



# **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 ( $\pm 0.5$  mm) and a width of 0.15 mm ( $\pm 0.002$  mm). The weight of the complete test head is 267 ( $\pm 2$  grams) creating a test pressure on the specimen of 100kPa (at 1.47kPa 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 SUSheffield 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.



### 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 20–5000ml/min (3–500 SU)
- 7.0 inch Color Touch Screen
- Bendtsen – Test measuring head mass  $267 \pm 2$  grams
- Sheffield – Test measuring head mass  $1.640 \pm 0.005$ kg

### Standards:

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



### Disclaimer

The information contained in this document is liable to modification from time to time in the light of experience and our policy of continuous product development. Check the Industrial Physics website for the latest version.

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