METRA™ SCAN3D

THE OPTICAL CMM 3D SCANNERS FOR INDUSTRIAL APPLICATIONS

PORTABLE **3D** MEASUREMENT SOLUTIONS

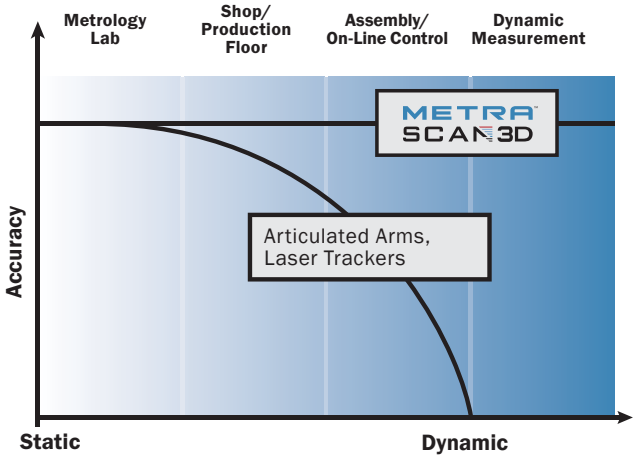
CREAFORM

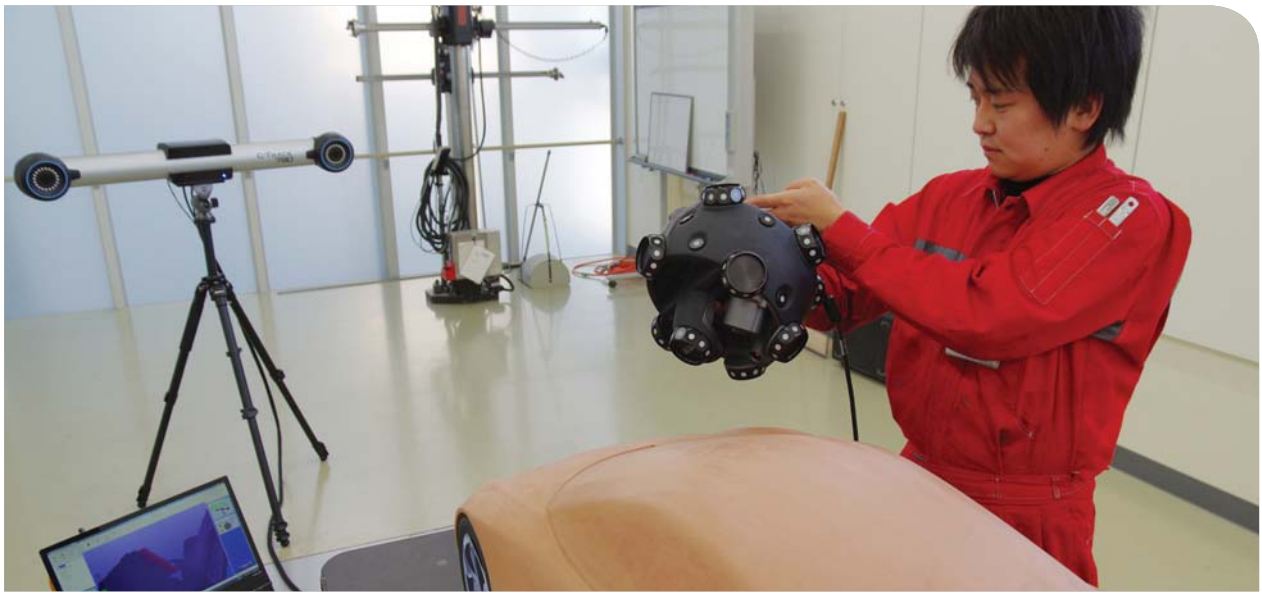
METRASCAN 3D SOLUTIONS

TRUaccuracy TECHNOLOGY

The Most Accurate Measurement Solution.
Creaform's ***TRUaccuracy***™ technology ensures highly-accurate measurements, regardless of the measurement environment (instability, vibrations, thermal variations, 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 3D optical CMM scanners deliver constant accuracy during its entire life cycle.
- With **the continuous monitoring** of **parameters** (temperature, accuracy, etc.), device accuracy is maintained throughout entire operation.





APPLICATIONS

The MetraSCAN 3D scanners are powerful optical CMM 3D scanning systems. Combined with the HandyPROBE, they can be used for a wide range of metrology and reverse engineering applications. Data acquired by the system may be processed in real time using any major inspection and metrology software.

MetraSCAN 70

The MetraSCAN 70 offers increased resolution. It is ideal for projects where geometrical feature definition is key, such as sheet metal and tooling inspection.

MetraSCAN 210

Because it features extended scanning surface, the MetraSCAN 210 offers increased measurement speed with equal accuracy. Its increased stand-off and depth of field make for enhanced scanning flexibility. It is ideal for large surface metrology and large-scale reverse engineering.

The MetraSCAN 3D optical CMM scanners can carry out the following tasks:

Inspection

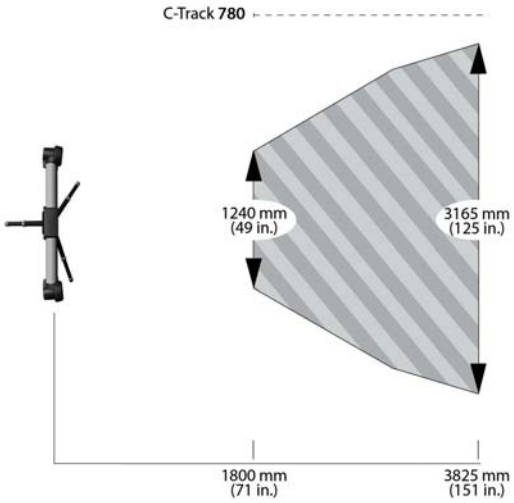
- Part-to-CAD analysis
- First article inspection
- Supplier product quality inspection
- Conformity assessment of 3D models against original parts or production tooling
- Conformity assessment of manufactured parts against originals
- Alignment
- Tooling certification

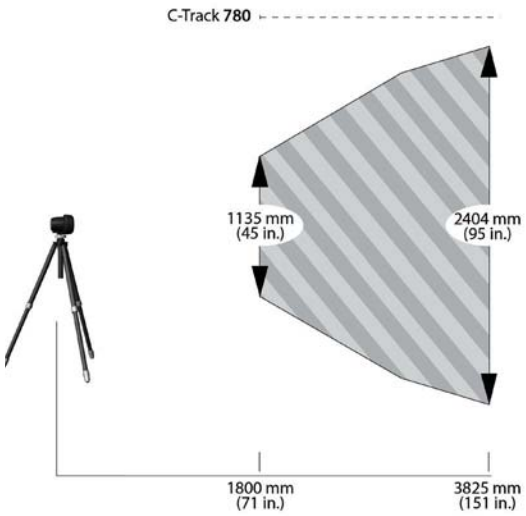
Reverse Engineering

- 3D scan-to-CAD
- 3D modeling
- Tooling and jigs development
- Maintenance, repair and overhaul (MRO)
- Finite Element Analysis (FEA)

THE C-Track™ DUAL-CAMERA SENSORS

The C-Track dual-camera sensors are fitted with high quality optics and special lighting, enabling them to measure all reflectors within their operating space. In addition to tracking the whole system's reference model, the C-Tracks ensure the exact localization of the HandyPROBE, perform continuous image acquisition and transmission, lighting of reflectors, management of the exchanges with the computer and storage of the sensor parameters.





THE HandyPROBE PORTABLE CMM

The HandyPROBE portable CMM arm-free probing system generates high-accuracy measurements (up to 22 µm) and increases the reliability and speed of the measurement process. This portable CMM was designed and optimized to operate in "real-life" shop floor conditions.

VXelements™

The MetraSCAN 3D optical CMM scanning systems come with VXelements, the all-in-one 3D data acquisition software that powers its entire fleet of 3D scanning and measurement technologies. 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. The VXscan module allows users to interact with data acquired using MetraSCAN 3D and share it with any other VXelements component or third-party software.

ACCESSORIES

Included

- MetraSCAN 3D scanner
- Ergonomic support
- Recalibration sphere
- FireWire cable
- Carrying case
- VXelements software
- One-year warranty on parts and labour

CREAFORM CUSTOMER SERVICE

When you purchase a MetraSCAN 3D optical CMM scanner, Creaform backs you up with the CreaCare customer service program. We offer readily available, multilingual technical support on all continents, ensured by knowledgeable, proactive and committed product specialists.

We find it important to help you simplify your work, increase your efficiency and make the most out of your MetraSCAN 3D scanner. That is why all Creaform technologies come with a free CreaCare maintenance plan and annual calibration for the first year. To keep you on the technological edge, you can also choose to get instant downloading access to every new release of VXelements (and the VXscan module). If you wish, you can ask that a qualified metrologist or applications engineer comes over to your place to help you get started with your optical CMM scanner, and to train you and/or your staff on your specific applications.

Last but not least, Creaform's client service agents follow-up with each and every client to make sure that they are satisfied with their MetraSCAN 3D, and that they know exactly who to contact in case of a problem. And if anything should happen, we guarantee quick and reliable servicing.

MetraSCAN 3D

RELATED PRODUCTS

MaxSHOT 3D™

The MaxSHOT 3D optical coordinate measuring system is a complementary product that adds photogrammetry to the range of 3D scanning and probing applications possible with our technologies. 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 3D 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.

C-Link™

The MetraSCAN 70 and the MetraSCAN 210 scanners work with the C-Track dual-camera sensor. It is also possible to network either one of the CMM scanners with 2 or 4 C-Tracks to get access to and benefit from the C-Link functionality, which drastically increases the measurement speed and ease-of-use of the system.

COMPATIBLE SOFTWARE

- Geomagic (Studio and Qualify)
- Rapidform (XOS, XOR and XOV)
- InnovMetric Software (PolyWorks)
- Dassault (CATIA V5, SolidWorks)
- Delcam (PowerINSPECT)
- Metrologic (Metrolog XG, V5)
- New River Kinematics (SpatialAnalyzer)
- PTC (Pro/ENGINEER)
- Siemens (NX and Solid Edge)
- Autodesk (Inventor, Alias, 3ds Max, Maya, Softimage)
- Verisurf (VerisurfMeasure)

Other software platforms: contact our specialists at info@creaform3d.com.

TECHNICAL SPECIFICATIONS	MetraSCAN 70	MetraSCAN 210
WEIGHT	1.85 kg (4 lbs.)	1.85 kg (4 lbs.)
DIMENSIONS	282 x 250 x 282 mm (11 x 9.8 x 11 in.)	282 x 250 x 282 mm (11 x 9.8 x 11 in.)
MEASUREMENT RATE	36,000 measures /sec.	36,000 measures /sec.
VOLUMETRIC PERFORMANCE (with C-Track 780)[1]	0.085 mm (0.003 in.)	0.085 mm (0.003 in.)
VOLUMETRIC PERFORMANCE (with MaxSHOT 3D or C-Link)	0.085 mm if L[1] ≤ 1.2 m (0.0033 in. if L* ≤ 4 ft)	0.085 mm if L[1] ≤ 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)	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.)	0.1 mm (0.004 in.)
STAND-OFF DISTANCE	152 mm (6 in.)	300 mm (12 in.)
DEPTH-OF-FIELD	± 50 mm	± 100 mm
LASER CROSS AREA	70 mm x 70 mm (2.7 x 2.7 in.)	210 mm x 210 mm (8.2 x 8.2 in.)
OPERATING TEMPERATURE RANGE	15-40 °C (59-104 °F)	15-40 °C (59-104 °F)
OPERATING HUMIDITY RANGE (NON-CONDENSING)	10-90%	10-90%
CERTIFICATIONS	EN 301 489-1, EN 301 489-3, EN 300 220-1	EN 301 489-1, EN 301 489-3, EN 300 220-1

[1] 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 3D (range/2 methods).

[2] "L" being the size of the object measured.

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