Stable Micro Systems

VolScan Profiler

A REVOLUTION IN VOLUME MEASUREMENT





BAKERY PRODUCTS >>>





>>> PRODUCT SCANS

The *VolScan Profiler* is a benchtop laser-based scanner that measures the volume of bread and bakery products.

This non-contact measurement system offers considerable advantages over contact and displacement techniques which purely measure volume. The rapid 3-dimensional digitisation of products enables the automatic calculation of several detailed dimension related parameters, the results of which may be mathematically manipulated for immediate use or future retrieval in a variety of data formats.

With the *VolScan Profiler*, manufacturers have a precise and fast method for the measurement of the volume of bakery products in order to be able to control and monitor the breadmaking conditions and ingredient performance.

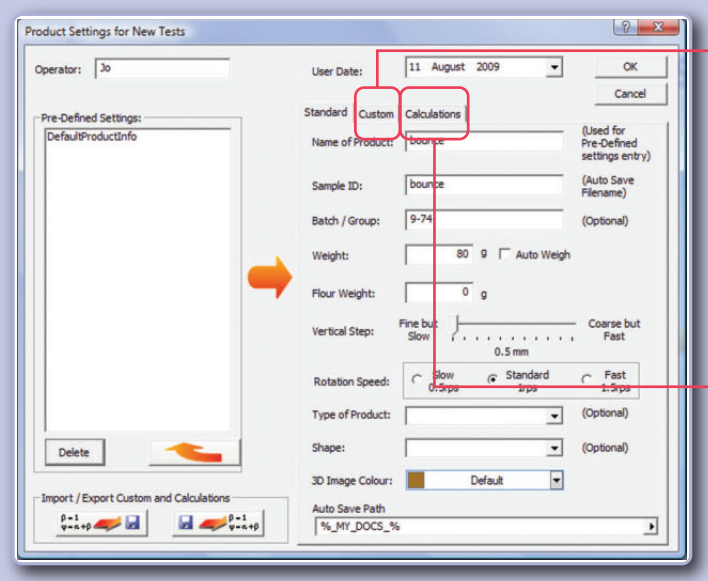
- *Rapid and accurate volume measurement*
- *Typical test time less than 60 seconds*
- *Easy location of sample*
- *Weighs sample automatically*
- *Full dimensional analysis*
- *Allows full product or 'slice' analysis*
- *Simple calibration*
- *Spreadsheet archiving*
- *2D and 3D sample representations*
- *Language Editor*
- *Bar code scanner compatible*
- *Measurements are operator independent*

THE *VOLSCAN PROFILER*

How the VolScan Profiler test works

The product is mounted at each end or located by a suitable mounting device tailored to the specific product. Parameters entered into the software by the operator for each batch under test include: sample ID name, date, flour weight, bread type and batch code *[1]*.

This assessment can be done rapidly, the results being obtained in a period ranging from a few seconds to a few minutes depending upon the chosen interval (0.5mm to 26mm) and the preferred precision *[1]*.



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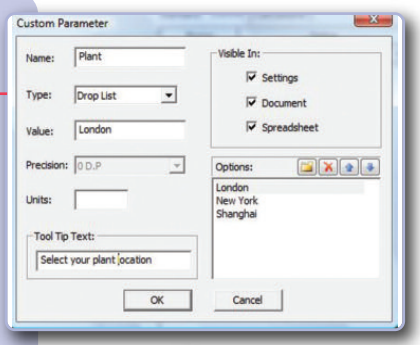

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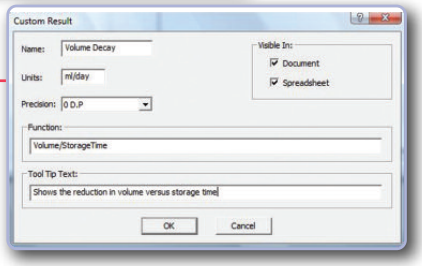

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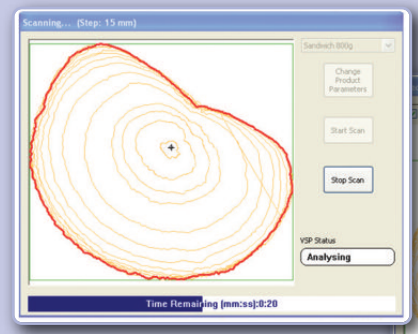
Parameters and Calculations can be defined by the user, providing maximum flexibility of data reporting requirements *[2/3]*.

The product is then automatically weighed and an eye-safe laser device scans vertically to measure the contours of the product at selectable intervals whilst the product rotates. Each interval consists of 400 data points providing a detailed profile of the product *[4/5]*.



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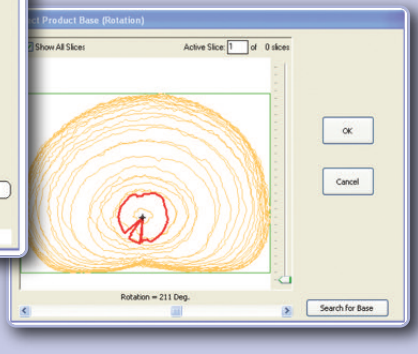

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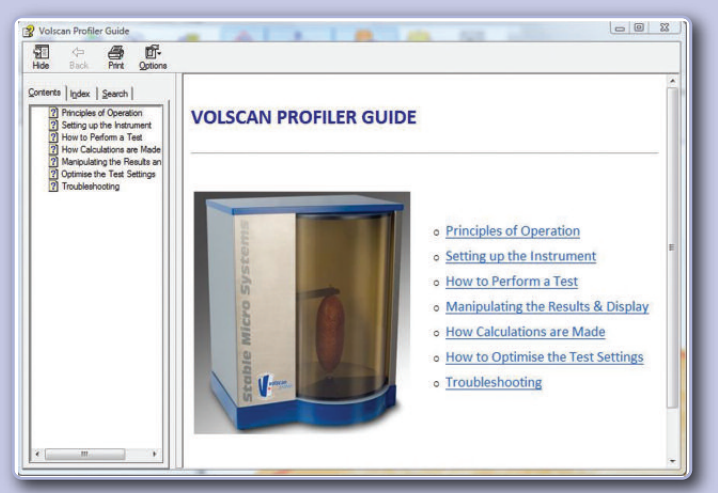
Guidance

A full guide is available in Help file format *[6]* to assist in setting up and performing tests, explaining the calculations and advising on optimum test settings to suit your product *[7]*.



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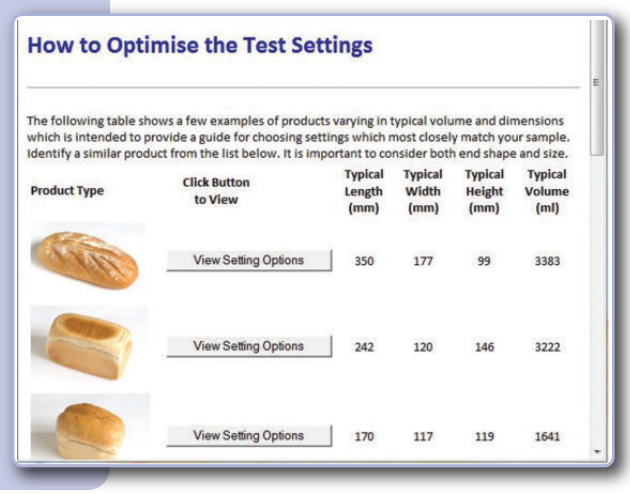

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Data Analysis, manipulation and viewing options

Once the test is complete the following measurements can be quickly determined: volume, length, maximum width, maximum height, height at the maximum width and width at the maximum height *[8]*.

These numbers are then further manipulated to automatically calculate and display the Specific Volume of the product based on the total weight *(Volume/product weight)* and the volume yield of the bread based on the weight of the flour used *(Volume/100g flour)*.

The scanned data can be viewed in both 2D and 3D representations to allow comparisons with previous archived measurements. Within the 2D sectional view, additional automatic and manual measurements can be made on chosen intervals or 'slices' of the test data *[9/10]*. 3D views of the product are rotatable in all planes providing flexibility of viewing for visual comparison and presentation *[11]*.

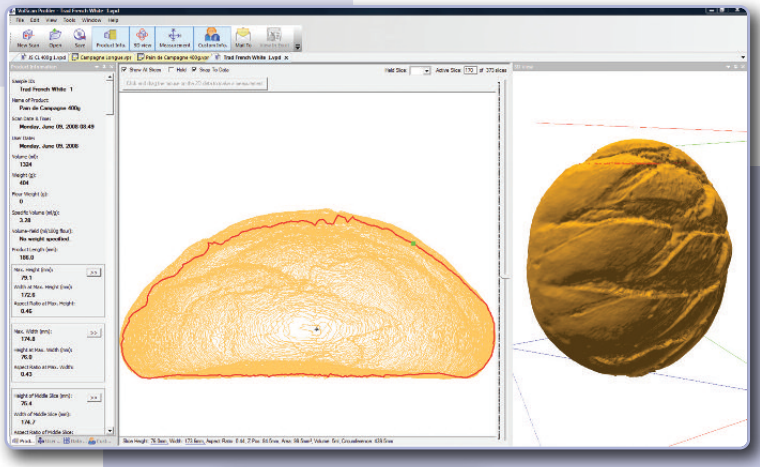
All data is saved in spreadsheet files for easy access and analysis *[12]*. This data can be viewed in or exported to Microsoft Excel.

Data can be sorted by any column header and statistics adjusted according to new data selection.

Results can be quickly emailed by clicking on the Mail To button *[13]* which automatically opens up a message window in Outlook and attaches the active window *[14]*.

A Report template is available into which your data can be dropped and automatically positioned with test data fields or modified using full Report Editing tools and saved as a .pdf file *[15]*.

Alternatively, images and data can be copied and pasted into other applications *[16]*.



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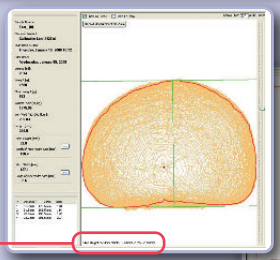

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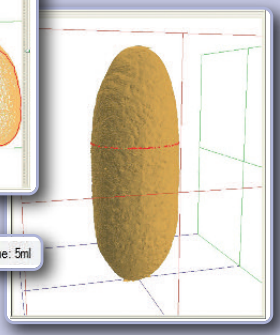

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Slice Height: 73.1mm, Width: 188.5mm, Aspect Ratio: 0.39, Z Pos: 48.4mm, Area: 104.2mm², Volume: 5ml

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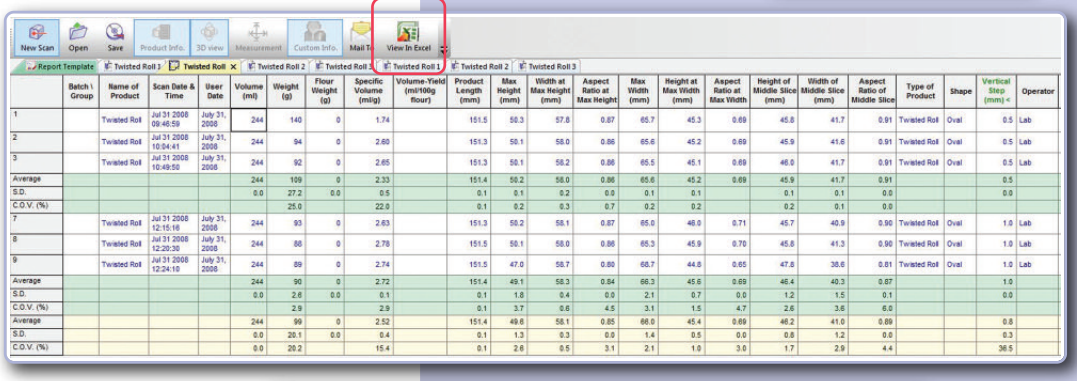

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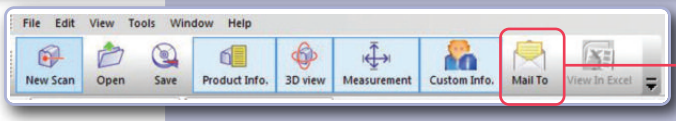

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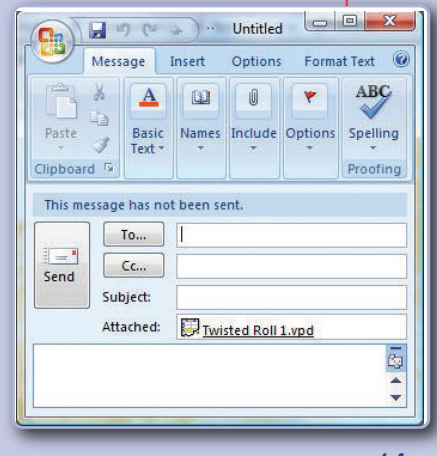

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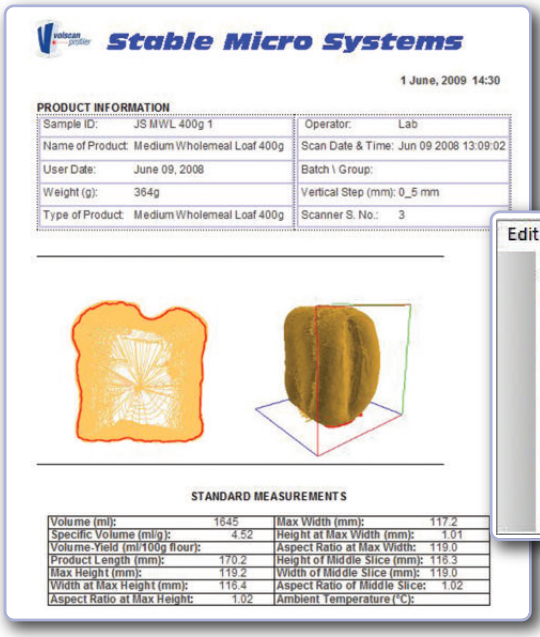


Stable Micro Systems

1 June, 2009 14:30

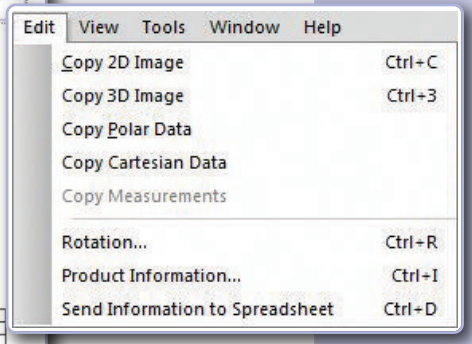
PRODUCT INFORMATION

Sample ID:	JS MWL 400g 1	Operator:	Lab
Name of Product:	Medium Wholemeal Loaf 400g	Scan Date & Time:	Jun 09 2008 13:09:02
User Date:	June 09, 2008	Batch \ Group:	
Weight (g):	364g	Vertical Step (mm):	0_5 mm
Type of Product:	Medium Wholemeal Loaf 400g	Scanner S. No.:	3

STANDARD MEASUREMENTS

Volume (ml):	1645	Max Width (mm):	117.2
Specific Volume (ml/g):	4.52	Height at Max Width (mm):	1.01
Volume-Yield (ml/100g flour):		Aspect Ratio at Max Width:	119.0
Product Length (mm):	170.2	Height of Middle Slice (mm):	116.3
Max Height (mm):	119.2	Width of Middle Slice (mm):	119.0
Width at Max Height (mm):	116.4	Aspect Ratio of Middle Slice:	1.02
Aspect Ratio at Max Height:	1.02	Ambient Temperature (°C):	

15



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volscan profiler

SPECIFICATIONS

APPLICATION AREAS

- RESEARCH AND DEVELOPMENT
- QUALITY ASSURANCE
- PROCESS CONTROL
- ACADEMIC RESEARCH

for

- MILLERS
- BAKERIES
- FOOD INGREDIENT SUPPLIERS
- FOOD RESEARCH INSTITUTES
- UNIVERSITIES

VSP600

VSP300

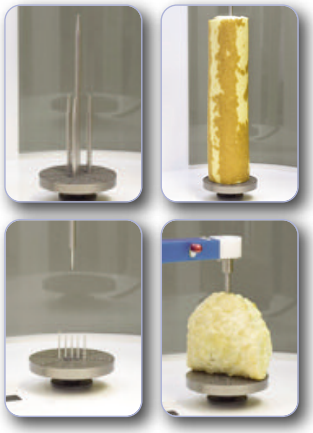
volscan profiler

VOLSCAN TECHNICAL SUMMARY*

Sample Dimensions	VSP600	VSP300
Max diameter:	350mm	190mm
Max height:	600mm	300mm
Max sample weight:	3kg	3kg
Movement and Measurement		
Variable scanning resolution		
Minimum test time for 200mm high product)	28 seconds	28 seconds
Rotational speed options:	0.5 / 1.0 / 1.5rps	0.5 / 1.0 / 1.5rps
Data acquisition:	400 points per revolution	400 points per revolution
Vertical step size options:	0.05mm – 26mm	0.05mm – 26mm
Measurement resolution:	1cm³	1cm³
Sample weight accuracy:	±5g	±5g
Dimensions		
Instrument weight	46kg	23kg
Overall height	873mm	573mm
Overall width	700mm	536mm
Overall depth	607mm	398mm
Mechanical		
Simple calibration		
Automatic weighing		
Door interlocking mechanism for additional safety – tests cannot be started unless door is closed		
Universal Product Support – alternative support solutions with user selected pin array (see panel)		

Universal Product Support

This accessory greatly extends the range of products which can be held within the instrument in order to be successfully tested. It provides a myriad of support solutions by presenting a 100mm diameter base with an array of pins of differing thicknesses and lengths.



Electrical

- Operating temperature: 10°– 40°C (Non-condensing)
- Internal temperature measurement recorded automatically
- Universal mains input voltage: 100-240V AC 50/60Hz
- Connectivity: USB
- Laser line generator for optimal sample positioning

Optional Additions

Volume Verification Ball

Typical PC Requirements

- 1.6GHz X86 processor
- 1 Gb memory
- 300 Mb free hard disk space
- OpenGL or DirectX 9.0c compatible graphics card
- Supported OS: Windows XP (SP3), Vista, Windows 7, Windows 8

The latest software versions are available to download free of charge from www.stablemicrosystems.com

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**Stable Micro Systems Ltd reserves the right to alter product technical specifications at any point without prior notification.*

SMS/VSP4/0814

The *VolScan Profiler* is complementary to Stable Micro Systems' wide range of texture analysis solutions which are developed and manufactured in-house and supported by a qualified technical applications team and international distribution network.