METROLOGY
SOLUTIONS

HANDY SCAN 3D™

THE TRULY PORTABLE METROLOGY-GRADE 3D SCANNERS

CREAFORM

AMETEK®
ULTRA PRECISION TECHNOLOGIES

The HandySCAN 3D™ 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.

CREAFORM 3D SCANNERS
ACCURACY. PORTABILITY. SIMPLICITY.

GO!SCAN 3D™

The easiest 3D scanning experience, generating fast and reliable measurements.

HANDY SCAN 3D™

The truly portable metrology-grade 3D scanners delivering highly accurate measurements.

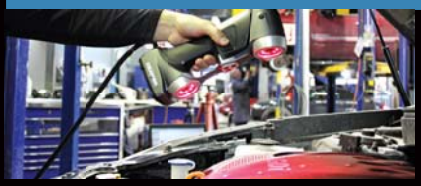
METRA SCAN 3D™

The most accurate scanning and probing solutions, whether in a lab or on the shop floor.

THE HANDYSCAN 3D SCANNERS: YOUR BEST ALLY AT ALL STAGES OF YOUR PRODUCT LIFECYCLE MANAGEMENT

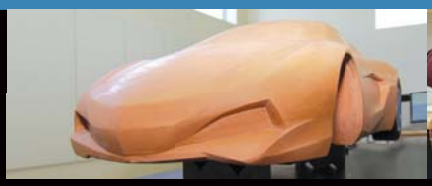
Concept

Requirements and specifications



- Competitive product analysis
- Measurement of product environment or connecting/Surrounding parts
- Measurement of existing parts for aftermarket or custom equipment

Concept design



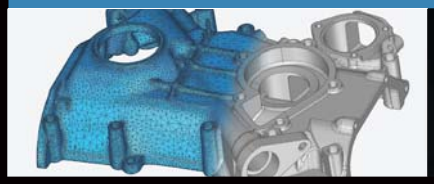
- Clay model measurement/Reverse engineering
- Models and mock-ups measurement/Reverse engineering
- Styling and aesthetics

Concept prototyping

- Integration of prototype modifications into CAD file
- Form study, proof-of-concept prototypes
- Ergonomy prototypes

Design

CAD design



- 3D scan-to-CAD
- Reverse engineering (extracting design-intent)
- Packaging design

Prototyping

- Rapid prototyping/Manufacturing
- Integration of prototype modifications into CAD file
- Prototype inspection

Testing, simulation and analysis

- Finite element analysis (FEA)
- Interference analysis
- Deformation, geometry analysis

Manufacturing

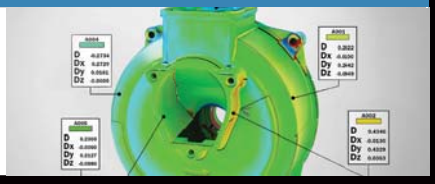
Tooling design

- Reverse engineering of dies, molds, fixtures, jigs and patterns
- Update of CAD file to reflect as-built tooling measurements
- Tooling validation/Inspection

Assembly/Production

- Virtual assembly
- Tool/Robot path programming
- Part assessment before machining

Quality control



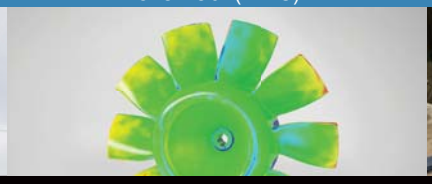
- First article inspection (FAI)
- Part-to-CAD inspection
- Supplier quality inspection

Servicing

Documentation

- As-built documentation of parts/Tooling
- Marketing presentations, 3D training systems, serious gaming
- Digital archiving

Maintenance, repair and overhaul (MRO)



- Wear and tear analysis
- Custom repairs/Modification
- As-built documentation of parts/Tooling before maintenance

Replacement/Recycling

- 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.

CREAFORM 3D SCANNING

ALL OF THE CREAFORM 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.

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 MEASURES/S

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

METROLOGY-GRADE MEASUREMENTS: ACCURACY OF UP TO 0.030 mm, RESOLUTION OF UP TO 0.050 mm, 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, CAN REACH CONFINED AREAS. FITS INTO A CARRY-ON.

QUICK SET-UP: UP AND RUNNING IN LESS THAN 2 MINUTES.

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.

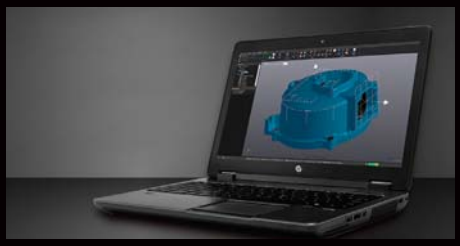
EXTEND THE POWER OF YOUR HANDYSCAN 3D SCANNER

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.



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

CREAFORM CUSTOMER SERVICE

When you purchase a Creaform 3D measurement solution, you can rely on the CreaCare™ customer service program. We find it important to help you simplify your work, increase your efficiency and make the most out of your Creaform device.

You want to make sure to start things right? For a small fee, you can ask that a qualified expert comes over to your business place to help you get started with your system, and to train your staff on your specific applications.

Of course, we offer you readily available, multilingual technical support on all continents, ensured by knowledgeable, proactive and committed product specialists.

To protect your investment further and keep you on the technological edge, you can also subscribe to a CreaCare Maintenance Plan, offered in various protection packages. Depending on the package selected, you could get instant downloading access to each new release of our proprietary data acquisition software or get a free loaner unit while your device gets serviced, for instance.

CREAFORM METROLOGY AND 3D ENGINEERING SERVICES

Convinced of the quality and possibilities of the Creaform technologies, but not quite yet ready to commit and buy? Know that Creaform offers a wide range of metrology and 3D engineering services. Our experts have earned a worldwide reputation for effectiveness and professionalism. Whether you need their help to perform 3D scanning, quality control, reverse engineering, FEA/CFD simulations, product and tool development or training services, you can count on their commitment to meet your requirements with responsiveness and adaptability.

TECHNICAL SPECIFICATIONS

	HandySCAN 300™	HandySCAN 700™
WEIGHT	0.85 kg	
DIMENSIONS	122 x 77 x 294 mm	
MEASUREMENT RATE	205,000 measures/s	480,000 measures/s
SCANNING AREA	225 x 250 mm	275 x 250 mm
LIGHT SOURCE	3 laser crosses	7 laser crosses (+1 extra line)
LASER CLASS	II (eye-safe)	
RESOLUTION	0.100 mm	0.050 mm
ACCURACY	Up to 0.040 mm	Up to 0.030 mm
VOLUMETRIC ACCURACY*	0.020 mm + 0.100 mm/m	0.020 mm + 0.060 mm/m
VOLUMETRIC ACCURACY (WITH MAXSHOT 3D)*	0.020 mm + 0.025 mm/m	
STAND-OFF DISTANCE	300 mm	
DEPTH OF FIELD	250 mm	
PART SIZE RANGE (RECOMMENDED)	0.1 – 4 m	
SOFTWARE	VXelements	
OUTPUT FORMATS	.dae, .fbx, .ma, .obj, .ply, .stl, .txt, .wrl, .x3d, .x3dz, .zpr	
COMPATIBLE SOFTWARE	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).	
CONNECTION STANDARD	1 X USB 3.0	
OPERATING TEMPERATURE RANGE	15-40 °C	
OPERATING HUMIDITY RANGE (NON-CONDENSING)	10-90%	

*Based on the ISO 10360 standard, volumetric accuracy is defined as a size-dependent value.

CREAFORM

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