THE TRULY PORTABLE
METROLOGY-GRADE
3D SCANNERS

reddot award 2015
winner
The HandySCAN 3DTM handheld scanners of new generation have been optimized to meet the needs of product development and engineering professionals on the lookout for the most effective and reliable way to acquire 3D measurements of physical objects.

Creaform’s flagship scanners underwent a complete re-engineering, building on its core assets. They are now more portable and they are faster at delivering accurate and high resolution 3D scans while remaining overly simple to use. Yet, it is their true portability that has changed the rules and set a whole new trend in the 3D scanning market.

WHEN ACCURACY MEETS PORTABILITY. INTRODUCING THE HANDYSCAN 3D SCANNERS.
# THE HANDYSCAN 3D SCANNERS: YOUR BEST ALLY AT ALL STAGES OF YOUR PRODUCT LIFECYCLE MANAGEMENT

## Concept
- Competitive product analysis
- Measurement of product environment or connecting/Surrounding parts
- Measurement of existing parts for aftermarket or custom equipment
- Clay model measurement/Reverse engineering
- Models and mock-ups measurement/Reverse engineering
- Styling and aesthetics
- Integration of prototype modifications into CAD file
- Form study, proof-of-concept prototypes
- Ergonomics prototypes

## Design
- 3D scan-to-CAD
- Reverse engineering (extracting design-intent)
- Packaging design
- Rapid prototyping/Manufacturing
- Integration of prototype modifications into CAD file
- Prototype inspection
- Finite element analysis (FEA)
- Interference analysis
- Deformation, geometry analysis

## Manufacturing
- Reverse engineering of dies, molds, fixtures, jigs and patterns
- Update of CAD file to reflect as-built tooling measurements
- Tooling validation/Inspection
- Virtual assembly
- Tool/Robot path programming
- Part assessment before machining
- First article inspection (FAI)
- Part-to-CAD inspection
- Supplier quality inspection

## Servicing
- As-built documentation of parts/Tooling
- Marketing presentations, 3D training systems, serious gaming
- Digital archiving
- Wear and tear analysis
- Custom repairs/Modification
- As-built documentation of parts/Tooling before maintenance
- Reverse engineering for developing replacement/Restoration parts
- Planning of complex assemblies disassembly/Dismantling

## Other Applications
- Museology, heritage preservation, restoration, digital archiving, 3D scanning for research, analysis and publishing, multimedia, entertainment, computer graphics and special effects.
ALL OF THE CREATFORM PORTABLE 3D SCANNERS FEATURE INNOVATIVE AND EXCLUSIVE TECHNOLOGIES:

**TRUaccuracy™**
ACCURATE MEASUREMENTS IN REAL LIFE OPERATING CONDITIONS

**TRUportability™**
3D SCANNING WHERE YOU NEED TO GO

**TRUsimplicity™**
OVERLY SIMPLE 3D SCANNING PROCESS

**VERSATILE:** VIRTUALLY LIMITLESS 3D SCANNING – NO MATTER THE PART SIZE, COMPLEXITY, MATERIAL OR COLOR.

**METROLOGY-GRADE MEASUREMENTS:** ACCURACY OF UP TO 0.030 mm (0.0012 in.), RESOLUTION OF UP TO 0.050 mm (0.002 in.), HIGH REPEATABILITY AND TRACEABLE CERTIFICATE.

**ON-THE-GO SCANNING:** TAKE IT FROM PLACE TO PLACE OR USE IT IN-HOUSE OR ON SITE.

**LIGHTWEIGHT AND SMALL:** WEIGHTS 0.85 kg (1.9 lb.), CAN REACH CONFINED AREAS. FITS INTO A CARRY-ON.

**QUICK SETUP:** UP AND RUNNING IN LESS THAN 2 MINUTES.

**STAND-ALONE DEVICE:** NO EXTERNAL POSITIONING SYSTEM, NO ARMS, NO TRIPOD OR FIXTURE.

**FASTEST 3D SCANNER ON THE MARKET:** 25 TIMES FASTER THAN THE PREVIOUS GENERATION.

**HIGHEST MEASUREMENT RATE AMONG ALL LASER SCANNERS:** 480,000 MEASUREMENTS/S.

**USER-FRIENDLY:** VERY SHORT LEARNING CURVE, REGARDLESS OF THE USER’S EXPERIENCE LEVEL.

**NO RIGID SETUP REQUIRED:** THE PART AND SCANNER CAN BE MOVED FREELY DURING SCANNING.

**SELF-POSITIONING:** IT USES TRIANGULATION ON OPTICAL REFLECTORS TO DETERMINE ITS RELATIVE POSITION TO THE PART.

**AUTOMATIC MESH OUTPUT:** READY-TO-USE FILES, RIGHT AS YOU COMPLETE ACQUISITION.

**QUICK WORKFLOW INTEGRATION:** USABLE SCAN FILES TO BE IMPORTED INTO RE/CAD SOFTWARE WITHOUT POST-PROCESSING.

**REAL-TIME VISUALIZATION:** LOOK AT THE COMPUTER SCREEN TO SEE WHAT YOU ARE DOING AND WHAT IS LEFT TO BE DONE.
VXELEMENTS™: CREAFORM’S 3D SOFTWARE PLATFORM

The HandySCAN 3D scanner comes with VXelements, a fully integrated 3D software platform that 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. Its real-time visualization provides a simple, enjoyable scanning experience.

An optimized scan file is automatically created and available upon completion of the data acquisition step, which contributes to greatly shorten your part inspection or design process.

- **User-friendly interface**: VXelements was designed to simplify the whole scanning process to its essential core, through a powerful and simple process;
- **Surface optimization algorithm**: avoids the creation of multiple scan layers and ensures a more accurate mesh without any post-treatment;
- **Direct mesh output**: an optimized mesh can be exported in all standard formats, right as you complete acquisition. No complicated alignment or point cloud processing needed;
- **No limitation to the scan resolution**: you simply need to input a resolution value, independent from the size of the scanned object. Resolution can be changed at any time before/after the scan;
- **Real-time visualization**: the user can view the 3D surface as the object is being scanned;
- **Scan results enhancement**: hole filling, smart decimation, boundary filters, etc.
EXTEND THE POWER OF YOUR HANDYSCAN 3D SCANNER

MaxSHOT 3D™: Optical coordinate measuring system
To increase data accuracy through photogrammetry, you can use a MaxSHOT 3D optical coordinate measuring system with your HandySCAN 3D scanner. Based on a series of 2D photos, the MaxSHOT 3D makes it possible to quickly and easily generate a highly accurate positioning model of your part, which contributes to significantly increase 3D scan files accuracy.

VXmodel™: Scan-to-CAD software module
VXmodel is a post-treatment software that directly integrates into VXelements and seamlessly allows to finalize 3D scan data for use directly in any CAD or 3D printing software. VXmodel provides the simplest and fastest path from 3D scans to your CAD or additive manufacturing workflow.

VXinspect™: Quality control software that takes it to the next level
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, Creaform’s 3D software platform and application suite, VXinspect provides the simplest integration of probing and 3D scanning measurement capabilities.

VXremote™: Remote access software application
VXremote improves your efficiency in the field by providing fast and easy remote access to VXelements. It offers quick activation and set-up and requires no hardware or server to install or maintain. You can have all its data acquisition functionalities at your fingertips... Available only with the Creaform Certified Rugged Tablet!

ACCESSORIES

INCLUDED
- Carrying case
- Calibration plate
- Custom USB cable
- Power supply
- 2,000 positioning targets
- 1-year warranty on parts and labor

OPTIONAL
- Certified laptop computer
- 3D scanner external battery
- Rugged tablet with VXremote
- Magnetic, reusable positioning targets
## TECHNICAL SPECIFICATIONS

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<tr>
<th></th>
<th>HandySCAN 300™</th>
<th>HandySCAN 700™</th>
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<tbody>
<tr>
<td><strong>WEIGHT</strong></td>
<td>0.85 kg (1.9 lbs.)</td>
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<tr>
<td><strong>DIMENSIONS (LxWxH)</strong></td>
<td>77 x 122 x 294 mm (3.0 x 4.8 x 11.6 in.)</td>
<td>275 x 250 mm (10.8 x 9.8 in.)</td>
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<tr>
<td><strong>MEASUREMENT RATE</strong></td>
<td>205,000 measurements/s</td>
<td>480,000 measurements/s</td>
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<tr>
<td><strong>SCANNING AREA</strong></td>
<td>225 x 250 mm (8.8 x 9.8 in.)</td>
<td>7  laser crosses (+1 extra line)</td>
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<tr>
<td><strong>LIGHT SOURCE</strong></td>
<td>3 laser crosses</td>
<td>7 laser crosses (+1 extra line)</td>
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<tr>
<td><strong>LASER CLASS</strong></td>
<td>2M (eye-safe)</td>
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<tr>
<td><strong>RESOLUTION</strong></td>
<td>0.100 mm (0.0039 in.)</td>
<td>0.050 mm (0.0020 in.)</td>
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<tr>
<td><strong>ACCURACY</strong></td>
<td>Up to 0.040 mm (0.0016 in.)</td>
<td>Up to 0.030 mm (0.0012 in.)</td>
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<tr>
<td><strong>VOLUMETRIC ACCURACY</strong></td>
<td>0.020 mm + 0.100 mm/m (0.0008 in. + 0.0012 in./ft.)</td>
<td>0.020 mm + 0.060 mm/m (0.0008 in. + 0.0007 in./ft.)</td>
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<tr>
<td><strong>VOLUMETRIC ACCURACY WITH MAXSHOT 3D</strong></td>
<td>0.020 mm + 0.025 mm/m (0.0008 in. + 0.0003 in./ft.)</td>
<td>0.020 mm + 0.060 mm/m (0.0008 in. + 0.0007 in./ft.)</td>
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<tr>
<td><strong>STAND-OFF DISTANCE</strong></td>
<td>300 mm (11.8 in.)</td>
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<tr>
<td><strong>DEPTH OF FIELD</strong></td>
<td>250 mm (9.8 in.)</td>
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<tr>
<td><strong>PART SIZE RANGE (RECOMMENDED)</strong></td>
<td>0.1–4 m (0.3–13 ft.)</td>
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<tr>
<td><strong>SOFTWARE</strong></td>
<td>VXelements</td>
<td></td>
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<tr>
<td><strong>OUTPUT FORMATS</strong></td>
<td>.dae, .fbx, .ma, .obj, .ply, .stl, .txt, .wrl, .x3d, .x3dz, .zpr</td>
<td>3D Systems (Geomagic® Solutions), InnovMetric Software (PolyWorks), Dassault Systèmes (CATIA V5 and SolidWorks), PTC (Pro/ENGINEER), Siemens (NX and Solid Edge), Autodesk (Inventor, Alias, 3ds Max, Maya, Softimage).</td>
</tr>
<tr>
<td><strong>CONNECTIO STANDARD</strong></td>
<td>1 X USB 3.0</td>
<td></td>
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<tr>
<td><strong>OPERATING TEMPERATURE RANGE</strong></td>
<td>5 °C – 40 °C (41 °F – 104 °F)</td>
<td></td>
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<tr>
<td><strong>OPERATING HUMIDITY RANGE (NON-CONDENSING)</strong></td>
<td>10 - 90%</td>
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<tr>
<td><strong>CERTIFICATIONS</strong></td>
<td>EC Compliance (Electromagnetic Compatibility Directive, Low Voltage Directive), IP50, WEEE</td>
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