of 3D scanning and measurement technologies. VXelements includes four software modules: VXscan™, VXprobe™, VXtrack™ and VXshot™. The software gathers all the essential elements and tools into a uniform, user-friendly and intuitive working environment.

**VXscan** is entirely dedicated to the acquisition and optimization of 3D scanning data. It delivers high performance for that specific task, yet it is simple and user-friendly enough to suit any user's experience level.

**VXprobe** allows users to interact with data acquired using a HandyPROBE and share it with any other VXelements component or third-party software.

**VXtrack** adds dynamic tracking capability to the C-Track line of dual camera sensors. It can now record 30 3D images per second of a reflector or sets of reflectors in real time for the study of a variety of applications involving motion tracking.

**VXshot** gives access to photogrammetry. It features an extremely simple data acquisition process that guides operators every step of the way throughout the process and clearly and immediately notifies them if they need to take additional pictures to increase measurement accuracy.



## TECHNICAL SPECIFICATIONS

WEIGHT	2.05 kg (4.5 lbs.)
DIMENSIONS	282 x 250 x 282 mm (11 x 9.8 x 11 in)
MEASUREMENT SPEED	36,000 measures /sec.
VOLUMETRIC PERFORMANCE (WITH C-TRACK 780) <sup>(1)</sup>	0.085 mm (0.003 in.)
VOLUMETRIC PERFORMANCE (WITH MAXSHOT 3D)	0.085 mm if L <sup>(2)</sup> ≤ 1.2 m (0.0033 in. if L* ≤ 4 ft)
	0.055 mm + 0.025 mm/m if L > 1.2 m (0.0022 in. + 0.0003 in./ft if L > 4 ft)
RESOLUTION IN X, Y, Z AXIS	0.05 mm (0.002 in)
STAND-OFF DISTANCE	152 mm (6 in)
OPERATING TEMPERATURE RANGE	15-40 °C (59-104 °F)
OPERATING HUMIDITY RANGE (NON-CONDENSING)	10-90%
CERTIFICATIONS	EN 301 489-1, EN 301 489-3, EN 300 220-1

<sup>(1)</sup>Test methods based on the ASME B89.4.22 standard. Volumetric performance is assessed with traceable length artifacts by measuring these at different locations and orientations within the working volume of the MetraSCAN (range/2 methods).

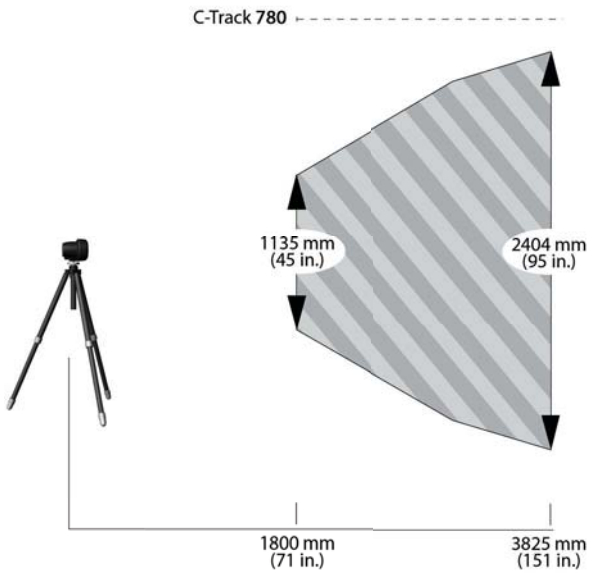
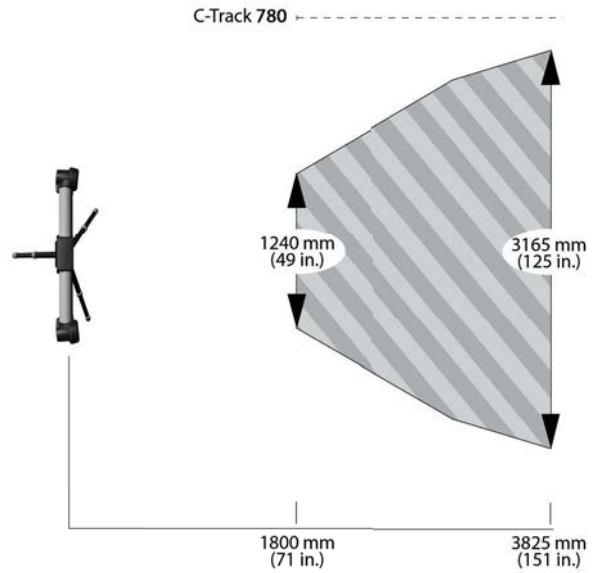
<sup>(2)</sup>"L" being the size of the object measured.





### C-TRACK 780

The C-Track 780 dual-camera sensor is fitted with high-quality optics and special lighting, enabling it to measure all reflectors within its operating space. In addition to tracking the reference model of the whole system, the C-Track 780 ensures the accurate localization of the MetraSCAN, and performs continuous image acquisition and transmission, lighting of reflectors, management of exchanges with the computer and storage of sensor parameters.



C-Track 780



### COMPATIBLE SOFTWARE

- Delcam (PowerINSPECT)
- Geomagic (Studio and Qualify)
- InnovMetric Software (PolyWorks)
- Metrologic (Metrolog XG and V5)
- New River Kinematics (SpatialAnalyzer)
- Rapidform (XOR and XOY)
- Verisurf (VerisurfMeasure)

Other software platforms: Contact our experts at [info@creaform3d.com](mailto:info@creaform3d.com)

### INCLUDED:

- Ergonomic Support
- Recalibration Sphere
- FireWire Cable
- Carrying Case
- VXelements Software
- 1-year Warranty on Parts and Labour



**CREAFORM**  
3D TECHNOLOGY AND DIGITAL SOLUTIONS

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