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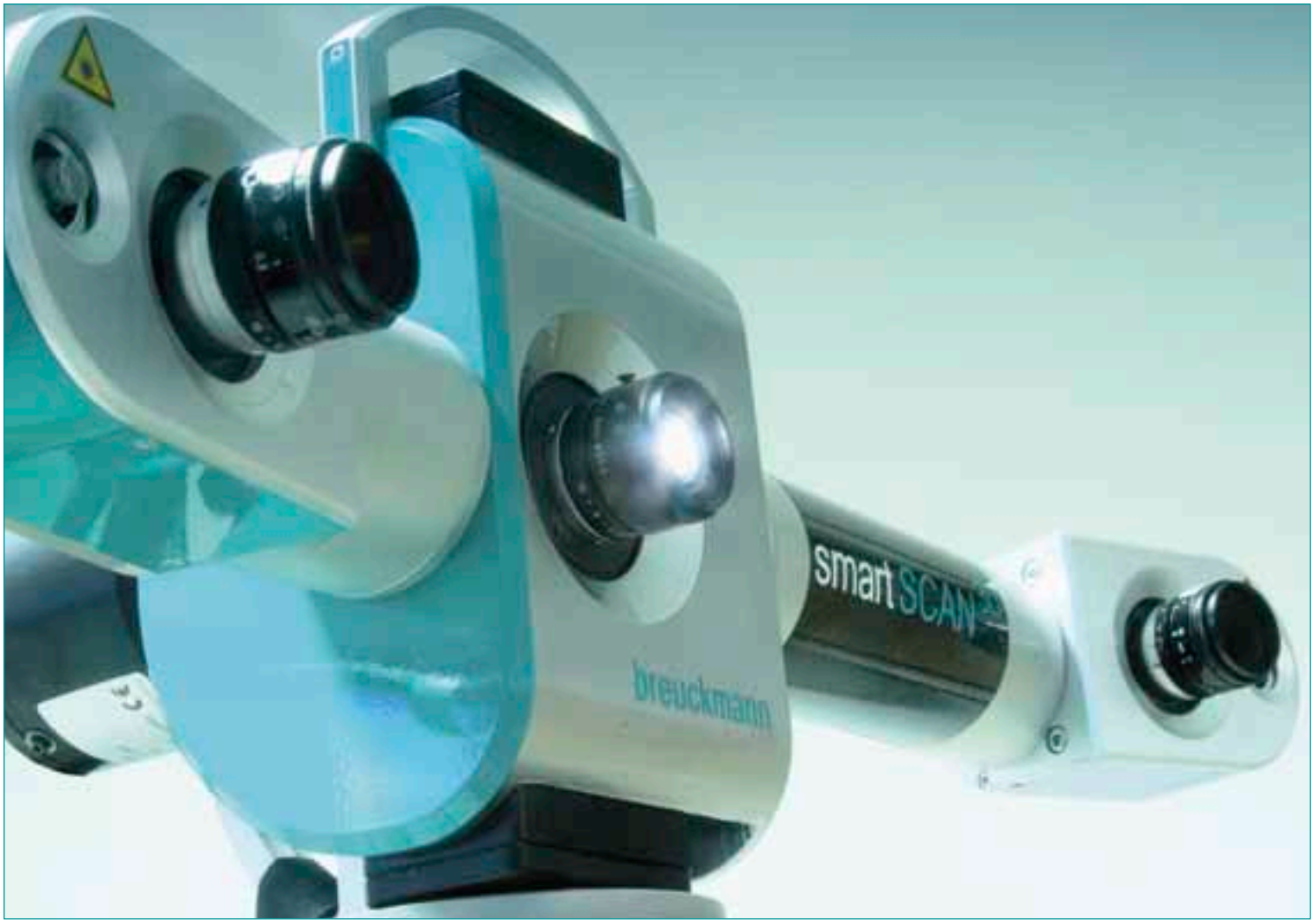
# smart*SCAN* 3D

## THE HIGHEND 3D DIGITIZATION SYSTEM




**Mission and Application**
With the objective in mind to further expand the application areas of our systems and provide them to a widening range of users, we have developed the **smart*SCAN*** [3D] system.

The **smart*SCAN*** [3D] is addressed to users who wish to obtain accurate and reliable digitisation results at a reasonable expense. Always true to the mission of delivering highly precise 3D data sets, the **smart*SCAN*** [3D] is the ideal system for high-end digitisation tasks particularly in the application context of industrial and technical assignments (i.e. reverse engineering, rapid prototyping), education, art and cultural heritage.

**Flexibility**
The sensor setup of the **smart*SCAN*** [3D] can be configured either as Basic version with one projection unit and one colour camera or as Duo version with two colour cameras. Given this easily adaptable setup, the system is ideally suited for a wide range of digitising tasks. Moreover, its light weight, compact design and easy handling make it the ideal scanning equipment for mobile applications.

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### TECHNICAL SPECIFICATIONS

| **Image Processing** | |
|---|---|
| Host computer | Dell Workstation (system configuration on request) |
| Image data interface | IEEE 1394 (FireWire®) |
| Operating system | Microsoft Windows XP Professional (optional x64 Bit Edition) |
| Measurement software | OPTOCAT for Windows<br>3D alignment supports all important navigation strategies (with our without index marks)<br>3D post processing to generate polygonal meshes |
| Data interface | ASCII, BRE, STL, PLY, VRML |

| **Sensor** | |
|---|---|
| Principle of operation | Miniaturised Projection Technique |
| Light source | 100 W halogen |
| Sensor weight | 3800 g |
| Imaging | 1 or 2 digital colour CCD-cameras |
| Digitization | 1384 x 1036 pixels per camera |
| Operating distance | 700 mm |
| Min. depth resolution | from 2 µm (depending on the FOV) |
| Acquisition time | < 1 s |

| **Accessories** | |
|---|---|
| Host computer | Notebook or Laptop |
| Tripod | |
| Calibration | carbon fibre calibration tools |

### Fields of View for the smart*SCAN*3D - Duo

| Image diagonal (FOV) | [mm] | 90 | 150 | 225 | 300 | 450 | 600 |
|---|---|---|---|---|---|---|---|
| X,Y resolution | [µm] | 55 | 90 | 120 | 180 | 270 | 360 |
| Resolution limit (Z) | [µm] | 1 | 2 | 4 | 6 | 8 | 12 |
| Feature accuracy | [µm] | ± 9 | ± 15 | ± 23 | ± 30 | ± 45 | ± 60 |

Resolution and accuracy of the **smart*SCAN*3D - Duo** are typically 50% higher than the **smart*SCAN*3D - Basic**.

### Fields of View for the smart*SCAN*3D - Basic

| Image diagonal (FOV) | [mm] | 90 | 150 | 225 | 300 | 450 | 600 |
|---|---|---|---|---|---|---|---|
| X,Y resolution | [µm] | 55 | 90 | 120 | 180 | 270 | 360 |
| Resolution limit (Z) | [µm] | 2 | 3 | 6 | 9 | 12 | 18 |
| Feature accuracy | [µm] | ± 15 | ± 23 | ± 35 | ± 45 | ± 68 | ± 90 |

November 2008, technical data are subject to change without notice

**Breuckmann GmbH**
**Industrial 3D Image Processing and Automation**
Torenstraße 14 • D-88709 Meersburg
phone: +49 (0) 75 32 • 43 46 - 0
fax: +49 (0) 75 32 • 43 46 - 50
Email: info@breuckmann.com
Web: www.breuckmann.com