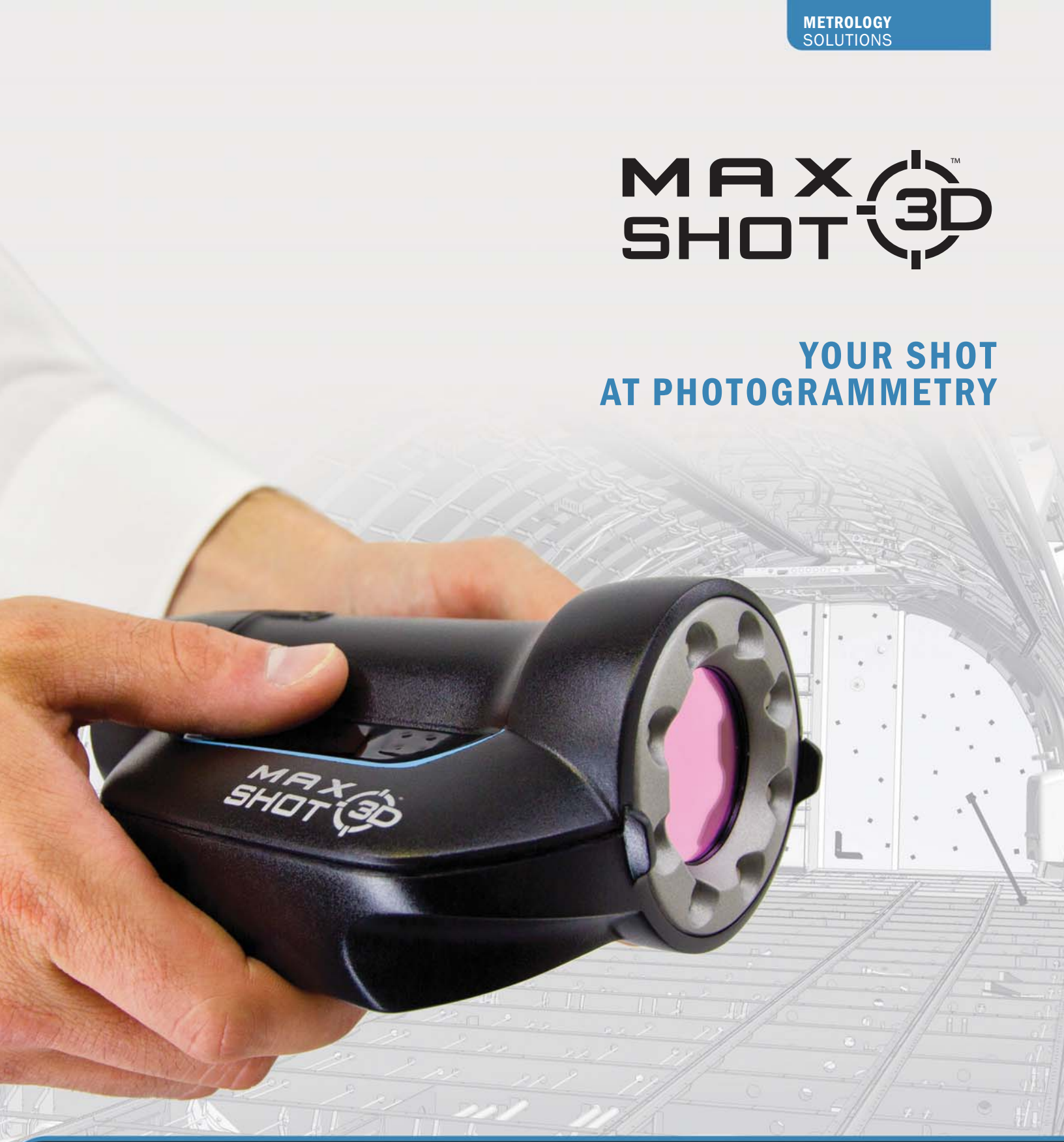
METROLOGY
SOLUTIONS

MAX SHOT 3D™

YOUR SHOT AT PHOTOGRAMMETRY



CREAFORM

AMETEK®
ULTRA PRECISION TECHNOLOGIES

Introducing the **MaxSHOT 3D™ optical coordinate measuring system**, a complementary product that adds the accuracy and speed of **photogrammetry** to the wide range of applications already possible with Creaform technologies, especially when it comes to larger parts.

Creaform is renowned for the **portable**, **reliable** and **very easy-to-use** technologies it designs. In concrete terms, the system, which combines the MaxSHOT 3D **photogrammetric video camera** and the **VXshot™** processing software, 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.

DIMENSIONAL MEASUREMENTS THAT ARE EVEN MORE PRECISE

- **Increased accuracy in Creaform technologies thanks to photogrammetry**

VERY SIMPLE TO OPERATE

- **Real-time visualization and validation of acquired data**
- **Step-by-step operation entirely guided by the VXshot module**
- **Ergonomic design**

SHORTER MEASURING TIME ON LARGER PARTS

- **Accelerated positioning of the Creaform scanner or optical CMM around the part**

LIGHT AND PORTABLE

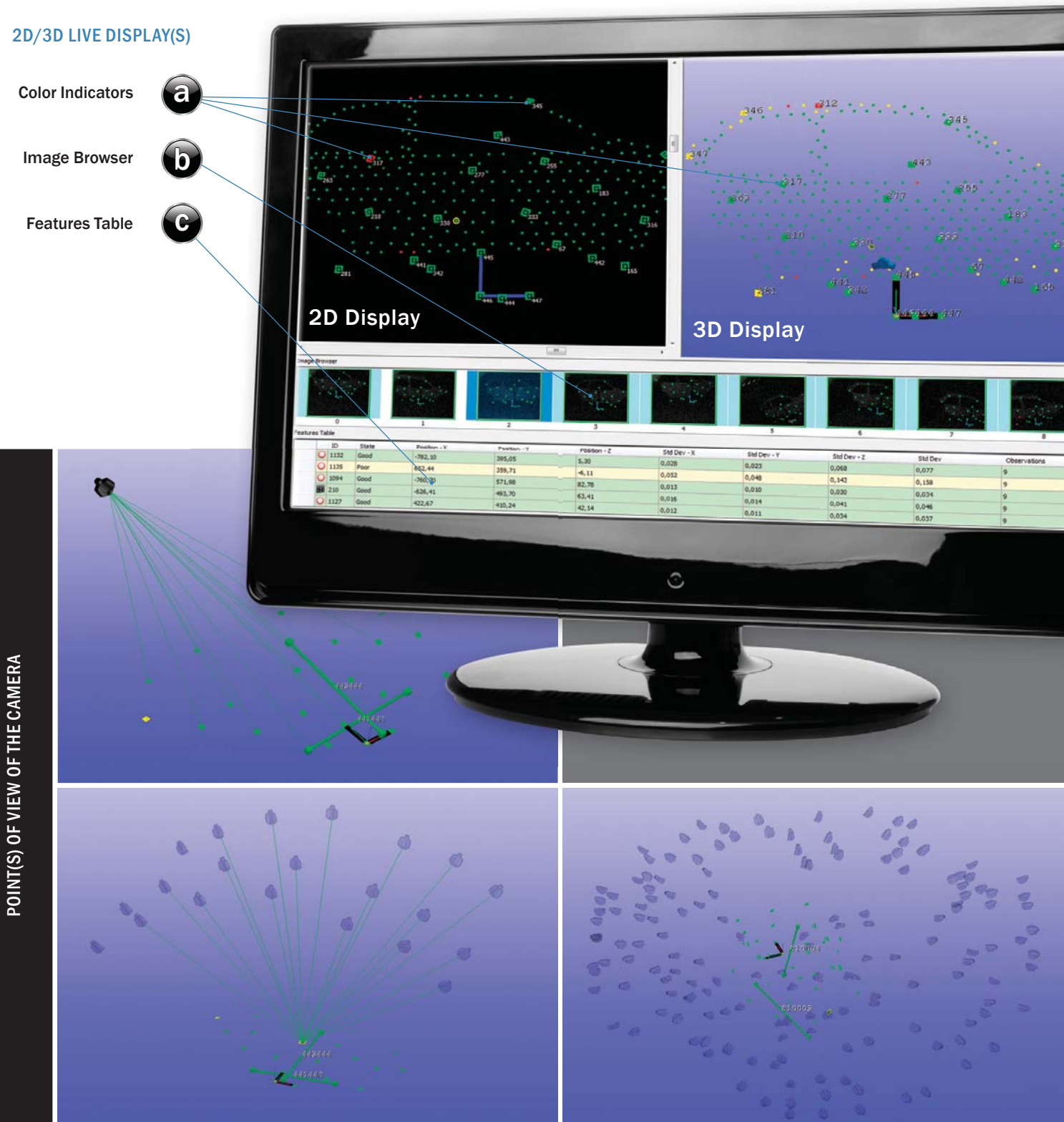
With the MaxSHOT 3D camera, all you have to do is simply place a few coded targets either on the object to be measured or in its environment, take several blocks of convergent photos and launch the bundle adjustment process (image triangulation). Through this process, the reflectors placed on the object can be easily rebuilt in 3D, and the scale bars provided in the measurement volume allow for model scaling.

Once the calculations are complete, the Creaform 3D scanner or optical CMM automatically uses the high accuracy positioning model generated in VXelements™ to determine its position in the measurement volume.

VXshot

Unlike other systems on the market, where data accuracy is partially contingent upon the operator's experience and technique, VXshot features an **extremely simple data acquisition** process that guides operators every step of the way throughout the process. With its user-friendly functionalities, the software clearly and immediately notifies operators if they need to take additional pictures to increase measurement accuracy.

For instance, the various **real-time visualization** and **validation** options of the positioning model make it possible to see the rebuilt volume and all estimated points with the utmost accuracy. Furthermore, all the identified points are measured and recomputed each time an image is taken.



The MaxSHOT 3D system generates positioning models that can be used with all HandySCAN 3D™, HandyPROBE™ and MetraSCAN 3D™ products to determine their repositioning around the object to be scanned or probed. Doing so, we get highly accurate data, and most especially when measuring larger parts.

MAXSHOT 3D

Weight	**435 g** (1.0 lb)
Dimensions	**76 x 136 x 153 mm** (3 x 5.4 x 6 in.)
Volumetric Accuracy	**0.025 mm/m** (0.0003 in./ft)

METRASCAN 3D

Volumetric Accuracy (with MaxSHOT 3D)	**0.055 mm + 0.025 mm/m if L* > 1.2 m** (0.0022 in. + 0.0003 in./ft if L* > 4 ft)
	0.085 mm if L* ≤ 1.2 m (0.0033 in. if L* ≤ 4 ft)

* "L" being the size of the object measured.

HANDYPROBE

	HandyPROBE 380	HandyPROBE 780	HandyPROBE 1480
Volumetric Accuracy (with MaxSHOT 3D)	**0.045 mm + 0.025 mm/m if L* > 1.2 m** (0.0018 in. + 0.0003 in./ft if L* > 4 ft)	**0.055 mm + 0.025 mm/m if L* > 1.2 m** (0.0022 in. + 0.0003 in./ft if L* > 4 ft)	**0.095 mm + 0.025 mm/m if L* > 3.0 m** (0.0037 in. + 0.0003 in./ft if L*> 4 ft)
	0.075 mm if L* ≤ 1.2 m (0.0029 in. if L* ≤ 4 ft)	**0.085 mm if L* ≤ 1.2 m** (0.0033 in. if L* ≤ 4 ft)	**0.170 mm if L* ≤ 3.0 m** (0.0067 in. if L* ≤ 4 ft)

* "L" being the size of the object measured.

HANDYSCAN 3D

	HandySCAN 300™	HandySCAN 700 ™
Volumetric Accuracy (with MaxSHOT 3D)	**0.020 mm + 0.025 mm/m if L* > 0.8 m** (0.0008 in. + 0.0003 in./ft if L* > 2.6 ft)	**0.020 mm + 0.025 mm/m if L* > 0.4 m** (0.0008 in. + 0.0003 in./ft if L* > 1.3 ft)
	Up to 0.040 mm if L* ≤ 0.8 m (Up to 0.0016 in. if L* ≤ 2.6 ft)	**Up to 0.030 mm if L* ≤ 0.4 m** (Up to 0.0012 in. if L* ≤ 1.3 ft)

* "L" being the size of the object measured.

APPLICATIONS

Inspection

- Part-to-CAD analysis
- First article and supplier quality inspection
- Large-scale tooling inspection and adjustment
- Large castings inspection
- Large moulds/dies design or inspection
- Conformity assessment of 3D models against original parts/ production tooling
- Conformity assessment of manufactured parts against originals
- Large part alignment
- Full free-form inspection and generation of high density colour maps

Reverse Engineering

- Reverse engineering of geometric entities (spheres, cylinders, planes)
- Allows faster and more accurate reverse engineering of mixed parts (geometrical and free-form)

INDUSTRIES

- Aerospace
- Education
- Metallurgy and Metal Processing
- Machine Tool Production
- Automotive and Transportation Equipment Production
- Consumer Products
- Forming, Moulding, Manufacturing, Casting and Assembling

INCLUDED

- Carrying case
- Magnetic coded targets (#31-240)
- FireWire adaptator (HandySCAN 3D)
- FireWire cable
- Power supply with adaptor
- Reference frame
- Scale bars, 1000 mm (2)
- 1-year warranty on parts and labour

CREAFORM

Head Office
5825, rue Saint-Georges
Lévis (Québec) G6V 4L2 Canada
T. 1 418 833.4446 | F. 1 418 833.9588

info@creaform3d.com | www.creaform3d.com

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ULTRA PRECISION TECHNOLOGIES

Authorized Distributor