Paper PerFect
Formation Analyzer

Paper PerFect Formation Analyzer (PPF) revolutionizes product quality optimization and productivity by measuring the sheet uniformity at different "scales of formation"!

With the PPF, papermakers are able to rapidly optimize formation in ways unachievable with traditional single index instruments. The PPF quantifies formation into its component values. Individual component values correlate well with paper and board properties such as strength and printability.

The PPF Formation Values are relative to "perfect paper" and to user selected "reference sheets".

Samples are easily compared to selected reference sheets such as a competitor's paper or the "best" sheet produced on a particular paper machine. The Relative Formation Values are reported for each size component. If this value is one, then the formation of the tested paper and reference paper are equal. If the value is greater than one, then the tested paper is better than the reference paper, and vice versa. Relative Formation measurements save time and money when determining the difference between sheets and when optimizing the paper machine forming sections.

ADVANTAGES:

Quality Improvements	Production Improvements	Formation Quality Results
• Print quality	• Increased machine throughput	• Formation values from 0.4mm to 60mm
• Sheet strength	• Improved runnability	• "floc" or component size ranges
• Higher opacity	• Fewer rejects	• Excel™ based reports and data files
• Press room performance		• Displays, stores & prints digital images

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Formation quality values are reported for each of the 10 components (size ranges) of formation:

Component	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
Range (mm)	0.5-0.7	0.7-1.1	1.1-1.8	1.8-2.6	2.6-4.5	4.5-6.7	6.7-12.0	12-18.5	18.5-31	31-55

Process changes affect formation values, at different size ranges. Likewise, different size ranges relate to different sheet properties.

Typical relationships:

Paper Grade	Property	Scale of Formation with the Highest Correlations
Linerboard (161 g/m²)	Burst	2 - 5 mm
Fine Paper (60 g/m²)	Print Uniformity	5 - 8 mm

Windows™ based PPF Test Menu

ACKNOWLEDGEMENT
The advanced algorithms were developed at McGill University by Dr. J-Ph Bernié and Prof. M. Douglas (US Patent 6,301,373).

FEATURES
- Precise optics & illumination
- CCD camera with 65 µm/pixel resolution
- Auto calibration
- Diffused high-intensity solid-state (LED) lighting system and automatic intensity control
- Paper strip profiling capability
- Rapid measurements (< 1 s / field)
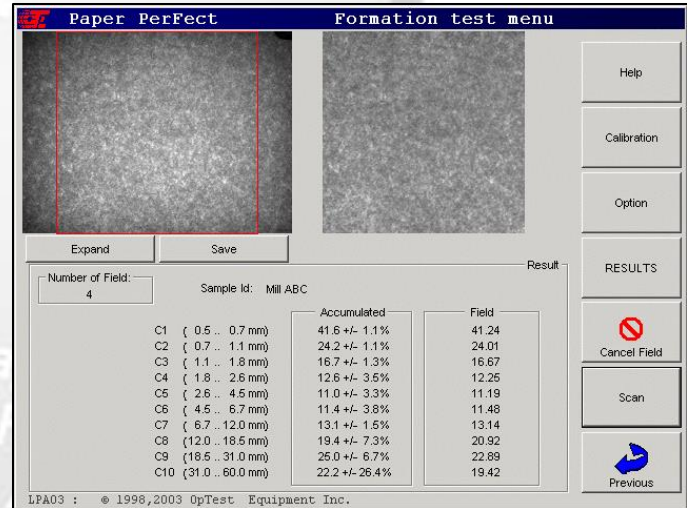- 15 g/m² - 1500 g/m² grammage range for virgin furnishes

OPTIONS
- Fully validated "turn-key" computer
- Pattern Recognition Software
- Watermark Quality Analysis Software
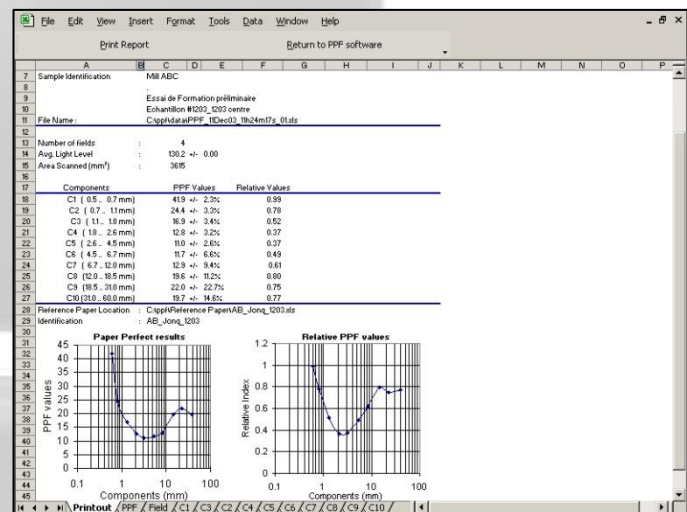
DIMENSIONS
Light Control Unit
61cm (24") L x 63cm (25") W x 44cm (17.5") H

CONNECTIONS
- 120Vac/60Hz or 240Vac/50Hz, 1 phase, 600 W min. The power must be stable, within 2%, and transient free within ± 10%
- Computer with Microsoft Windows™ (Latest Versions), Microsoft Office™ (2016 or higher) and 1 USB 3 port.

PPF results generated in Excel™

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