THE COMPLETE QUALITY CONTROL PORTFOLIO FOR
DIMENSIONAL INSPECTION IN
PRODUCTION ENVIRONMENT
Quality control requires highly accurate measuring instruments. Therefore, inspections of high-tolerance features are generally assigned to traditional CMMs, whereas 3D optical measurement technologies are the preferred solutions for all other quality control applications, specifically those that occur on the shop floor. Not only are they less expensive to purchase, but they also measure faster, require less training, handling, and programming time, and save precious CMM time for critical inspections.

Creaform’s comprehensive range of portable and automated 3D optical measurement technologies are specifically designed to support dimensional inspection for quality control in production environment. They combine the power of optical portable CMMs, 3D scanners, photogrammetry, and fully integrated dimensional inspection software.

Creaform’s solutions, thanks to their impressive accuracy, speed, portability, and versatility, enable quality control and quality assurance professionals to validate the conformity and quality of manufactured parts regardless of size, shape, material, surface finish, and complexity.

Whether you require part inspections, dynamic measurements, or tool and jig verifications, explore Creaform’s quality control portfolio and find the solution that best suits your needs.

EXPLORING CREAFORM’S 3D OPTICAL MEASUREMENT TECHNOLOGIES

HandySCAN3D™
- ACCURACY, PORTABILITY, SPEED, AND VERSATILITY
- The truly portable metrology-grade 3D scanner that delivers accurate results within seconds

MetraSCAN3D™
- SPEED, ACCURACY, AND VERSATILITY
- Fast and accurate optical CMM 3D scanner engineered for shop floor conditions

MetraSCAN3D-R™
- SPEED, ACCURACY, VERSATILITY, AND SIMPLICITY
- The robot-mounted optical CMM scanner for at-line inspection

HandyPROBE™
- ACCURACY, SIMPLICITY, AND PORTABILITY
- The arm-free portable probing system designed for use on the shop floor

MaxSHOT3D™
- ACCURACY AND LARGE-SCALE PROJECTS
- The unmatched accuracy of photogrammetry for large-scale metrology projects

Customer Care Program

Creaform is committed to offering first-class customer service so that you can get the most out of your system. Our multilingual team of product specialists will provide you with assistance to answer your immediate needs. Our fleet of leading-edge calibration tools in our service centers gives you local access to faster maintenance service and repair.

Be sure to subscribe to the Customer Care Program to take advantage of worry-free maintenance and global repair coverage for all of your Creaform hardware and software. Whether you need to access our latest software releases and knowledge base or require a loaner unit while your device is being serviced, we have a plan tailored to your needs.
The MetraSCAN 3D™ is the most complete 3D scanning solution for metrology-grade measurements and inspections. Insensitive to shop floor vibrations, part movement, and environmental instability, it significantly increases the efficiency, speed, and simplicity of measurement processes. Engineered to work both in the metrology lab and on the production floor, the MetraSCAN 3D is designed for manufacturing and metrology professionals who want to deliver approved quality parts quickly and efficiently.

MetraSCAN 3D is the ideal shop floor metrology solution for performing 3D dimensional and surface inspections on a large variety of parts regardless of size, material, finish, or complexity.

The MetraSCAN 3D-R™ stands as a powerful, innovative robot-mounted optical CMM scanner that can be seamlessly integrated into automated quality control processes for at-line inspection in mass production. The cutting-edge technology that is unique to the MetraSCAN 3D-R enables manufacturing companies to harness the power of optical measurement and industrial automation directly on their production lines, making quality control easier and more effective.

Designed for automated quality control applications, the MetraSCAN 3D-R is the perfect solution for manufacturing companies who want to increase their productivity by measuring more dimensions on more parts regardless of size, geometry, finish, or reflectivity.

The CUBE-R™ leverages the power of the MetraSCAN 3D-R in a high-productivity industrial measuring cell designed to be integrated into factories for at-line inspection. Due to its operational simplicity, compatibility with metrology software, and off-line programming, the CUBE-R is a CMM that is accessible to all, regardless of the level of expertise or experience.

Offered in 16 configurations, the CUBE-R is the perfect solution for solving quality and productivity issues. When compared to the CMM, the CUBE-R is much faster, providing a gain in performance and better efficiency in order to optimize manufacturing processes.

The HandySCAN 3D™ is the reference in portable metrology-grade 3D laser scanners. Its fast measurement rate increases the speed and efficiency of measurement processes, whereas its self-positioning capability and complete portability allow for impressive freedom of movement. Moreover, the HandySCAN 3D generates accurate and repeatable results across all work conditions or environments, enabling manufacturing companies to reduce downtime and accelerate time-to-market.

The HandySCAN 3D is the most effective and reliable metrology solution to acquire accurate 3D measurements of physical objects anywhere—even in difficult environments and with complex surfaces.
HandyPROBE™

THE PORTABLE CMM FOR THE SHOP FLOOR

The HandyPROBE™ is an arm-free portable probing system designed for use on the shop floor. Because its measurement volume is flexible, it can be extended easily and dynamically without significant loss in accuracy, which comes with conventional leapfrog. Thereby, the HandyPROBE outperforms traditional portable CMMs in simplicity and efficiency. Without the requirements of a rigid measurement setup, the complete measuring system—the part, optical tracker, and wireless probe—can all be moved freely at any time during the measurement sequence, which adds even more simplicity to the process.

Offering measurement accuracy unaffected by the instabilities of the environment, the HandyPROBE™ is the best metrology solution for measuring geometrical entities on parts of any size directly on the production floor.

VXinspect™

Dimensional Inspection Software Module

VXinspect™ is an intuitive 3D inspection software designed for conducting first article inspection (FAI) or quality control in the manufacturing process. Directly integrated into VXelements, it provides the simplest integration of probing, 3D scanning, and photogrammetry measurements into all inspection workflows, with no compromises made on measurement quality and GD&T requirements.

VXelements™

SIMPLE, POWERFUL, AND FULLY INTEGRATED 3D SOFTWARE PLATFORM AND APPLICATION SUITE

VXelements™ powers Creaform’s entire fleet of 3D scanning and measurement technologies. It combines all of the essential elements for data acquisition, reverse engineering, and inspection into a user-friendly interface. Its real-time visualization capability and sleek working environment provide a simple and efficient measurement experience.

VXscan-R™

Digital Twin Environment Software Module

VXscan-R™ is a reliable and accurate digital twin environment useful for program preparation, scan parameter adjustment—speed, shutter time, and scan resolution—simulation and execution. With VXscan-R’s scanning intelligence and dedicated functions, programming robot paths and optimizing the line of sight become easier and faster. Thanks to VXscan-R, automated quality control is now accessible to non-experts—solving programming issues and helping them feel confident when working with robotic systems.

VXscan-R™

Creaform Portable Workstation

Take full advantage of Creaform 3D scanner portability with this accessory package. Designed to facilitate mobility across the shop floor and increase reliability by protecting your scanning system while still in operation or when stored.

Creaform C-Track Shop-Floor Stand

The Creaform C-Track Shop-Floor Stand, available as stand-alone or bundled with the portable workstation, increases the stability and mobility of the C-Track while still in operation and facilitates mobility around the part to take full advantage of your portable optical CMM.

Virtual Metrology Lab

Take full advantage of the C-Link functionality by connecting up to four 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.

MaxSHOT 3D™

UNMATCHED ACCURACY ON LARGE-SCALE METROLOGY PROJECTS

The MaxSHOT 3D™ is a portable optical coordinate measuring system. Based on a series of 2D photos, the MaxSHOT 3D generates an accurate positioning model for Creaform 3D scanners or portable CMM technologies. It provides the high data accuracy and efficiency of photogrammetry required for a wide range of applications, specifically large-scale projects and large-size parts. Thanks to its sophisticated user guidance technology and laser-projected software feedback, the MaxSHOT 3D is accessible to everyone, regardless of their knowledge in metrology.

The MaxSHOT 3D is the best solution for quality control and inspection teams who need the highest measurement accuracy and efficiency on large-scale metrology projects.
## TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>HandySCAN 3D™ Black™</th>
<th>HandySCAN 3D™ Black™ Elite</th>
<th>MetraSCAN 3D™ Black™</th>
<th>MetraSCAN 3D™ Black™ Elite</th>
<th>MetraSCAN 3D-R™ Black™</th>
<th>MetraSCAN 3D-R™ Black™ Elite HD</th>
<th>HandyPROBE™ Next™</th>
<th>HandyPROBE™ Next™ Elite</th>
<th>MaxSHOT 3D™ Black™</th>
<th>MaxSHOT 3D™ Black™ Elite</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PART SIZE RANGE</strong> (recommended)</td>
<td>0.05–4 m (0.15–13 ft)</td>
<td>0.025 m (0.0009 in)</td>
<td>0.035 mm (0.0014 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.035 mm (0.0014 in)</td>
<td>0.030 mm (0.0012 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>Up to 0.015 mm (0.0006 in)</td>
<td>0.015 mm (0.0006 in)</td>
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<tr>
<td><strong>ACCURACY</strong></td>
<td>0.035 mm (0.0014 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.035 mm (0.0014 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.035 mm (0.0014 in)</td>
<td>0.030 mm (0.0012 in)</td>
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<td>0.015 mm (0.0006 in)</td>
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<tr>
<td><strong>VOLUME ACCURACY</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>MEASUREMENT RESOLUTION</strong></td>
<td>0.025 mm (0.0009 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>0.025 mm (0.0012 in)</td>
<td>0.025 mm (0.0009 in)</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td><strong>MESH RESOLUTION</strong></td>
<td>0.100 mm (0.0039 in)</td>
<td>0.100 mm (0.0039 in)</td>
<td>0.100 mm (0.0039 in)</td>
<td>0.100 mm (0.0039 in)</td>
<td>0.100 mm (0.0039 in)</td>
<td>0.100 mm (0.0039 in)</td>
<td>0.100 mm (0.0039 in)</td>
<td>0.100 mm (0.0039 in)</td>
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<tr>
<td><strong>SCANNING AREA</strong></td>
<td>310 x 350 mm (12.2 x 13.8 in)</td>
<td>310 x 350 mm (12.2 x 13.8 in)</td>
<td>310 x 350 mm (12.2 x 13.8 in)</td>
<td>310 x 350 mm (12.2 x 13.8 in)</td>
<td>310 x 350 mm (12.2 x 13.8 in)</td>
<td>310 x 350 mm (12.2 x 13.8 in)</td>
<td>310 x 350 mm (12.2 x 13.8 in)</td>
<td>310 x 350 mm (12.2 x 13.8 in)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>STAND-OFF DISTANCE</strong></td>
<td>300 mm (11.8 in)</td>
<td>300 mm (11.8 in)</td>
<td>300 mm (11.8 in)</td>
<td>300 mm (11.8 in)</td>
<td>300 mm (11.8 in)</td>
<td>300 mm (11.8 in)</td>
<td>300 mm (11.8 in)</td>
<td>300 mm (11.8 in)</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>DEPTH OF FIELD</strong></td>
<td>250 mm (9.8 in)</td>
<td>250 mm (9.8 in)</td>
<td>250 mm (9.8 in)</td>
<td>250 mm (9.8 in)</td>
<td>250 mm (9.8 in)</td>
<td>250 mm (9.8 in)</td>
<td>250 mm (9.8 in)</td>
<td>250 mm (9.8 in)</td>
<td>100 mm (3.9 in)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>LIGHT SOURCE</strong></td>
<td>7 blue laser crosses</td>
<td>11 blue laser crosses (+1 extra line)</td>
<td>7 blue laser crosses</td>
<td>11 blue laser crosses (+1 extra line)</td>
<td>7 blue laser crosses</td>
<td>11 blue laser crosses (+1 extra line)</td>
<td>7 blue laser crosses</td>
<td>11 blue laser crosses (+1 extra line)</td>
<td>45 blue laser lines</td>
<td>69 blue laser lines</td>
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<tr>
<td><strong>LASER CLASS</strong></td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
<td>2M (eye safe)</td>
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<tr>
<td><strong>MEASUREMENT RATE</strong></td>
<td>800,000 measurements/s</td>
<td>1,300,000 measurements/s</td>
<td>800,000 measurements/s</td>
<td>1,300,000 measurements/s</td>
<td>1,800,000 measurements/s</td>
<td>3,000,000 measurements/s</td>
<td>1,800,000 measurements/s</td>
<td>3,000,000 measurements/s</td>
<td>80 measurements/s</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>0.94 kg (2.1 lb)</td>
<td>1.49 kg (3.3 lb)</td>
<td>5.7 kg (12.5 lb)</td>
<td>2.250 Kgf-cm-s</td>
<td>N/A</td>
<td>N/A</td>
<td>5.7 kg (12.5 lb)</td>
<td>2.250 Kgf-cm-s</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>DIMENSIONS</strong> (L x W x H)</td>
<td>79 x 142 x 288 mm (3.1 x 5.6 x 11.3 in)</td>
<td>289 x 235 x 296 mm (11.4 x 9.3 x 11.7 in)</td>
<td>1031 x 181 x 148 mm (40.6 x 7.1 x 5.8 in)</td>
<td>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>
<td>289 x 235 x 296 mm (11.4 x 9.3 x 11.7 in)</td>
<td>1031 x 181 x 148 mm (40.6 x 7.1 x 5.8 in)</td>
<td>1031 x 181 x 148 mm (40.6 x 7.1 x 5.8 in)</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td><strong>INERTIA LIMIT</strong></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>OPERATING HUMIDITY RANGE</strong> (non-condensing)</td>
<td>10–90%</td>
<td>10–90%</td>
<td>10–90%</td>
<td>10–90%</td>
<td>10–90%</td>
<td>10–90%</td>
<td>10–90%</td>
<td>10–90%</td>
<td>10–90%</td>
<td>10–90%</td>
</tr>
</tbody>
</table>

(1) HandyPROBE Next and HandyPROBE Next|Elite performance assessment (ISO 17025 accredited) is based on partial procedure per ISO 10360-12 standard. Probing size error (6.2) and length error (6.4). Performance is assessed on traceable spheres and length artefacts.

(2) HandyPROBE Next and HandyPROBE Next|Elite performance assessment (ISO 17025 accredited) is based on partial procedure per ISO 10360-12 standard. Probing size error (6.2) and Length error (6.4). Performance is assessed on traceable spheres and length artefacts.

(3) HandySCAN BLACK and HandySCAN BLACK|Elite (ISO 17025 accredited) performance is assessed on traceable spheres and length artefacts. HandySCAN BLACK and HandySCAN BLACK|Elite (ISO 17025 accredited) performance is assessed on traceable spheres and length artefacts.

(4) Based on the VDI/VDE 2634 part 1 standard.