

diamSCOPE

An instrument used for the rapid measurement of fibre diameter

Diamscope is the world's first automatic rapid image analysis system to measure fibre diameter of snippets from 0.5 to 50 microns (μm). Measuring up to 20,000 fibres per minute, it provides measurements of mean diameter, distribution of diameter, length distribution ($<0.5\text{mm}$), mean curvature and distribution of curvature. It is ideal for measuring glass, ceramic and synthetic microfibres.

For fibres with a high standard deviation of diameter, Diamscope provides the only fast and accurate way to measure diameter distribution.

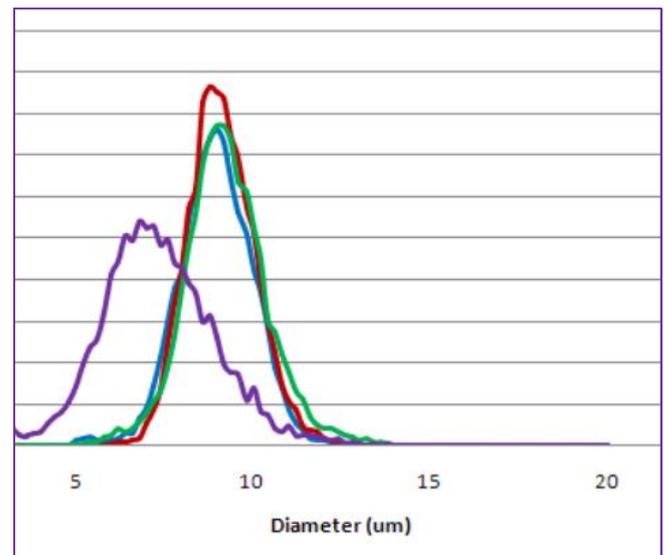
Diamscope was developed by BSC Electronics, a world leader in wool and cashmere fibre measurement instruments (OFDA) used in over 30 countries. BSC has been designing and manufacturing fibre measurement instruments for over two decades using the latest digital video technology.

Key benefits

- Understand fibre properties to a level that has not been possible before. For example: are the finer or broader fibres dominating the performance of your product? If so, input costs could be reduced by having rapid feedback in fibre manufacture.
- Greater control of fibre quality and avoidance of costly mistakes at the manufacturing stage.
- Reliable monitoring and timely detection of defects for scheduling repairs and maintenance.

Importance of fibre curve measurement

At present, curve measurement in glass fibres is new and the subject of research since a high speed curve measurement device has not been available. Fibre curvature is the measurement of the degree of bend of the fibre snippet in degrees per mm. Mean values range from 0 deg/mm (straight) to more than 100 deg/mm. Fibre curvature has a good correlation with bulk and therefore can predict insulation and compression recovery properties.



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Accurate

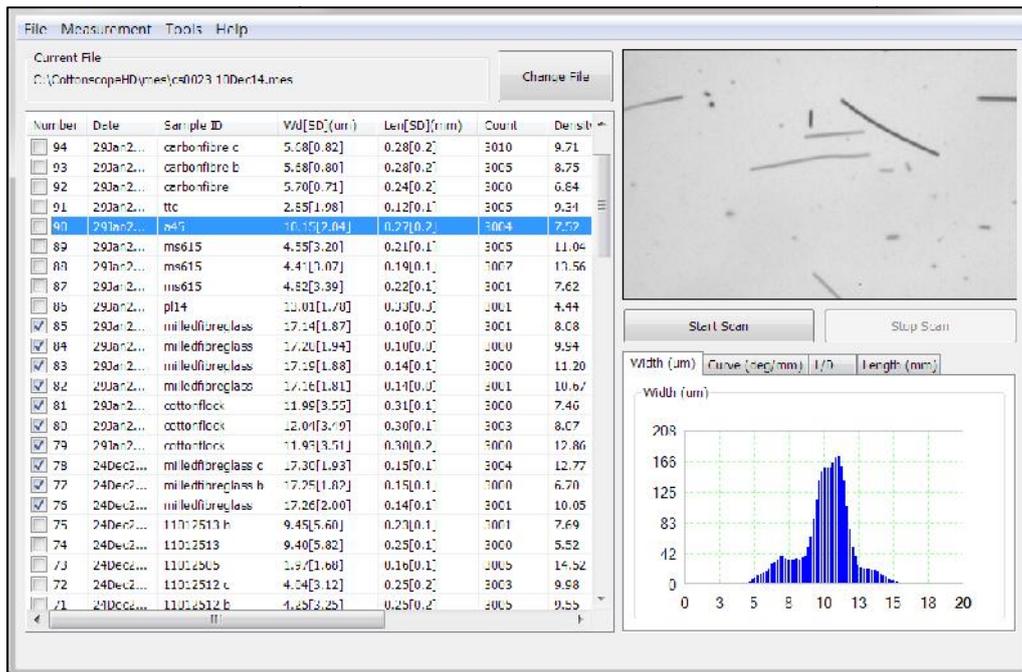
- 0.5um to 50um fibre diameter range
- 50um to 500um length range for length measurement
- High repeatability: +/-0.1um for mean diameter
- No operator bias in measurement

Fast

- Up to 20,000 fibre snippets measured per minute
- total measurement time less than 2 minutes per sample

Easy to use

- Samples with fibre length longer than 2mm are prepared by cutting the sample with the provided cutter and dropping it into the open bowl for measurement.
- After each measurement, the bowl is automatically rinsed and refilled. The fibres are filtered out and the water is stored in a reservoir to be reused.
- Spreadsheet output with 0.2um resolution diameter histogram as shown below. High precision data is stored for future use.



Visit: www.diamscope.com for more information.

Free testing of your sample range is available. For enquiries, please email: info@cottonscope.com

Diamscope is a product of Cottonscope Pty Ltd.