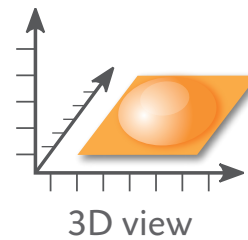
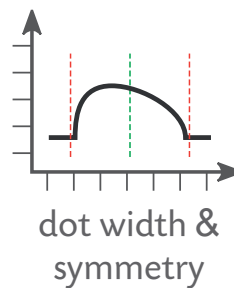
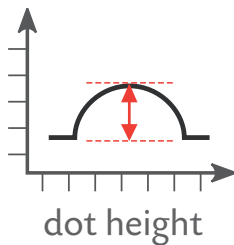




At last – a precision instrument for Braille Dot characterisation

- Precision dot height measurement
- 3D dot inspection to aid process optimization
- Aids compliance with EU Directives for Pharmaceutical packaging
 - 2001/83/EC Article 56a ■ 2004/27/EC ■ Draft EU standard prEN 15823:2008



view, measure, approve and record ...

“BrailleCAM will provide clear images and data to the Braille producer. Meeting the proposed EU directives on Braille height just became a more managed process” (Andrew Degnan – Process Development Manager Chesapeake Corporation R&D).

WHAT IS BRAILLECAM ?

BrailleCAM is a hand held, portable camera specifically designed to measure and view Braille dots – with unrivalled precision and clarity.

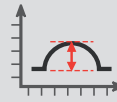
Using a PC link, dots can be viewed in colour 3D to visually assess the dot symmetry, surface cracking as well as measure and record dot height and diameter.

This level of information will allow Braille dot production to be optimized and accurately controlled: this will significantly reduce the inspection regime required.

KEY BENEFITS OF BRAILLECAM

- ▶ A very practical and easy to use tool that will provide with all the information you need to manage your Braille dot process (embossing, UV ink-jet, screen printing etc.) to produce the optimum dot quality possible:
 - height
 - profile (= strength and resistance to crushing)
 - surface cracking
- ▶ Unrivalled measurement precision – resolution is 5 micron (most micrometers are 10 micron resolution)
- ▶ Unrivalled repeatability and reproducibility – not operator dependent
- ▶ Measurement technology proven over many years.
- ▶ 3D imaging gives superb visual inspection capability. This is invaluable in the development of tooling and process settings – eliminate the guesswork!
- ▶ All measurement information and images can be printed or exported for use in 3rd party software (like Excel or database programs) for comparison between historic and current information. You can now track process capability and objectively assess setting adjustments and R&D trials.
- ▶ BrailleCAM is very portable – measurements can be taken on the process machinery, QA facility, or warehouse.

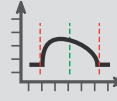
WHAT CAN BE MEASURED AND VIEWED ?



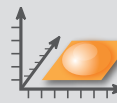
dot height



dot diameter



dot profile & symmetry
– emboss tool alignment
or UV ink slump etc.



3D view – rotatable x/y/z view



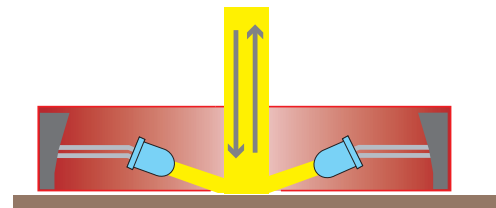
surface disturbance
– width & length of board
cracking etc.



useful for creasing, glue
bead, decorative emboss etc.

COAXIAL AND RADIAL LIGHT

The BrailleCAM is equipped with two light sources: Coaxial light is directed straight down onto the surface of the material and reflected back up the same path and onto the camera. It is essential for the Autofocus and readings.



The Radial Light is an 8-LED lighting system that is designed to illuminate the side of the dots, which leads to an optimum illumination for accurate readings.

ELECTRONIC ARCHIVING AND REMOTE VIEWING

Images taken by the BrailleCAM can be archived and emailed. They are stored in their own format which contains all measured values needed for retrieval and evaluation. Remote sites only need the BrailleCAM Remote Viewer software to view the images for analysis.

The Remote Viewer software is available free of charge. Contact Troika via info@troika-systems.com.

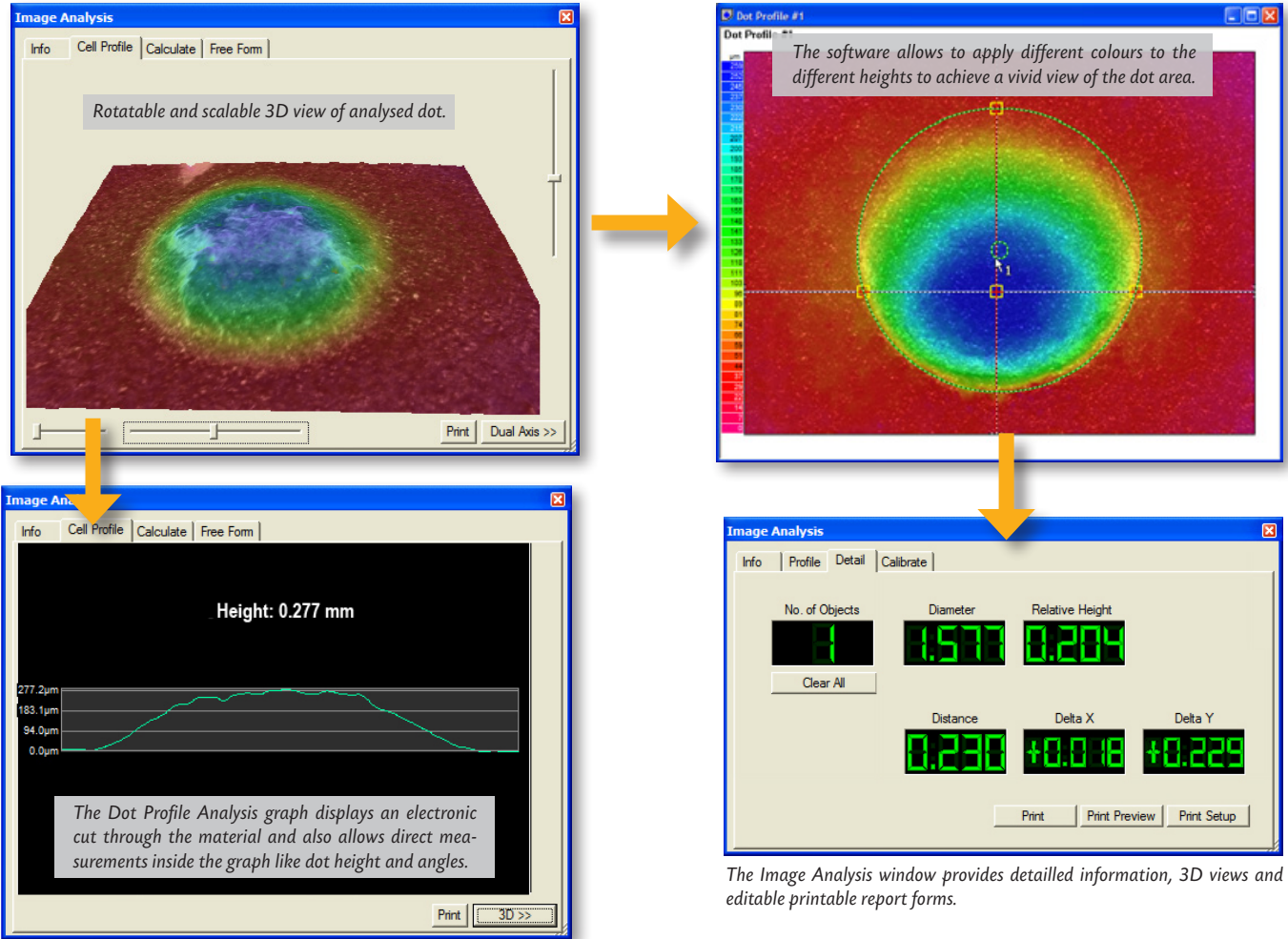
see the dots



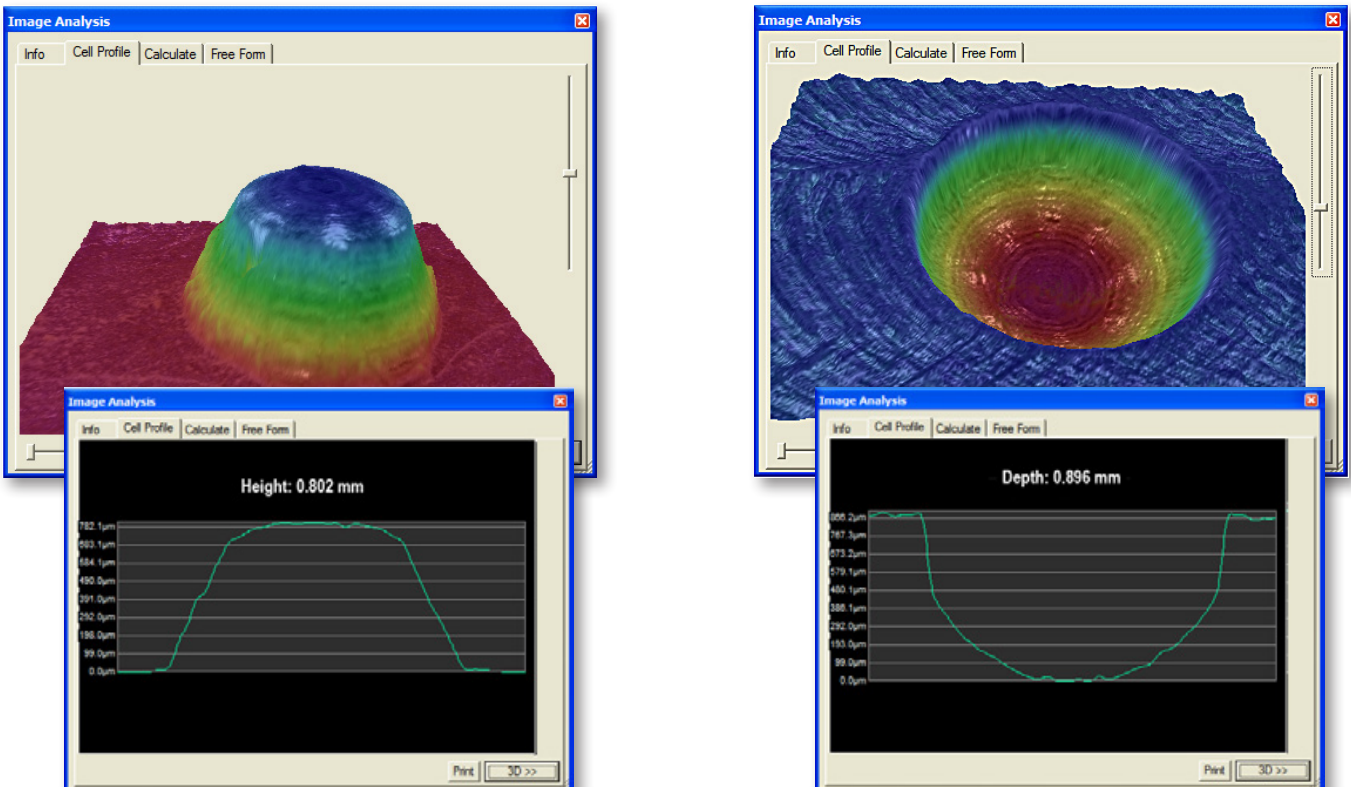
HOW DOES IT WORK ?

Using the Autofocus feature, the camera automatically finds the boards top surface. The camera then takes a series of pictures (each with a different focus depth) down to the ground level of the media. The software removes all unsharp parts of each level and combines the levels to a rendered 3D grid model, which can be analysed and rotated in any direction.

SAMPLE OF A BRAILLE DOT READING ON A DARK PAPER SURFACE



SAMPLE OF A BRAILLE EMBOSSING TOOL READING (MALE AND FEMALE PART)



PRODUCT SPECIFICATIONS

FEATURES	Braille CAM
▼ Media	
Embossed paper	✓
Embossed board	✓
Digital Inkjet	✓
Screen Printing	✓
Thermography	✓
▼ Dot Evaluation	
Dot symmetry analysis	✓
Geometric measurements	✓
▼ Interface	
Dynamic graphic display	✓
High speed USB 2.0 link	✓
▼ Optical Range	
Field of view typically from 3.4 x 2.54 mm (at min zoom) to 2.9 x 2.16 mm (at max zoom)	✓
Digital magnification typically 100x - 600x	✓
▼ Connectivity & Storage	
BCP file format, JPEG and BMP	✓
Direct application interface (spreadsheets, etc)	✓
▼ Light Source	
Co-axial and Radial white light LED	✓
Variable reflective	✓
Powered from separate power supply	✓

(Specification subject to change without notice)

TECHNICAL SPECIFICATIONS

FEATURES	Braille CAM
▼ Electronics	
Mono CMOS camera with 640 x 480 pixel resolution.	✓
USB Control via PC	✓
Additional external ac power supply	✓
▼ Dimensions	
BrailleCAM: 19 x 15.5 x 9.5 cm (W x D x H)	✓
BrailleCAM Case: 37 x 30 x 17.5 cm (W x D x H)	✓
▼ Weight	
BrailleCAM: 2.20 kg (5.0 lbs)	✓
BrailleCAM with Case: 5 kg (11.0 lbs)	✓
▼ Environmental conditions	
Temperature: 16° - 32° C (60° - 90° F)	✓
Humidity: 40% - 60%, non-condensing	✓
▼ Minimum PC-requirements	
For XP: Pentium IV, 1.6 GHz, 1+ GB RAM, 1024 x 768, 24-bit Display, 5+ GB free hard disc space	✓
For Vista: Pentium IV, 1.6 GHz, 2,2 GHz, 2+ GB RAM, 1024 x 768, 24-bit Display, Minimum 40+GB hard disk with 15+ GB free hard disc space	✓
All Systems: Direct X 9.0c, a dedicated USB 2.0 controller port (not shared with other devices), 512 MB Graphics Controller	✓
▼ Operating Systems	
Windows XP/Vista	✓
▼ Warranty	
12 months return to base. Software upgrades FOC for 12 months.	✓

(Specification subject to change without notice)



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