



Bendtsen/Sheffield Roughness

Model 58-29

Bendtsen Roughness and Sheffield Smoothness instruments measure the roughness of a paper surface. Surface roughness is directly related to a variety of paper end uses. Achieving and monitoring desirable print and coating quality are critical to producing a smooth sheet of paper.

The **Bendtsen method** measures the mean air flow between an enclosed metal land and a paper specimen. The metal land has a length of 100 mm (± 0.5 mm) and a width of 0.15 mm (± 0.002 mm). The weight of the complete test head is 267 (± 2 grams) creating a test pressure on the specimen of 100 kPa (at 1.47 kPa air supply pressure). A glass plate is used to support the test sample.

During a **Sheffield test**, a sheet of paper is placed on a flat glass plate. A measurement head set to a constant pressure of 9.85 kPa is placed on the sheet. The head is then fitted with a stainless-steel ring with a diameter of 47.7 mm which is placed on top of the specimen. The instrument measures the continuous volume of air leaking around the stainless-steel ring. The air-flow volume is converted from SCCM-Standard Cubic Centimeters to SU-Sheffield units. Approximately 7 SCCM equals 1 SU.

The Messmer Buchel model 58-29 Bendtsen/Sheffield combination unit incorporates a modern, contemporary look with robust mechanical design and improved electronics. The instrument uses a TFT color touch-screen display with an easy-to-operate application program for a user-friendly interface.

BENDTSEN/SHEFFIELD ROUGHNESS TESTER

- Touch screen display with microprocessor control unit for measuring Bendtsen Roughness or Sheffield Smoothness (Measurement heads must be ordered separately)
- Software for Bendtsen or Sheffield measurements
- Interactive touch-screen display
- 7.0 inch Color TFT display with touch-screen
- Unique extended range 0-5000 ml per minute
- Easily interchangeable measuring lands
- Electronic (digital) flow measurement
- Selectable air permeance units in ml/min., SU-Sheffield units or $\mu\text{m}/\text{Pa}\cdot\text{s}$
- RS232 serial data output/Graphmaster compatible
- Statistical package includes memory/averaging for a series of tests
- Multilingual user interface
- Bendtsen and Sheffield measurement heads easily connect to base unit (test heads not included)



OPTIONS

- Bendtsen head: Part # 58-27-01
- Sheffield head: Part # 58-24-02
- Sheffield master calibration orifice: Part # 58-25-05 (included with part # 58-24-02 Sheffield head)
- 58-29-01 adaptor block for Sheffield connector

TECHNICAL SPECIFICATIONS

- Measurement range 20–5000 ml/min (3-500 SU)
- 7.0 inch Color Touch Screen
- Bendtsen – Test measuring head mass 267 ± 2 grams
- Sheffield – Test measuring head mass 1.640 ± 0.005 g

STANDARDS

- ISO 8791-2
- ISO 8791-3
- ISO 5636-3
- TAPPI T 538
- TAPPI T 547

