THE COMPLETE SOLUTION FOR DIMENSIONAL INSPECTION IN QUALITY CONTROL APPLICATIONS
ARE QUALITY CONTROL ISSUES IMPACTING YOUR BOTTOM LINE?

Creaf orm’s comprehensive range of portable and automated 3D optical measurement technologies is specifically dedicated to dimensional inspection for quality control in production environments. It combines the power of optical portable CMMs, 3D scanners, photogrammetry and fully integrated dimensional inspection software.

It is highly efficient at measuring parts of any type of material ranging from 0.05 to 10 m (0.15 to 33 ft) in size and with an accuracy of up to 0.015 mm (0.0006 in). It is the ideal solution to validate the dimensional conformity and/or quality of production tools, jigs, parts, assemblies, sub-assemblies or final products. Thanks to Creaf orm’s solutions, you can rely on the precision of your measurements regardless of production environment instabilities—all while avoiding bottlenecks at the CMM.

THE PERFECT QUALITY CONTROL SOLUTION FOR EVERY PART SIZE

<table>
<thead>
<tr>
<th>Part inspections</th>
<th>Dynamic measurements</th>
<th>Tool and jig verifications</th>
<th>Maintenance, repair, and overhaul</th>
</tr>
</thead>
<tbody>
<tr>
<td>VXinspect™</td>
<td>VXinspect™</td>
<td>VXinspect™</td>
<td>VXinspect™</td>
</tr>
</tbody>
</table>

VXinspect™ is an intuitive and powerful 3D inspection software designed for manufacturing companies conducting first article inspection (FAI) or quality control. Directly integrated into VXelements™, Creaf orm’s 3D software platform and application suite, VXinspect provides the simplest integration of probing, 3D scanning and photogrammetry measurements.
MetraSCAN 3D

**ACCURACY:**
Impressive metrology-grade accuracy regardless of the measurement environment (instability, vibrations, etc.) or operator skills.

**SPEED:**
7 laser crosses, high measurement rate and automatic mesh output for unmatched scanning speed.

**DIFFICULT SURFACES:**
Scan any type of material, even black, multicolored and shiny surfaces.

C-Track

**OPTICAL TRACKER**

**DYNAMIC REFERENCING:**
The system features dynamic referencing capabilities using optical reflectors placed on the part allowing the users to move the object and the system any way they want during measurement.

**GREATER, EXTENDABLE MEASUREMENT VOLUME:**
Can be easily and dynamically extended without any loss of accuracy or any conventional leapfrogging.

**AUTOMATIC ALIGNMENT:**
The use of optical reflectors allows for the measurement of many identical parts in rapid succession without the need to realign.

C-Link

**FUNCTIONALITY**

**VIRTUAL METROLOGY LAB:**
Create a virtual metrology lab by networking 2 to 4 C-Tracks™ for complete coverage of the measurement area.

HandySCAN 3D

**PORTABILITY:**
Light stand-alone device for on-the-go scanning.

**SPEED:**
11 blue laser crosses, high measurement rate and automatic mesh output for unmatched scanning speed.

**ACCURACY:**
Impressive accuracy regardless of the measurement environment (instability, vibrations, etc.) or operator skills.

CUBE-R

**AS SCANNING EMN:**
High productivity industrial, metrology and legal metrology capability.

**COMPLETE TURNAROUND SOLUTION:**
No automation required, fully autonomous and shop floor friendly.

C-PROBE Next

**ACCURACY:**
Impressive accuracy regardless of the measurement environment (instability, vibrations, etc.) or operator skills.

**MULTIFUNCTION BUTTONS:**
Allow easy extraction with a click connect probe adapter without having to go back to the computer.

**SMART PROBE ADAPTER:**
Quick connect probe adapter for easy, autorecognition tip changes.

HandySCAN 3D-R

**ROBOT-MOUNTED OPTICAL 3D SCANNER:**
Automated part inspection of up to hundreds of parts a day, directly on the production line.

**ROBUST INDUSTRIAL DESIGN:**
Adapted for shop floor conditions and environments.

V-Scan

**SOFTWARE MODULE**

**DUAL-BRANCH SOFTWARE MODULE:**
Seamless integration of both single-point touch probe and non-contact measurements.

MaxSHOT 3D

**PHOTOGRAMMETRY ACCURACY:**
Deliver unmatched accuracy over large part measurements.

**GO/NO-GO VISUAL FEEDBACK:**
Laser-projected frame with instant feedback will let users, of any level, know if the image is good or bad.

**SOFTWARE DIAGNOSTICS:**
Easy-to-understand image diagnostics to help users carry out corrective actions before taking measurements.

C-Track

**SOFTWARE TOOL:**

**DIMENSIONAL INSPECTION:**
Intuitive and powerful, automated software, replicating the tasks and workflows that you would use on a traditional touch probe.

**MULTIPLE-MEASUREMENT MODE:**
Seamless integration of both single-point touch probe and non-contact measurements.

VXinspect

**SOFTWARE MODULE**

**VIRTUAL METROLOGY LAB:**
Create a virtual metrology lab by networking 2 to 4 C-Tracks™ for complete coverage of the measurement area.

CUBE-R

**PORTABILITY:**
Light stand-alone device for on-the-go scanning.

**SPEED:**
11 blue laser crosses, high measurement rate and automatic mesh output for unmatched scanning speed.

**ACCURACY:**
Impressive accuracy regardless of the measurement environment (instability, vibrations, etc.) or operator skills.

C-PROBE Next

**ACCURACY:**
Impressive accuracy regardless of the measurement environment (instability, vibrations, etc.) or operator skills.

**MULTIFUNCTION BUTTONS:**
Allow easier interaction with the software without having to go back to the computer.

**SMART PROBE ADAPTER:**
Quick connect probe adapter for easy, autorecognition tip changes.

VXinspect

**SOFTWARE MODULE**

**VIRTUAL METROLOGY LAB:**
Create a virtual metrology lab by networking 2 to 4 C-Tracks™ for complete coverage of the measurement area.

CUBE-R

**PORTABILITY:**
Light stand-alone device for on-the-go scanning.

**SPEED:**
11 blue laser crosses, high measurement rate and automatic mesh output for unmatched scanning speed.

**ACCURACY:**
Impressive accuracy regardless of the measurement environment (instability, vibrations, etc.) or operator skills.

C-PROBE Next

**ACCURACY:**
Impressive accuracy regardless of the measurement environment (instability, vibrations, etc.) or operator skills.

**MULTIFUNCTION BUTTONS:**
Allow easier interaction with the software without having to go back to the computer.

**SMART PROBE ADAPTER:**
Quick connect probe adapter for easy, autorecognition tip changes.

VXinspect

**SOFTWARE MODULE**

**VIRTUAL METROLOGY LAB:**
Create a virtual metrology lab by networking 2 to 4 C-Tracks™ for complete coverage of the measurement area.

CUBE-R

**PORTABILITY:**
Light stand-alone device for on-the-go scanning.

**SPEED:**
11 blue laser crosses, high measurement rate and automatic mesh output for unmatched scanning speed.

**ACCURACY:**
Impressive accuracy regardless of the measurement environment (instability, vibrations, etc.) or operator skills.

C-PROBE Next

**ACCURACY:**
Impressive accuracy regardless of the measurement environment (instability, vibrations, etc.) or operator skills.

**MULTIFUNCTION BUTTONS:**
Allow easier interaction with the software without having to go back to the computer.

**SMART PROBE ADAPTER:**
Quick connect probe adapter for easy, autorecognition tip changes.
All of Creaform’s quality control solutions feature innovative and exclusive technologies.

True Quality Control

**HandyPROBE**

**THE ONLY TRULY ACCURATE PORTABLE CMM**

The HandyPROBE arm-free probing system outperforms traditional portable CMMs on the shop floor. Because it is truly portable and insensitive to instabilities found in any shop-floor environment (e.g., part displacement, setup or CMM instability), it is highly efficient at measuring parts that can’t be moved to a granite or cast iron table. It is also ideal for geometric and surface inspections. HandyPROBE Next can accurately measure parts ranging from 0.2 to 10 m (0.7 to 33 ft) in size and made of any type of materials. HandyPROBE comes with a C-Track optical tracker providing dynamic referencing capabilities for the highest accuracy and geometric reference measurement volume—ideal for dimensional inspection on the shop floor or assembly line. The probing system can also be paired with a MetraSCAN 3D scanner on the shop floor. Because it is truly portable and insensitive to instabilities found in every production environment, HandyPROBE Next performs at levels, thanks to the short learning curve and intuitive use of each system.

**MetraSCAN 3D**

**THE COMPLETE METROLOGY-GRAD 3D SCANNER**

The MetraSCAN 3D is the most complete 3D scanning solution for metrology-grade measurements and inspection. Truly portable and insensitive to changes found in shop-floor environments (e.g., part displacement, setup or CMM instability), it significantly increases the productivity, speed and versatility of measurement processes. It also performs scans that are unorthodox for traditional portable CMMs. The MetraSCAN 3D is the best solution for geometrical and surface inspections on parts ranging from 0.2 to 10 m (0.7 to 33 ft) in size, regardless of the type of material, color or reflectivity.

Paired with the C-Track optical tracker that enables dynamic referencing, automatic alignment and continuous monitoring of parameters, it provides the most accurate measurements in the lab and on the shop floor. Offering optional probing capabilities with the HandyPROBE Next, users can harness the power of both 3D scanning and portable optical CMMs for a streamlined inspection process.

Creaform technologies are backed by a world-class customer support to provide seamless integration in your workflow so you can be up and running in no time.
THE TRULY PORTABLE METROLOGY-GRADE 3D SCANNER

HandySCAN 3D is a metrology-grade handheld portable 3D laser scanners. It is the fastest on the market with the highest measurement rate and accuracy available—all while remaining very simple to use. Its self-positioning capabilities and portability allow unmatched freedom of movement. HandySCAN 3D provides consistent and repeatable results across all work conditions or environments, enabling you to reduce turnaround times and increase profitability. It is the perfect solution when you need to reach confined areas or any object regardless of the size, complexity, material, or color. It represents the ideal tool for quality control applications.

TRUaccuracy
- Metrology-grade measurements
- Accuracy in real-life conditions
- No rigid setup required
- High resolution for details

TRUportability
- Lightweight and small
- Stand-alone device
- Easy access to confined spaces

TRUsimplicity
- Plug-and-play
- Simple user interface
- Instant mesh for ready-to-use files
- Masters complex and difficult surfaces

YOUR BEST SHOT AT LARGE-SCALE PROJECTS

The MaxSHOT 3D portable optical coordinate measuring system is a complementary product that provides the high data accuracy and speed of photogrammetry to a wide range of applications already possible with Creaform technologies, especially when it comes to large-scale projects and parts from 2 to 10 m (7 to 33 ft). Based on a simple series of 2D photos, the MaxSHOT 3D makes it possible to quickly and easily generate a highly accurate positioning model of your parts, which significantly increases 3D measurement accuracy. Thanks to its laser-projected and software feedback, users of any level can use the MaxSHOT 3D!

TRUaccuracy
- Metrology-grade measurements: Accuracy of up to 0.015 mm (0.000059 in)
- Volumetric accuracy: 0.015 mm/m (0.00018 in/ft)
- Average deviation: 0.005 mm/m (0.000060 in/ft)

TRUportability
- Shop-floor compatible: Can be used in any production environment
- Bring it anywhere: Everything fits into one portable carrying case
- Highly ergonomic design: Developed specifically for photogrammetry

TRUsimplicity
- Live feedback on measurement quality: Laser projected frame with GO/NO-GO feedback
- Software diagnostics: VXelements guides users in troubleshooting measurement quality
- Intuitive controls and operation: Experience ultra-short learning curves
- Multifunction buttons: Easily interact with the software
VXelements: CREAFORM’S 3D SOFTWARE PLATFORM AND APPLICATION SUITE

VXelements powers our entire fleet of 3D scanning and measurement technologies. It gathers all the essential elements and tools into a user-friendly, simplified, and sleek working environment.

- CAD import
- Multiple-measurement mode
- Alignment
- Geometric dimensioning and tolerancing (GD&T)

VXmodel: Scan-to-CAD software module

VXmodel™ is a post-treatment software that directly integrates into VXelements. It allows for the finalization of 3D scan data to use directly in any 3D printing or CAD software. VXmodel provides the simplest and fastest path from 3D scans to your computer-aided design or additive manufacturing workflow.

VXtrack: Dynamic tracking software module

VXtrack™ accurately and efficiently measures the positions and orientations of reflectors in space; all measurements can be taken simultaneously and accurately. This makes it possible to control displacements, drive assembly processes or measure deformations.

VXremote: Remote access software application

VXremote™ improves your efficiency on the shop floor by providing fast and easy remote access to VXelements. It offers quick activation and setup and requires no hardware or server to install or maintain. You can have its data acquisition functionalities at your fingertips.

Virtual Metrology Lab

Take full advantage of the C-Link™ functionality by connecting up to 4 C-Tracks in a single network to create a virtual metrology lab. This dimensional inspection solution, designed for metrology lab applications, enables seamless probing and 3D scanning operations without having to move the C-Track optical tracker around.

Optical Probing Accessories

Use your MaxSHOT 3D or C-Track as an optical probing device and get direct 3D measurements for various types of features: hole location, edge location, surface points, etc.
## TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>HandyPROBE™</th>
<th>MetraSCAN 3D™</th>
<th>HandySCAN 3D™</th>
<th>MaxSHOT 3D™</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HANDYPROBE™ NEXT™</strong></td>
<td>**HANDYPROBE™ NEXT™</td>
<td><strong>HANDYSCAN™ BLACK™</strong></td>
<td><strong>MAXSHOT™ NEXT™</strong></td>
</tr>
<tr>
<td><strong>HANDYPROBE™ NEXT™</strong></td>
<td>**HANDYSCAN™ BLACK™</td>
<td><strong>MAXSHOT™ NEXT™</strong></td>
<td></td>
</tr>
<tr>
<td><strong>HANDYPROBE™ NEXT™</strong></td>
<td><strong>HANDYSCAN™ BLACK™</strong></td>
<td><strong>MAXSHOT™ NEXT™</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PART SIZE RANGE</strong>&lt;sup&gt;(recommended)&lt;/sup&gt;</td>
<td>0.2 - 6 m (0.7 - 20 ft)</td>
<td>0.2 - 6 m (0.7 - 20 ft)</td>
<td>0.05 - 4 m (0.15 - 13 ft)</td>
</tr>
<tr>
<td><strong>ACCURACY</strong>&lt;sup&gt;(1)&lt;/sup&gt;</td>
<td>Up to 0.025 mm (0.0010 in)</td>
<td>Up to 0.020 mm (0.0008 in)</td>
<td>Up to 0.035 mm (0.0014 in)</td>
</tr>
<tr>
<td><strong>SINGLE POINT REPEATABILITY</strong>&lt;sup&gt;(based on working volume)&lt;/sup&gt;</td>
<td>9.1 m&lt;sup&gt;3&lt;/sup&gt; (320 ft&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>0.060 mm (0.0024 in)</td>
<td>0.035 mm (0.0014 in)</td>
</tr>
<tr>
<td><strong>VOLUMETRIC ACCURACY</strong>&lt;sup&gt;(based on working volume)&lt;/sup&gt;</td>
<td>9.1 m&lt;sup&gt;3&lt;/sup&gt; (320 ft&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>0.066 mm (0.0026 in)</td>
<td>0.035 mm (0.0014 in)</td>
</tr>
<tr>
<td><strong>VOLUMETRIC ACCURACY WITH HANDYSCAN™ BLACK™ ELITE</strong>&lt;sup&gt;(based on part size)&lt;/sup&gt;</td>
<td>225 x 250 mm (8.8 x 9.8 in)</td>
<td>310 x 350 mm (12.2 x 13.8 in)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>RESOLUTION</strong></td>
<td>N/A</td>
<td>200 mm (7.9 in)</td>
<td>0.050 mm (0.0020 in)</td>
</tr>
<tr>
<td><strong>SCANING AREA</strong></td>
<td>N/A</td>
<td>300 mm (11.8 in)</td>
<td>0.025 mm (0.0010 in)</td>
</tr>
<tr>
<td><strong>STAND-OFF DISTANCE</strong></td>
<td>N/A</td>
<td>300 mm (11.8 in)</td>
<td>0.025 mm (0.0010 in)</td>
</tr>
<tr>
<td><strong>DEPTH OF FIELD</strong></td>
<td>N/A</td>
<td>200 mm (7.9 in)</td>
<td>225 x 250 mm (8.8 x 9.8 in)</td>
</tr>
<tr>
<td><strong>LIGHT SOURCE</strong></td>
<td>2 laser crosses</td>
<td>11 blue laser crosses + 1 extra line</td>
<td>3 laser crosses</td>
</tr>
<tr>
<td><strong>LASER CLASS</strong></td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
</tr>
<tr>
<td><strong>MEASUREMENT RATE</strong></td>
<td>205,000 measurements/s</td>
<td>480,000 measurements/s</td>
<td>800,000 measurements/s</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>0.04 kg (0.09 lb)</td>
<td>0.94 kg (2.1 lb)</td>
<td>0.04 kg (0.09 lb)</td>
</tr>
<tr>
<td><strong>DIMENSIONS</strong>&lt;sup&gt;(LxWxH)&lt;/sup&gt;</td>
<td>Probe: 68 x 157 x 340 mm (2.7 x 6.2 x 13.4 in)</td>
<td>C-Track: 1031 x 181 x 148 mm (40.6 x 7.1 x 5.8 in)</td>
<td>79 x 142 x 288 mm (3.1 x 5.6 x 11.3 in)</td>
</tr>
<tr>
<td><strong>OPERATING TEMPERATURE RANGE</strong></td>
<td>5 - 40°C (41 - 104°F)</td>
<td>5 - 40°C (41 - 104°F)</td>
<td>5 - 40°C (41 - 104°F)</td>
</tr>
</tbody>
</table>

**NOTES:**

1. The HandySCAN BLACK and HandySCAN BLACK Elite (ISO 17025 accredited) are based on the VDI/VDE 2634 part 3 standard. The measurement error is assessed using traceable length artefacts by measuring them at different locations and orientations within the working volume. The HandyPROBE Next is dependent on the working volume in which the measurement is made: 9.1 m<sup>3</sup> (320 ft<sup>3</sup>) or 16.6 m<sup>3</sup> (586 ft<sup>3</sup>). The MetraSCAN 3D and MetraSCAN 750 are dependent on the working volume in which the measurement is made: 9.1 m<sup>3</sup> (320 ft<sup>3</sup>) or 16.6 m<sup>3</sup> (586 ft<sup>3</sup>). For MaxSHOT 3D, the measurement error is assessed using traceable length artefacts by measuring them at different locations and orientations within the working volume.

2. Based on the ASME B89.4.22 standard. The probe of the HandyPROBE Next is located within a conical socket. Individual points are measured from multiple approach directions. Each individual point measurement is analyzed as a range of deviations in X, Y, Z (value = range/2). Performance of the HandyPROBE Next is dependent on the working volume in which the measurement is made: 9.1 m<sup>3</sup> (320 ft<sup>3</sup>) or 16.6 m<sup>3</sup> (586 ft<sup>3</sup>). The MetraSCAN 3D and MetraSCAN 750 are dependent on the working volume in which the measurement is made: 9.1 m<sup>3</sup> (320 ft<sup>3</sup>) or 16.6 m<sup>3</sup> (586 ft<sup>3</sup>). For MaxSHOT 3D, the measurement error is assessed using traceable length artefacts by measuring them at different locations and orientations within the working volume.

3. The HandySCAN BLACK and HandySCAN BLACK Elite (ISO 17025 accredited) are based on the VDI/VDE 2634 part 3 standard. The measurement error is assessed using traceable length artefacts by measuring them at different locations and orientations within the working volume. The HandyPROBE Next is dependent on the working volume in which the measurement is made: 9.1 m<sup>3</sup> (320 ft<sup>3</sup>) or 16.6 m<sup>3</sup> (586 ft<sup>3</sup>). The MetraSCAN 3D and MetraSCAN 750 are dependent on the working volume in which the measurement is made: 9.1 m<sup>3</sup> (320 ft<sup>3</sup>) or 16.6 m<sup>3</sup> (586 ft<sup>3</sup>). For MaxSHOT 3D, the measurement error is assessed using traceable length artefacts by measuring them at different locations and orientations within the working volume.

4. Based on the ASME B89.4.22 standard. Performance is assessed with traceable length artefacts by measuring them at different locations and orientations within the working volume. The HandyPROBE Next and MetraSCAN 3D are dependent on the working volume in which the measurement is made: 9.1 m<sup>3</sup> (320 ft<sup>3</sup>) or 16.6 m<sup>3</sup> (586 ft<sup>3</sup>). The HandySCAN BLACK and HandySCAN BLACK Elite (ISO 17025 accredited) are based on the VDI/VDE 2634 part 3 standard. Performance of the HandyPROBE Next and MetraSCAN 3D is dependent on the working volume in which the measurement is made: 9.1 m<sup>3</sup> (320 ft<sup>3</sup>) or 16.6 m<sup>3</sup> (586 ft<sup>3</sup>). The MetraSCAN 3D and MetraSCAN 750 are dependent on the working volume in which the measurement is made: 9.1 m<sup>3</sup> (320 ft<sup>3</sup>) or 16.6 m<sup>3</sup> (586 ft<sup>3</sup>). For MaxSHOT 3D, the measurement error is assessed using traceable length artefacts by measuring them at different locations and orientations within the working volume.

5. Based on the VDI/VDE 2634 part 1 standard.

6. The volumetric accuracy of the system when using a MaxSHOT 3D cannot be superior to the default volumetric accuracy of the chosen system and model.

---

**Creaform Inc. (Head Office)**
4700 rue de la Paspasasse
Lévis QC 66 W 0L9
Canada
Tel.: 1 418 833 4446 | Fax: 1 418 833 9588
creafom.info@ametek.com | creaform3d.com

**Creaform U.S.A. Inc.**
2031 Main Street
Irvine CA 92614
USA
Tel.: 1 855 939 4446 | Fax: 1 418 833 9588
creafom.info@ametek.com | creaform3d.com

**Authorized Distributor**