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## KRK R&S tester (print-surf tester)

Paper smoothness, one of the most important printing characteristics, has since long been measured with the Ohken procedure, Sheffield procedure, Bendtsen tester, Gurley SPS tester or the like, depend upon air permeability and change in air inner pressure. However, these procedures resorting to physical properties involve difficulty in evaluating printing aptitude of paper. Parker Print-Surf (P.P.S.), a 1965's development by John Parker M.A in the U.K., was highly appreciated by many researchers, as a means to test the aptitude of paper for gravure printing. In 1985, this procedure was adopted as an English standard (BS) and in 1992 as an ISO standard.

The principle is as follows: an extremely thin measurement ring is pressed over the surface of a specimen with a certain level of pressure, and air of stable low pressure is fed from the inside of the ring. The air leaks out from the surface at the extremity where the measurement ring and the paper contact each other. The leak air volume varies with the roughness of a paper sheet, and the amount of leaked air volume is represented as an indicator of paper surface roughness in micron meters.

< Characteristics of the print-surf tester >

With this machine, it is possible to simulate the conditions of a practical press.

Range of pressure at three stages 490, 980, 1960 kPa

Since paper sheets can be tested on the same scale as the actual printing size, the measurement result may have a considerably high correlativity, in comparison with other air leak type testers.

**Measurement items:** smoothness, compression and air permeability (optional)

**Measurement range:** smoothness 0.6 to 6.0  $\mu\text{m}$   
air permeability 4 to 1800 seconds

**Measurement time:** smoothness 4 seconds in standard (able to be set in the range of 3 to 60 seconds)  
air permeability 10 seconds

**Width of the measurement ring:** 51  $\mu\text{m}$

**Diameter of the measurement ring center:** 31.2 mm

**Air gap width:** 51  $\mu\text{m}$

**Measurement air pressure:** smoothness 19.6 kPa,  
air permeability 1.23 kPa

**Clamp pressure:** 490, 980, 1960 kPa (5, 10, 20  $\text{kgf/cm}^2$ )

**Packing:** soft and hard

**Calculation items:** maximum and minimum values, average, standard deviation, variance coefficient, specific compression

**Optional:** head for measurement of air permeability

**Printer:** provided inside

**Data output:** RS-232 C type

**Referential standards:** JIS P-8151, ISO 8791-4:1992,  
BS6563:1985, TAPPI T555-om99

**Power source:** 100/110 VAC 50/60 Hz approx. 2A

**Air source:** 0.5MPa

**Outer dimensions:** 550×510×325 mm

**Instrument weight:** 39 kg



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