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HANDY SCAN 3D™

PORTABLE 3D Scanners FOR INDUSTRIAL APPLICATIONS

creaform
3D TECHNOLOGY AND DIGITAL SOLUTIONS

Handyscan 3D™ stand out as the most accurate **portable 3D scanners** on the market today.

Because we know that you are serious about your work, we have developed an extensive line of **3D laser scanners** that will work wherever you need them to. Thousands of units later, our 3D scanners are living up to their reputation of **reliability** and **versatility**.

Serious work. Serious technology. Introducing the **Handyscan 3D scanners**.

GENERATES **ACCURATE, REPEATABLE, HIGH RESOLUTION** 3D DATA (0.040-0.050 mm)

DIRECT MESH OUTPUT

REAL-TIME VISUALIZATION OF THE SCANNED SURFACE

USER-FRIENDLY. UP AND RUNNING IN **LESS THAN 2 MINUTES**

HANDHELD AND LIGHTWEIGHT (± 1 KG)

FREEDOM OF MOVEMENT – SCAN ORIENTATION OR ACCESS TO CONFINED AREAS

PORTABLE DEVICE THAT FITS INTO A CASE THE **SIZE OF A CARRY-ON**

TAKE IT FROM **PLANT TO PLANT** AND USE IT **IN-HOUSE** OR **ON SITE**

SELF-POSITIONING DEVICE – NO CMM, PORTABLE ARM, ETC.

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

REVSCAN™

LOOKING FOR THE MOST EFFICIENT WAY TO **REVERSE ENGINEER** AND/OR **DESIGN**? THE REVscan™ WILL PROVE TO BE A **RELIABLE** TOOL THAT WILL HELP YOU GET THERE.

REVERSE ENGINEERING / STYLING, DESIGN AND ANALYSIS

- Surface reconstruction
- Class A surfacing
- Digital models and mock-ups
- Clay model digitizing
- Styling and design modifications
- 3D modeling
- Rapid prototyping
- Packaging design
- Aftermarket part design
- Finite element analysis (FEA)

EXASCAN™

THE EXAscan™ OFFERS INCREASED ACCURACY AND RESOLUTION. IT IS THE **MOST VERSATILE** 3D SCANNER ON THE MARKET FOR **INSPECTION** AND **DEMANDING REVERSE ENGINEERING**.

INSPECTION

- Non-contact inspection
- Part-to-CAD inspection
- Geometric dimensioning and tolerancing (GD&T)
- First article inspection
- Production compliance inspection
- Supplier quality inspection
- Tool testing and adjustment

REVERSE ENGINEERING / STYLING, DESIGN AND ANALYSIS

- High standard surface reconstruction
- Class A surfacing
- Mechanical design
- Tooling and jigs design
- Dies and moulds design
- Maintenance, repair and overhaul (MRO)

HANDYSCAN 3D SCANNERS

MAXSCAN™

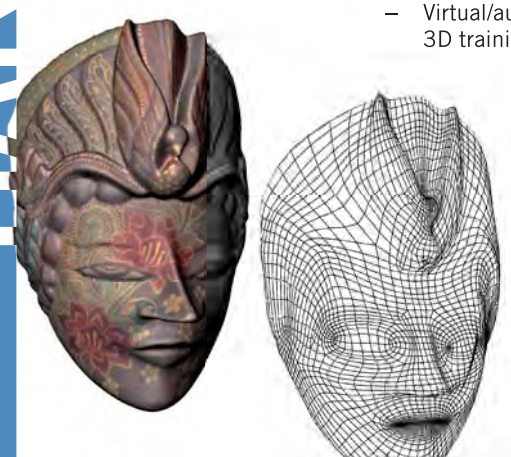
THE MAXscan™ IS THE OBVIOUS CHOICE FOR **3D SCANNING OF LARGER PARTS**. IT FEATURES THE HANDYSCAN 3D HIGH-ACCURACY, ENHANCED WITH **PHOTOGRAMMETRY** CAPABILITIES.

REVERSE ENGINEERING AND INSPECTION

- Aircraft component inspection
- Assisted assembly (aerospace)
- Vehicle design or inspection (automotive, marine/military, heavy industries)
- Large-scale tooling inspection and adjustment
- Maintenance, repair and overhaul (MRO)
- Large castings inspection
- Large moulds/dies design or inspection

VIUSCAN™

NEED HIGH-RESOLUTION 3D **COLOUR** DATA AND SHAPE? THE VIUscan™ WILL CAPTURE EVERY DETAIL AND DELIVER **HYPERREALISTIC** RESULTS.



MULTIMEDIA / 3D ENVIRONMENTS

- Digitizing of real-life inanimate objects/ environments for optimum realism
- Virtual/augmented reality (serious gaming, 3D training systems)

MUSEOLOGY/HERITAGE PRESERVATION

- Restoration of cultural heritage (reverse engineering/repairs based on remains)
- 3D scanning of fossils/artefacts for research and analysis
- Digital archiving
- 3D reproduction of archaeological/ historical sites
- Virtual restoration
- Damage assessment
- Production of replicas for commercial and marketing purposes
- Representation of artworks for multimedia presentations or virtual museums (Web, on-site)

MaxSHOT 3D™

The MaxSHOT 3D optical coordinate measuring system is a complementary product that adds **photogrammetry** to the wide range of 3D scanning applications. 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 all Handyscan 3D scanners to determine their repositioning around the object to be scanned. Doing so, we get highly accurate data, and most especially when measuring larger parts.

VXelements™

The Handyscan 3D scanners come with VXelements, the all-in-one 3D data acquisition software that powers its entire fleet of 3D scanning and measurement technologies. VXelements includes four software modules: VXscan™, VXprobe™, VXtrack™ and VXshot™. 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.

VXprobe allows users to interact with data acquired using a HandyPROBE and share it with any other VXelements component or third-party software.

VXtrack adds dynamic tracking capability to the C-Track line of dual camera sensors. It can now record 30 3D images per second of a reflector or sets of reflectors in real time for the study of a variety of applications involving motion tracking.

VXshot gives access to photogrammetry. It features an extremely simple data acquisition process that guides operators every step of the way throughout the process and clearly and immediately notifies them if they need to take additional pictures to increase measurement accuracy.

VXelements Express
The UNIscan™, the Handyscan 3D line-up entry-level model, comes with VXelements Express. This simplified, easier to use and learn version of VXelements has been developed to match and maximize the UNIscan's capabilities.

COMPATIBLE SOFTWARE

Paired up with the following CAD/post-processing software, the Handyscan 3D scanners deliver great performance:

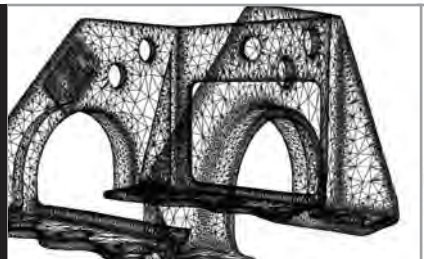
- Geomagic (Studio and Qualify)
- Rapidform (XOR and XOV)
- InnovMetric Software (PolyWorks)
- Dassault (CATIA V5 and Solidworks)
- PTC (Pro/ENGINEER)
- Siemens (NX and Solid Edge)
- Autodesk (Inventor, Alias, 3ds Max, Maya, Softimage)

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

OUTPUT FORMATS

Data files can be exported to a wide range of software: .dae, .fxb, .ma, .obj, .ply, .stl, .txt, .wrl, .x3d, .x3dz and .zpr

VIUscan: TEXTURE: .dae, .fxb, .ma, .obj, .x3d, .x3dz, .wrl and .zpr
NON TEXTURE: .ply, .stl and .txt



ACCESSORIES

Included

All

- Carrying case
- Calibration plate
- Ergonomic support
- FireWire cable
- FireWire adapter (ExpressCard 54 mm)
- Power supply
- 5 x 500 positioning targets
- 1-year warranty on parts and labour

MAXscan (Photogrammetry):

- Reference frame (1)
- Scale bars (3.3 ft [1000 mm]) (2)
- Magnetic coded targets (no 31-240)
- 2 carrying cases (1 for scanning device + 1 for scale bars)

Optional

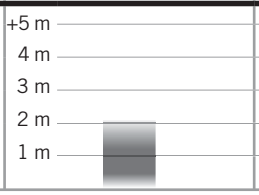
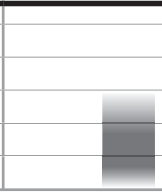
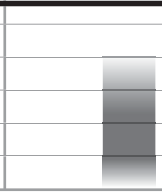
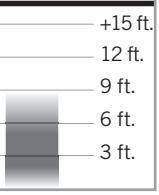
- Certified laptop computer
- Field Pack (for outdoors, in-the-field scanning)
- Target applicator
- Magnetic, reusable scanning positioning targets

CREAFORM CUSTOMER SERVICE

When you purchase a Handyscan 3D laser scanner, Creaform backs you up with a full customer service program. We offer readily available technical support in all time zones, ensured by knowledgeable, proactive and committed product specialists. If you wish, we will send a qualified applications engineer over to take care of your scanner's start-up and train you and/or your staff on your specific applications.

Because we find it important to keep you on the technological edge and maximize your ROI, Creaform's customer service program can give you access to all VXelements software new releases and to reliable, quick servicing.

HANDYSCAN 3D COMPARISON MATRIX

		UNISCAN™	REVSCAN™	EXASCAN™	MAXSCAN™	VIUSCAN™
						
KEY DIFFERENTIATORS		ENTRY-LEVEL ($ AND FUNCTIONALITIES)	AFFORDABLE PRICE ($), VERY STRAIGHTFORWARD USE	HIGH RESOLUTION AND ACCURACY	HIGH ACCURACY FOR LARGER PARTS	COLOUR
APPLICATIONS	REVERSE ENGINEERING, STYLING AND DESIGN	+	++	++	++	++
	INSPECTION		+	+++	+++	+
	FEA/CFD	+	++	++	++	+
	3D VIRTUAL CONTENTS IN COLOUR					+++
	PROTOTYPING	+	++	++	++	++
INDUSTRIES	AUTOMOTIVE/TRANSPORT	√	√	√	√	√
	MUSEOLOGY/HERITAGE PRESERVATION					√
	ARCHITECTURE					√
	AEROSPACE		√	√	√	√
	CONSUMER PRODUCTS	√	√	√	√	√
	MANUFACTURING	√	√	√	√	
	MULTIMEDIA					√
SOFTWARE		VXelements Express	VXelements	VXelements	VXelements	VXelements
WEIGHT		980 g (2.1 lbs.)	980 g (2.1 lbs.)	1.25 kg (2.75 lbs.)	1.27 kg (2.80 lbs.)	1.3 kg (2.85 lbs.)
DIMENSIONS		160 x 260 x 210 mm (6.25 x 10.2 x 8.2 in.)	160 x 260 x 210 mm (6.25 x 10.2 x 8.2 in.)	172 x 260 x 216 mm (6.75 x 10.2 x 8.5 in.)	172 x 260 x 216 mm (6.75 x 10.2 x 8.5 in.)	172 x 260 x 216 mm (6.75 x 10.2 x 8.5 in.)
MEASUREMENT		18,000 measures/s	18,000 measures/s	25,000 measures/s	18,000 measures/s	18,000 measures/s
LASER CLASS		II (eye-safe)	II (eye-safe)	II (eye-safe)	II (eye-safe)	II (eye-safe)
RESOLUTION		0.100 mm (0.004 in.)	0.100 mm (0.004 in.)	0.050 mm (0.002 in.)	0.100 mm (0.004 in.)	0.100 mm (0.004 in.)
ACCURACY		Up to 0.080 mm (0.003 in.)	Up to 0.050 mm (0.002 in.)	Up to 0.040 mm (0.0016 in.)	Up to 0.050 mm (0.002 in.)	Up to 0.050 mm (0.002 in.)
VOLUMETRIC ACCURACY*		0.050 mm + 0.250 mm/m (0.0020 in. + 0.0030 in./ft)	0.020 mm + 0.200 mm/m (0.0008 in. + 0.0024 in./ft)	0.020 mm + 0.100 mm/m (0.0008 in. + 0.0012 in./ft)	0.020 mm + 0.025 mm/m (0.0008 in. + 0.0003 in./ft)	0.020 mm + 0.200 mm/m (0.0008 in. + 0.0024 in./ft)
VOLUMETRIC ACCURACY (WITH MAXSHOT 3D)		n/a	0.020 mm + 0.025 mm/m (0.0008 in. + 0.0003 in./ft)	0.020 mm + 0.025 mm/m (0.0008 in. + 0.0003 in./ft)	n/a	0.020 mm + 0.025 mm/m (0.0008 in. + 0.0003 in./ft)
DEPTH OF FIELD		30 cm (12 in.)	30 cm (12 in.)	30 cm (12 in.)	30 cm (12 in.) (Scan)	30 cm (12 in.)
TEXTURE RESOLUTION		n/a	n/a	n/a	n/a	50 to 250 DPI
TEXTURE COLORS		n/a	n/a	n/a	n/a	24 bits, SRGB-calibrated
PART SIZE RANGE (RECOMMENDED)						

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

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3D TECHNOLOGY AND DIGITAL SOLUTIONS

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