



OpTest Equipment Inc.

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KRK Bristow Tester *(Liquid dynamic absorption tester)*

For the analysis of the wetting and sorption of liquids by paper or board samples under dynamic conditions.

Applications requiring absorption test at realistic liquid contact times include:

- **Ink transfer and absorption by the paper printing process contact times**
- **Penetration of colors in coating**
- **Penetration of bonding glue into inner cores and bonding to liners at the corrugators**



The Bristow Tester has superior agreement with the end-use performance on paper or board product compared to other absorption tests such as the Cobb, the Sink Basket, the Drop Test, and others. This results from the realistic (i.e. short) contact times of the liquid with the paper or board during testing.

There are two KRK Bristow Tester Models: The KRK Bristow Tester (Code KRK2072-I) determines the liquid absorption rate for such diverse processes as coating, box gluing and printing. The pressurized head box model (Code KRK2072-II) permits testing at different liquid pressures.

For both models, the head box, containing a liquid, is brought in gentle contact with a moving strip of a paper or board mounted on a wheel which rotates at a specified speed selected by the operator.

The test is complete when all the liquid has been drawn out through the 1mm x 15 mm slit at the bottom of the head box. The liquid produces a trace on the specimen. Absorption is calculated as the amount liquid transferred per unit area of the trace at a specific liquid contact time.

Features

When performing a test, the most important factor affecting precision is the uniform spreading of liquid on the paper, determined by the parallelism of the head box and wheel. To ensure this, KRK has incorporated several head box design and mounting innovations.

Specimen

Specimen A: 25 mm x1000 mm (newspaper, wood-free paper)

Specimen B: 25 mm x1500 mm (coated paper)

Specimen Wheel

For Specimen A: 25 mm wide x 318.5 mm in diameter

For Specimen B: 25 mm wide x 477.5 mm in diameter

Rotation Speed of Wheel:

0.5, 1.25, 2.5, 5.0, 12.5, 25.0, 50.0, 250 mm/s

Head Box: 15 mm wide, slit width 1 mm

Contact Pressure: KRK2072-I: about 0.1 MPa

KRK2072-II: 0.1 to 0.5 MPa

Liquid Added: 40 microliters (sampling with a micro syringe)

Standard for Product Code KRK2072-I: ASTM D5455

Power Source: single-phase 100/110 VAC 50/60 Hz 4 A

Air Pressure in Service: KRK2072-II: 0.5 MPa

Outer Dimensions: KRK2072-I: 510x540x750 mm

KRK2072-II: 510x540x870 mm

Instrument Weight: KRK2072-I: 89 kg

KRK2072-II: 102 kg

KRK Absorptometer KM500win

(Liquid dynamic absorption tester)



Model KRK2071

Automatic Scanning Liquid Absorptometer KM500win

Liquid penetration behavior of paperboard is important, since it is closely related to water fastness, printability and processibility. Paper products are usually sized for improving water fastness and writing quality. The degree of sizing is an essential factor of paper quality. The KRK2071 model is based on the Bristow method, provided with a fundamentally improved measurement system, and fully automatic measurement procedures with computer control.

Features

- Spiral scanning of the head enables measurement of small specimen (about 10 cm square).
- Direct reading of liquid transfer volume from the moving speed of the meniscus in the communicating tube, not from the area.
- Computerized control of scanning and reading.
- These features permit automated Bristow measurement in a short time.

Measurement disc: 300 mm in diameter
Head box: 5 mm wide, 1 mm of slit width
Contact time: 5 m sec. to 10000 m sec.
Measurement time: about 1 to 5 minutes
Scanning: spiral
Specimen size: minimum 10x10 cm
Liquid specimen: 10 ml or more (about 0.5 ml consumed in one measurement)
Accessory: PC for control
Power source: 100/110 VAC 50/60 Hz 3 A
Outer dimensions: 635x500x350 mm
Instrument weight: 30 kg



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